

# AMDD

## NOTEBOOK

Meeting Challenges, Making Changes, Saving Lives

Issue 2

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### DEAR COLLEAGUES

The second issue of Notebook focuses on the use of the “UN Process Indicators”. This nickname refers to a set of indicators issued by UNICEF, WHO and UNFPA in 1997, which address the conditions needed to save the lives of women with obstetric complications – the availability and utilization of emergency obstetric care (EmOC).

These indicators represent an important shift in monitoring maternal mortality programs in developing countries – the shift from describing the seriousness of the problem to assessing and monitoring the services needed to reduce it. These indicators address key questions such as: Are there enough facilities providing EmOC in this area? Are pregnant women using them? Are enough women with complications seeking care, and receiving key services?

Because these indicators are relatively new, we are still gaining experience in how best to gather and interpret the data. For example, as shocking as it sounds, maternity registers in many countries do not have a column devoted to the obstetric complications that threaten women’s health and lives. Therefore, gathering data on these key events will often require upgrading record systems, training staff in recordkeeping, and encouraging managers at various levels to make use of the data. This is a substantial task, but certainly one that is long overdue, and which will pay off in terms of women’s health.

The use of these indicators for needs assessment and monitoring progress in dozens of AMDD-supported projects will be helpful not only to the projects, but to the field as a whole. We look forward to learning with you in the coming years.

**Deborah Maine**

*Professor and Director*

*Averting Maternal Death and Disability Program (AMDD)*

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## THE AMDD PROGRAM

The AMDD Program was launched in 1999 at Columbia University's Heilbrunn Center for Population and Family Health, Mailman School of Public Health, to work with developing countries on improving the availability, quality, and utilization of EmOC.

The basic premise of the AMDD program is that most of the obstetric complications that lead to maternal death can neither be predicted nor prevented, but the vast majority of women can be saved through prompt treatment. AMDD addresses three inter-connected areas: technical, management and respect for human rights.

AMDD has established partnerships with organizations that already have field operations. These partners are now implementing AMDD-supported projects in more than 50 countries:

United Nations Children's Fund (UNICEF): projects in Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka.

United Nations Population Fund (UNFPA): projects in India, Morocco, Mozambique, and Nicaragua.

Regional Prevention of Maternal Mortality (RPMM) Network: teams and projects in 19 sub-Saharan African countries.

CARE: projects in Ethiopia, Rwanda, Tanzania, Peru, and Tajikistan.

Save the Children: projects in Mali and Vietnam.

Reproductive Health for Refugees (RHR) Consortium: projects in 12 countries.

Among the key Program tools are the process indicators developed at Columbia University and issued by UNICEF, the World Health Organization (WHO), and UNFPA.

AMDD technical partners include:

Family Health International

John Snow International

Indian Institute of Management at Ahmedabad (IIMA)

EngenderHealth (formerly AVSC International)

*The AMDD Program is funded by the Bill and Melinda Gates Foundation*

## GOOD PRACTICES

### Sharps Disposal System: Tips from Ethiopia

With the rising incidence of HIV/AIDS in many countries, disposal of medical wastes is becoming more important than before. This is especially the case regarding disposal of contaminated sharp items such as needles, scalpel blades, and lancets.

Indeed, the amount of "sharps" waste is growing in hospitals since, to prevent infection spreading from one patient to another, hospitals are increasingly relying on disposable needles and other sharp items. If such items are not properly disposed of, they may result in accidental injuries to staff and patients, possibly spreading HIV, hepatitis B, and other dangerous infections.

Moreover, in some countries, when sharps are improperly disposed of, they are scavenged from dumps within or outside hospital grounds. The health hazard then spreads to the general public.

Proper disposal of sharps is crucial to the safety of health personnel and the public. The first step in disposal is to store sharps after use in such a way that they cannot injure anyone by accident. The containers for holding the sharps have to be puncture proof. They should have a small hole for inserting sharps, so that even if the container falls on the ground the sharps will not fall out. The second step is to destroy the sharps so that they are non-usable.

Various sophisticated devices to destroy used sharps are also commercially available. They cost substantial amounts of money, and may need electricity to operate. The purchase of such sharps disposal systems may add to the costs of running a hospital or be prone to breaking down. WHO/UNICEF have prepared a special thick cardboard box for sharps disposal.

The government hospital in Gelemso town, which is located in a remote area of Ethiopia, has instituted an innovative local arrangement for sharps disposal. Hospital staff had participated in a Quality Improvement initiative conducted by EngenderHealth (formerly AVSC). This was organized by CARE Ethiopia which is supporting the hospital in a project to address HIV/AIDS. Recently, the hospital also began to receive support under the AMDD Program. The Quality Improvement sessions covered infection prevention in general, and the issue of sharps disposal in particular.

After the Quality Improvement training, Dr. Amsalu Bekele, the hospital's medical director, and his staff improved the disposal system for sharps. Instead of buying sophisticated equipment, they used discarded medicine containers to prepare their own sharps collection and disposal holders. They made small holes (about one centimeter) in the lid of empty plastic screw-cap containers obtained from the pharmacy.

The pharmacy has plenty of these as most of the tablets they get in bulk arrive in such containers, which then have to be disposed of when empty.

Each department was given the adapted containers to collect sharps. When the containers are full, they are burned in the incinerator. This system costs nothing, but it greatly contributes to staff safety. If such containers are not available then other empty plastic bottles can be used. There are many simple - and low-cost - solutions to problems that constrain the quality of service. The key, as Dr. Amsalu and his team demonstrated, is innovation in management. **m**

**Dileep Mavalankar**  
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*AMDD Technical Team*



Two children collecting disposable syringes and other pieces outside a hospital in South Asia. Although the hospital has up-to-date equipment to dispose of the waste safely, it is dumped outside the grounds. Photo by Shabbir Hussain Imam

## HUMAN RIGHTS & HEALTH SERVICES

Human rights is one of the three pillars of the AMDD Program, the other two being the technical and managerial aspects of health services providing emergency obstetric care (EmOC) to women experiencing obstetric complications.

Many AMDD-funded projects address various dimensions of human rights. In addition, Program staff are looking at ways to engage with women's non-governmental organizations (NGOs) in the movement to reduce maternal mortality. NGOs play an important role in at least three areas: influencing health policy choices, participating in the management of services, and working at the community level.

Women's groups are often well-placed to identify local barriers to access to EmOC including, for example, those which can result from decentralization and privatization schemes introduced as part of health sector reform policies. In order to intervene in the chain of events that actually lead to maternal death, NGOs need pragmatic tools to document realities on the ground and to develop effective advocacy positions.

Early in July, Lynn Freedman, Associate Professor at Columbia University and Associate Research Scientist Martha de la Fuente (AMDD staff members who work on the Program's human rights aspects) convened a round table in New York to elaborate these ideas further and to design projects to promote them.

Representatives of three women's groups participated: Soledad Guayasamin from SENDAS of Ecuador; Farida Shaheed from Shirkat Gah and Kausar Khan of the Aga Khan University/Shirkat Gah (of Pakistan); and Junice Melgar of Likhaan in the Philippines.

Following the July discussions, the women activists returned to their respective organizations to

discuss project ideas. In the Philippines, for example, Likhaan runs primary health care clinics in poor areas. The NGO is considering an initiative to explore barriers to EmOC for the poorest women, focusing on government policies that have introduced user fees for public services. In Ecuador SENDAS plans to develop the capacity of civil society groups to become involved in the management of health services, so as to ensure that existing laws which guarantee the right to medical care are implemented.

In Pakistan, where Shirkat Gah is active at the community level, they will look at issues of community participation in the extensive decentralization and devolution processes planned for Pakistan. Each of the three groups will receive a planning grant to design their projects.

Another side to the AMMD human rights initiative is enabling women's groups to grapple with the specific workings of international financial institutions (commonly known as IFIs) in their countries, and to know where to go for information within these institutions on plans for their countries.

Law expert Eugenia McGill, who is already working with Columbia University's Law and Policy Project, is helping the AMDD Program develop a manual that sets out the mandates, functioning, and information sources at the IFIs.

As Lynn Freedman explains, "Women's groups and human rights groups have a role to play in the development of health services – not only in the delivery, but in the vital dynamic of accountability that ensures that appropriate services are available to women who need EmOC".

At the same time, "Through the AMDD Program, we can contribute to the analysis and strategies that such groups will use as they develop their unique perspectives on the role of government and health systems".

# UN Process Indicators

## What, Why, and Lessons from the Field

### The Basis for the Indicators

The UN process indicators are based on an understanding of the epidemiological nature of maternal deaths. The medical services that are necessary to save the lives of women experiencing obstetric complications are represented by eight “signal functions”:

1. administer parenteral<sup>2</sup> antibiotics
2. administer parenteral oxytocic drugs
3. administer parenteral anticonvulsants for pre-eclampsia and eclampsia
4. perform manual removal of placenta
5. perform removal of retained products
6. perform assisted vaginal delivery
7. perform surgery
8. perform blood transfusions

The first six functions can be performed by an experienced nurse/midwife, physician, or other qualified medical practitioner at a health center or clinic, or even at home. The last two functions are generally not provided below the level of a district hospital. A health facility that provides the first six functions is providing Basic EmOC services, while a facility with all eight is providing Comprehensive EmOC services. In order to ensure that these services exist in reality and not just on paper, the facility must have performed these functions within the last three months. These functions are the basis of the UN process indicators.

### Why We Don't Use MMR?

Measures of maternal mortality – such as the maternal mortality rate or ratio – are not useful for monitoring progress or defining problems in safe motherhood programs. For one thing, even though maternal mortality is the most common cause of premature death amongst young women in many developing countries, statistically, it is still a rare event. Thus, to get enough deaths to have a reasonably robust estimate, you either have to study a very large population, or to cover a long period of time, or both. This is very costly,

and few countries can afford to – or indeed should – conduct this kind of survey every year. In fact, experts recommend that maternal mortality ratios be measured only once every 10 years, which is of course not very helpful in monitoring projects.

More importantly, even if you are able to get a very reliable estimate of maternal mortality, it still does not tell you where the problems lie, and how to focus your program. Are women dying because health services are poorly staffed and equipped? Or are they dying because there are no services close enough? Or because training or supplies are an issue? The ratio, if accurate, simply tells you that, say, 400 women are dying per 100,000 live births, not why, or what to do about it.

By contrast, the process indicators are relatively inexpensive to collect, and their monitoring can be part of the day-to-day work of a health center or hospital. The indicators tell you where the key problems lie. They also let you know where to dig deeper for more information. Most satisfying for program planners, these indicators can show change relatively quickly, sometimes in less than six months.

And now that the process indicators are applied in the field, they can be further refined through lessons learned from experience. The rest of this article shares some of these findings.

### Malawi: Integrating the Indicators

*Elizabeth A. Goodburn, AMDD Technical Team member, and Reproductive Health Advisor at John Snow International (UK), reports on the lessons learned from a new and valuable use of the UN Process indicators in Malawi.*

In several countries, UN process indicators have been collected through surveys and studies mainly focused on performance at hospitals. Malawi is one of the first countries (along with Morocco) to use these indicators in a routine monitoring system that has been incorporated into the national Health Management Information System (HMIS).

### EOC and EmOC

In some cases, the term EOC (Essential Obstetric Care) is used interchangeably with EmOC (Emergency Obstetric Care). Because EOC has several definitions (some of them much broader than the treatment of complications) we use the term EmOC to reflect the life-saving services needed to treat the most common serious obstetric complications.

The term EOC can be used interchangeably for the purpose of data collection or program implementation, as long as the purpose is clear, and the list of signal functions is consistent. The list of signal functions, by definition, does not include every service that ought to be provided to pregnant women, or even to women with complicated pregnancies. WHO has issued several publications presenting the list of services that should be provided during pregnancy and childbirth, for example, the *Mother Baby Package and Management of Complications of Pregnancy and Childbirth*.

*Over the past four years, the UN process indicators have come into their own as a tool to monitor the availability and use of emergency obstetric care (EmOC).<sup>1</sup> Teams in AMDD-funded field projects used the UN process indicators for their needs assessments, and are using them to monitor project interventions. Teams supported by the Save the Mothers Fund established by FIGO (the International Federation of Gynecology and Obstetrics), are also using the UN process indicators in projects which link professional obstetrics and gynecology societies in developed countries with similar societies in developing countries.*

## The Six UN Process Indicators

1. **Amount of EmOC facilities:** For every 500,000 population, there should be at least 4 Basic EmOC facilities and at least 1 Comprehensive EmOC facility.
2. **Geographic distribution of EmOC facilities:** the minimum level for the amount of EmOC services (described in indicator 1) is met in sub-national areas.
3. **Proportion of all births in EmOC facilities:** At least 15% of all births in the population should take place in either Basic or Comprehensive EmOC facilities. The point here is not to necessarily encourage births in facilities, but it is a measure of utilization. Also these data are usually available.
4. **Met need for EmOC:** 100% of women estimated to have obstetric complications are treated in EmOC facilities.
5. **Cesarean sections as a percentage of all births:** Cesarean sections account for 5-15% of all births in the population.
6. **Case fatality rate:** The death rate among women with obstetric complications in EmOC facilities is less than 1%.

The goal of the Malawi Safe Motherhood Project is to reduce death and chronic ill health of women as a result of childbirth. The project has funding for 6 years from the UK Department for International Development to cover facility renovation, equipment, drugs and supplies, IEC, training, transport and communication, and monitoring. In 1998, the project introduced the UN process indicators throughout the Southern Region of Malawi, population 5 million, using a routine monitoring system. Data are collected monthly at all health facilities and summarized quarterly at District and Regional level.

Through the project, staff recognized that using the UN indicators in this way was a new concept and adopted a rigorous process of needs assessment, tools development, operations research, field testing, and training. Users of maternal health information at all levels of the health system were involved in these stages. They reached agreement on locally appropriate standard definitions of obstetric emergencies and functions, on reporting formats, and on catchment populations.

Staff minimized under-reporting of obstetric cases, misreporting of maternal deaths, and double counting by improving recording tools. They emphasized visual display and use of data at facility level. In addition, they developed a new maternity register and adapted the female ward registers to ensure that women with pregnancy related complications were identified. They also produced training manuals for staff at facility level, and for district managers. Time, cost, political influence, and technical inputs were important considerations. The system took a year to set up and cost \$100,000.

By the end of 2000, three consecutive years of data were available from the new system. In 1998, the data showed that the availability of Comprehensive EmOC was adequate, but the availability of Basic EmOC was very poor. No facilities below hospital level had all 6 Basic functions, although 2.5 facilities per 500,000 had 3 of the functions, and 1.2 had 4 functions. By 2000, 3.8 facilities per 500,000 had 3 functions and 1.8 had 4. However, only one had provided all 6 functions. Missing functions were, universally, manual vacuum aspiration (MVA) and vacuum extraction. This finding highlights the issue that creation of fully functioning facilities is not only a matter of resources and training but is strongly affected by tradition, policy, medical hierarchies, and professional boundaries.

The data also showed that the proportion of deliveries in institutions was 32% in 1998 and had risen to 40% by 2000. The cesarean section rate also rose slightly, from 1.6 in 1998 to 2% in 2000, indicating a shortfall in lifesaving operative delivery. Since the availability of Comprehensive EmOC is adequate, this finding suggests that women do not have access to it for reasons that might include cost, transport, socio-cultural barriers and the management of services. Staff continue to track these and other factors that affect access.

In the Region as a whole, the met need for obstetric care rose between 1998 and 2000 from 19.8% to 33.1%. In several districts, very marked increases were recorded. We believe that these results should be interpreted with caution as they may have been influenced by changes in the recording system for obstetric cases more than by actual improvements in service delivery. The same factors may have also

1. United Nations Children's Fund (UNICEF), the World Health Organization (WHO), and the United Nations Population Fund (UNFPA), *Guidelines for Monitoring the Availability and Use of Obstetric Services*, UNICEF, New York, October 1997.

2. That is, by injection or intravenous infusion.

influenced falls in case fatality rates, which were over 5% in some District hospitals in 1998.

The experience of using the UN process indicators in a routine monitoring system in Malawi has confirmed that a focus on improving EmOC was justified, and that these indicators can be successfully introduced in developing countries. The monitoring system has provided data of immediate relevance to service providers, managers and policy makers, and has provided many practical lessons useful for similar programs in other settings.

### Avoiding Calculation Pitfalls

**Patricia Bailey, AMDD Technical Team member, Senior Lecturer at Columbia University, and staff at Family Health International, shares observations regarding the use of indicators from her visits to AMDD-funded projects.**

Recent needs assessments showed that one of the signal functions most frequently missing at Basic EmOC facilities is that of assisted vaginal delivery (the use of vacuum extraction or forceps in the case of prolonged labor).

A review of the literature on the use of forceps versus vacuum extraction shows that fewer complications are associated with vacuum extraction, but they tend to disappear within days or weeks for both techniques. Training in the proper use of forceps is also more complicated than training in the use of vacuum extraction. Where assisted vaginal delivery is fairly common, in Europe or the United States, for example, vacuum extraction now tends to be used more than forceps.

In a number of countries, assisted vaginal delivery is rarely performed. In these countries, professional medical societies do not endorse its use and medical schools no longer include it in the pre-service curriculum. Very few hospitals visited during the needs assessment in Peru or Nicaragua, for example, had complete or functioning vacuum extraction equipment. Furthermore, only older physicians had ever been trained to use the equipment. Colleagues explained that it is believed that forceps or the vacuum extractor causes so much damage to the newborn that they recommend cesarean delivery instead.

Access to cesarean delivery is essential to saving women's lives and where assisted vaginal delivery is performed, cesarean delivery must still exist as a back-up when vacuum has failed. However, most women would prefer to deliver closer to their homes and families. The major advantages of vaginal assisted delivery are:

- it can be performed in midlevel services, by midlevel providers such as trained midwives;
- women recuperate faster from assisted vaginal delivery than from a cesarean delivery;

- the risks associated with anesthesia are minimized; and
- costs for the patient and the health care system are reduced.

The observations above raise the question of how to define whether EmOC services are available or not when a country does not promote the use of one of the signal functions, as is the case with assisted vaginal delivery described above.

For cross-country comparisons, projects adhere strictly to the established list of signal functions. Findings regarding how local services compare with international standards may also stimulate policy makers to discuss or review the evidence on which they are basing their policies. Of course, during the duration of the project, such a change in policy may be difficult to achieve.

Project teams in Nicaragua and Peru found a solution to this aspect of calculating the indicators in the national context. The teams calculated the availability and geographical distribution of Basic and Comprehensive EmOC services using the international standards as well as local standards that do not include assisted vaginal delivery as a signal function. In Malawi, calculations of how many facilities perform four, five, or all six of the basic functions are used to monitor progress.

Meanwhile, a second indicator that deserves a closer look is the "proportion of births attended in EmOC facilities." A natural tendency has been to broaden this indicator to include all institutional births rather than to restrict the numerator to births that take place in facilities that, in fact, qualify as providing Basic or Comprehensive EmOC.

Most likely, the proportion of births occurring in EmOC facilities will be significantly smaller than the proportion of births taking place in all facilities. For example, in one country the proportion of births occurring in all the facilities surveyed for the needs assessment was about 40%. Once restricted to EmOC facilities, the proportion dropped to about 15%. Thus, including births in facilities that do not qualify as EmOC facilities produces a major apparent increase in the results without any improvement in the services provided for women facing life-threatening complications. There is one way to avoid this pitfall. Since each of the process indicators is part of a series, one can cross check with changes in other indicators.

Over the course of the projects, we expect to see facilities upgraded to provide the full range of EmOC services. This, in turn, will substantially increase the number of women are giving birth in a facility where they can get treatment for complications, which is certainly a good thing. **m**

## TEAMS BREAK THROUGH BARRIERS TO QUALITY IN DHOLPUR

Some one million people live in Dholpur District in Rajasthan, India. After a recent visit, AMDD Director Deborah Maine reports on the results of an Appreciative Inquiry exercise at the District Hospital, which is supported by a UNICEF project funded by AMDD. Participants in the AMDD Project Workshop last February will recall that a working group session facilitated by Dr. Pritam Pal and Neelam Bhardwaj reviewed the Appreciative Inquiry approach – “a management tool for positive change in a social living organization”.

The Dholpur District Hospital is the only Government facility providing Comprehensive EmOC to the district population. It has 3 obstetrician/gynecologists, one surgeon, one anesthetist and 8 general physicians.

During their Appreciative Inquiry exercise, hospital staff had formed "breakthrough teams" on 10 topics: blood; electricity and water; EmOC; the operation theater; safety and security; reception and emergency response; transport; health education; emergency fund for poor people; and cleanliness and sterilization. Team members included various levels of staff. For example, the blood team included the pathologist, staff nurses, and lab technicians.

Each team had a few well-chosen goals for 2001, and have begun to deliver in their selected areas. For example:

**Team - blood:** Blood is now provided without requiring replacement for patients who do not have anyone with them to give blood.

**Team - electricity and water:** The project has provided two generators. Over the short term, management is repairing pipes and other installations, with a view to installing a new system of overhead tanks and new piping over the long term. This is a relatively inexpensive way to upgrade or install water, since it does not involve digging in the ground or in the walls.

**Team - EmOC:** The hospital now deploys obstetricians and physicians in teams, rather than having them all do rounds at one time. This has reduced delays in treatment. Among other things, they have: fixed the suction machine; put in an emergency drug kit; organized to conduct bedside lab tests; brought in mobile curtains for privacy; trained maternity staff in neonatal resuscitation; and trained emergency department staff in the identification and treatment of complications. The team has also ensured the availability of sterilized gloves in the labor room as well as in outpatient gynecological examinations.

**Team - the operation theater:** The staff found the visit of David Potter (a consultant architect identified by the UNICEF regional office in South Asia and hired by AMDD) very helpful. While this theater needs renovation, there are already some improvements, including better separation and disposal of waste, and repair of the autoclave. An air conditioner has also been installed using the hospital's own resources.

**Team - reception and emergency response:** This team has put up signs directing people to the emergency room. They have also installed an intercom that

reaches various parts of the hospital as well as staff residences, which reduces delay in assembling the response team. The hospital now provides free drugs in emergencies. In an example of one of the little things that cause delay, and can be remedied quickly and at virtually no cost, the fee for emergency service at night was reduced from 12 to 10 rupees because treatment used to be delayed while people tried to find change. Here is a case where a woman's life may be saved by spending an extra 2 rupees (or US 5 cents).

**Team – transport:** The team, which includes a medical officer and the drivers, has repaired the ambulance, which is also used to gather doctors and other medical professionals during the night.

After discussions amongst team members and with the UNICEF representative, the teams prepared a one-year action plan to improve the quality of care. **m**



The numbers in the photo refer to (1) a complete sterilized surgical set; and receptacles for (2) soiled linen, (3) used sharps, and (4) used disposable materials such as gloves, sponges, tubing, etc.



*Pritam Pal, Assistant Project Officer, UNICEF/Rajasthan, India, reports that staff have instituted a system of color-coded containers for wastes in the Operation Theater acting on a tip picked up at the first AMDD Project Workshop held last February in Morocco. The suggestion was made in a poster session mounted and presented by AMDD's Business Manager Edith Abreu and consultant architect David Potter, which is pictured above. The poster dealt with "Upgrading Facilities", and the picture showed different receptacles for soiled linen, biomedical wastes, and disposables. As Pritam Pal put it, "Using separate color buckets in the Operation Theatre and labor room helps in quick disposal, and in the different treatment of buckets".*

## RESOURCES

The first issue of Keystone, the special section in the *International Journal of Gynecology and Obstetrics* is now available (check <http://www.figo.org/default.asp?id=6123>). Judith Fortney serves as editor, and the editorial board includes Allan Rosenfield (USA), Mahmoud Fathalla (Egypt), Angela Kamara (Ghana), Carine Ronsmans (Belgium) and Dileep Mavalankar (India). The board sets the policy for the section, especially as regards the substantive and geographic focus.

Articles deal with programs or interventions, particularly in developing countries, that are intended to improve the availability, utilization, and quality of EmOC. These interventions can address such issues as provision of transport, drug availability, professional skill improvement, logistics management, and blood bank management.

Instructions for authors can be obtained electronically by sending an e-mail to [keystone@columbia.edu](mailto:keystone@columbia.edu) or by writing to: the IJGO Editorial Assistant, AMDD Program, Center for Population and Family Health, Joseph Mailman School of Public Health, 60 Haven Avenue B-3, New York NY 10032, USA.

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JHPIEGO's Maternal and Neonatal Health (MNH) Program launched the manual **Managing Complications in Pregnancy and Childbirth (MCPC)**, which is published by the World Health Organization, at the Global Health Council Conference in Washington earlier this summer.

The manual is a user-friendly reference tool, designed to be used by physicians and midwives. In addition, ministries of health can use the manual as a guideline to strengthen policies that promote and support effective maternal and neonatal health services.

MNH has generously made 1,000 English copies of the MCPC manual available to the AMDD Program, which intends to distribute them to project teams and national counterparts through the collaborative efforts of project partners. The AMDD Program is supporting translation of the manual into French.

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