

Meeting Challenges, Making Changes, Saving Lives

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DEAR COLLEAGUES

This issue of AMDD Notebook features training. We have all been on the giving as well as the receiving end of training over the course of our careers, both in formal settings and on the job. While we can reflect on successful experiences, I know we can also think of many projects where the time and money spent seems to have left little or no impact.

How can we make sure that our investment in training makes a difference in the effort to provide quality emergency care to the women whose lives are threatened by obstetric complications? At AMDD, we prefer not to reinvent the wheel but rather to go to the experts and to forge close working relations with them.

Working with partners has been the AMDD approach from the inception of the program, when we established partnerships with organizations that already had field networks: UNICEF, UNFPA, Save the Children, CARE, the Regional Prevention of Maternal Mortality Network, and the Reproductive Health for Refugees Consortium.

Partners bring their extensive international and in-country experience, including the relations of trust they have established with governments and communities. AMDD brings a tested program model and the technical capacity to develop it further based on field experience. Both sides pool their resources for the common good.

On training, AMDD is collaborating closely with JHPIEGO, an affiliate of Johns Hopkins University, which works to reduce barriers to good quality health services through advocacy, education and performance improvement. Our most ambitious endeavor to date is the training strategy developed together with experts from Asia and in partnership with WHO and UNICEF and now being implemented for South Asia (see pages 4–5.) We have also produced and tested an EmOC curriculum, and we are now finalizing a module for anesthetists.

We have also been collaborating with EngenderHealth on their Infection Prevention package, which is available for broad dissemination. In this as well as in the case of other resources described on Page 8, we have invested in adapting existing materials or using already established outlets. There are many advantages to this approach—not least the fact that we greatly hasten progress along the road to our shared goal of averting maternal death and disability.

Finally, one dimension that should be included in all our training for EmOC is training on inter-personal communications skills. I've learned from experience that if people aren't treated nicely, they don't perform as well no matter what skills they have. After inter-personal skills training in Nigeria, one midwife declared, "We can do nothing with life-saving skills if we don't have IPC skills!"

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INSIDE . . .

Good Practices	2
The Right to Information: Signs Go Up at a Peru Hospital	3
EmOC Training: Investing in the People Who Save Women's Lives	4
Q&A: Monitoring Obstetric Services	6
Taking the Focus on EmOC to the Development Community	7
Resources Available	8

THE AMDD PROGRAM

The Averting Maternal Death and Disability (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 emergency obstetric care (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: medical, management, and human rights.

AMDD has established partnerships with organizations that already have field operations. These partners are now implementing over 55 AMDD-supported projects in 39 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)

JHPIEGO

EngenderHealth

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GOOD PRACTICES

Doctor-Friendly Transfers in Rural Maharashtra

One of the most challenging problems faced by both developing and developed countries is posting qualified health staff to remote and rural areas. It is not uncommon to find obstetricians and surgeons clustered in district or city hospitals, leaving posts in smaller towns vacant. There is the usual way of doing business—and then there is the approach they tried in Maharashtra.

The usual way is for government administrators to simply issue an order to transfer the specialist. In countries like India, a medical professional transferred against his or her will often take a leave of absence rather than take up the post. They then work on getting the transfer cancelled by using political, family or other influence, which may take weeks to months. Clearly, this disrupts the provision of services. Moreover, although female patients in India prefer women doctors, it is even more difficult to transfer women doctors to peripheral hospitals given their extra family responsibilities.

Officials in the Indian State of Maharashtra succeeded in transferring a female Ob/Gyn from a district hospital to the 30-bed rural Washi Hospital in Osmanabad district without any of the usual problems. Washi Hospital has an operating theatre, anesthetist and other staff, but due to the lack of an Ob/Gyn no cesareans were being performed and the women who needed them had to be transferred to the district hospital.

As part of UNICEF's AMDD-supported Women's Right to Life and Health project, Washi Hospital had received equipment, training in Appreciative Inquiry, and other inputs but it was still not functioning as a comprehensive Emergency Obstetric Care (EmOC) facility. Dr. Madusudan Karnataki, Deputy Director of a group of districts that included Osmanabad, decided to improve staffing of the rural hospitals in his area. He could have attempted the usual way, but, recognizing the socio-political realities, he took a different route.

Dr. Karnataki and Dr. Neelam Bharadwaj, UNICEF Assistant Program Officer, began by identifying a young female obstetrician at the district hospital. They counseled the obstetrician and her husband about the proposed transfer, describing the benefits of working and living in a rural area, especially at a stage when she had pre-school children. The cost of living is low in rural areas and she would be entitled to quarters on the hospital campus. Domestic help is easily available and looking after her children would be easier.

They also promised to try to ensure that her husband, a medical officer in a primary health center, would be posted to a nearby location. In addition, they also said that they would assist her in transferring back to Osmanabad, where better schools are available, when her children were of school age. With such sympathetic counseling, Dr. Usha Barate and her family were ready to move to Washi rural hospital. Only then did the

Government issue the official transfer orders, and Dr. Barate joined Washi Hospital within few days of receiving these.

Once there, she continued to receive support from the Deputy Director, who asked her to list the instruments needed for cesareans that were not available at Washi. She presented her list the second day, and was immediately allotted a new set of instruments. This further motivated her for her work with her colleagues on the EmOC team, including Dr. Akash Kulkarni the superintendent and anesthetist who also encouraged her. There was a case of obstructed labor the very next day, and she performed the first cesarean section at that hospital in many years. The mother and baby both survived, and the patient's family was so happy they

donated six ceiling fans to the hospital. Over the past six months, she has performed nine live-saving cesarean sections.

In a factory, the manager can move machines from one place to another without too many problems. Transferring staff is another matter, and health managers must realize that unhappy staff will not provide good services. ■

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THE RIGHT TO INFORMATION: SIGNS GO UP AT A PERU HOSPITAL

AMDD Notebook received this contribution from Jorge Rodríguez Rivas, MD, Chief of the Gynecology and Obstetrics Department at Huamanga Hospital, Luis Vega Centeno, MD, MHA, National Coordinator of the CARE Peru FEMME Project, and Guillermo Frías- Martinelli, MD, MSc, Technical Advisor to the CARE Peru FEMME Project.

Huamanga Hospital provides medical care for a catchment area of 520,000 people. It is the only government facility that provides comprehensive EmOC services in the department of Ayacucho, which lies in the central highlands of Peru. The hospital attends an average of 2,400 deliveries per year and is the referral hospital for women experiencing major obstetric complications, who must travel across winding, narrow and sometimes unpaved roads to get there.

The management and staff of the Ob/Gyn service conducted on-site supervisory visits with the support of their CARE partners to ensure that their services met the needs of women and their families. Among other things, it became clear that the hospital needed to do more to promote the right of patients—and that of their relatives—to information about specific obstetric services. The visits revealed that

- The information provided to the public about the staff on day or night shifts was inadequate.
- The description of the different rooms for regular and emergency treatment—obstetric, observation, dilation and delivery, minor procedures and MVA – was not clear enough, and insufficient information was provided about the maternity wards and other hospital areas.
- Information about hospitalized and discharged patients was not easily available to relatives.

The Ob/Gyn staff decided to design a sign system to help guide both patients and the public through the

obstetric care process. The staff decided that the information had to be simple, visible, self-explanatory, and show consideration and respect for patients and their families. The system was installed in May 2002, with the

support of the FEMME Project, at a total cost of US\$1,100.

There is now a full description of the different rooms for treatment as well as the administrative offices. Signs are color-coded and include written descriptions as well as diagrams for illiterate persons. The description of hospitalization rooms covers staff station areas, drugs and

supplies for emergencies, and areas for sterile and contaminated material.

The waiting rooms for relatives or companions of patients in the Obstetric Emergency Room are clearly identified and marked. A panel has been placed at the entrance identifying the obstetric staff on each shift, and the outpatient offices also list the names of staff on duty at each door. Information is kept about each women admitted to the hospital, including room assignment, and lists are maintained for relatives and friends regarding the current status of admissions and discharges.

The new sign system allows users to seek care in a more independent way. It also encourages staff to pay more attention to good practices and make a renewed commitment to a better relationship with patients as an element of quality care and of respect for patients' rights. Indeed, staff members were motivated to discuss a manual of good practices for relations with patients. ■



EMOC TRAINING: INVESTING IN THE PEOPLE WHO SAVE WOMEN'S LIVES

Most of the 55 projects supported by the AMDD Program in 39 countries have a training component. But experience has shown that if new skills are to be successfully used to save women's lives and health, investment must be made to set the stage as well as to provide follow-up support. AMDD Documentation Consultant Nadia Hijab describes the training system being developed with AMDD-supported UNICEF projects in South Asia. She refers to a strategy paper by Harshad Sanghvi, MD, Medical Director of the Maternal and Neonatal Health Program at JHPIEGO. AMDD Program Coordinator Rebecca Brodsky undertook additional research.

In-service training in any setting involves considerable investment by organizations and individual units, ranging from the resources allocated to the time that staff members spend away from their job. In recent years, there has been growing understanding that better planning is necessary for this investment to be worthwhile. Otherwise training courses may be well designed and conducted, but still not produce the hoped for results. This is particularly important in resource-poor settings.¹

Consequently, there has been a shift from stand-alone training activities to improving job performance, and many organizations now speak of competency-based training.² Applying this to EmOC means designing a training program based on a careful assessment of the gaps in service provision, as well as the systems within which health providers function.

According to Harshad Sanghvi, assessments of EmOC services at district hospitals frequently indicate serious deficiencies in organization and management of services, stock-outs of essential supplies and drugs, staff shortages and poor morale—in addition to lack of preparedness for emergencies, poor infection prevention, inappropriately trained physicians and midwives, and outdated and dangerous practices.³

Thus, a training strategy must cover more than just training of hospital teams: "It requires the involvement and approval of stakeholders, the development of training materials (or adaptation and adoption of global materials), the preparation of training sites and faculty, and, finally, the implementation and evaluation of training. Such a process is both time- and resource-intensive, but it is necessary for meeting the need to scale-up and equitably distribute high-quality services, while at the same time working towards sustainability."

EmOC Training for District Hospitals

Sanghvi proposes an 11-step approach to training for district

Goals of EmOC District Teams Course

- * To positively influence the attitudes of the participant toward teamwork and his/her ability to manage and provide emergency obstetric services.
- * To provide the participant with the knowledge and clinical skills needed to respond appropriately to obstetric emergencies.
- * To provide the participant with the decision-making skills needed to respond appropriately to obstetric emergencies.

hospital teams. Only one of the steps covers the actual training of the teams. The other 10 steps involve reviewing country assessments, securing stakeholder consensus (including the ministry of health and hospital directors), identifying and strengthening training sites, training the trainers, providing supervision and onsite support, and evaluation.

Based on this strategy, the UNICEF Regional Office for South Asia (UNICEF/ROSA) and AMDD have been collaborating closely with JHPIEGO on comprehensive training for EmOC teams, beginning with training of trainers. The training course itself is a 5-week clinical course to prepare participants to manage obstetric emergencies and work effectively as members of an EmOC team. The first two weeks are spent in the classroom, and the remaining time is spent in designated clinical areas close to the classroom. The 5-week training is followed by a three-month practicum at each participant's worksite, with two follow-up visits by trainers for mentoring and evaluation.

The materials in the course include *Managing Complications in Pregnancy and Childbirth: A Guide for*

¹ See for example "Performance Improvement: Developing a Strategy for Reproductive Health Services" by Nancy Caiola, MPH, Performance Improvement Advisory, and Richard L. Sullivan, PhD, Director, Learning and Performance Support Office, JHPIEGO Strategy Paper, May 2000. <http://www.reproline.jhu.edu/english/6read/6pi/pistrat/pistrat1.htm>

² "Competencies" are defined as sets of observable job-related skills, knowledge, attitudes and behaviors See for example, "Integrating Performance and Learning Using Competencies", by David A. Williams, Editor, <http://www.humancapitalmanagement.biz/>

³ "Training District EmOC Teams: Strategy for Maximizing Investment in Training", prepared for the AMDD Program.

Midwives and Doctors (published by WHO in March 2001), *Infection Prevention: A reference booklet for health care providers* (published by EngenderHealth in 2000), and materials produced by JHPIEGO.

Preparing for Training

In June 2002, UNICEF, JHPIEGO, WHO and other partners began preparing the ground for a training of trainers session with an assessment by JHPIEGO staff of the two hospitals in Bangladesh selected as sites for the regional training—the Dhaka Medical College Hospital, and the Maternal and Child Health Training Institute.⁴

Areas that needed particular strengthening included active management of third stage, use of partographs, and patient communication. Some inappropriate interventions were observed and incorporated in the recommendations, which also covered roles and responsibilities, emergency preparedness, and mother and baby friendly practices. The June visits also included meetings with Ministry of Health staff to ensure participation and support.

A follow-up meeting in July reviewed progress regarding the agreed changes.⁵ Discussions included relocation of the cesarean section and labor ward in one hospital, incentives to encourage best practices, and protocols for common problems. The two hospitals were given a list of challenges and recommendations to address before the regional training. UNICEF also arranged for meetings on infection prevention with EngenderHealth.



Training the Trainers

By August, the two Dhaka hospitals were much better equipped to host the regional training for the South Asian participants. The 24 participants in the 1- 24 August course included 7 obstetric physicians, 10 nurse-midwives, and 7 anesthetists. They came from Afghanistan, Bangladesh, Bhutan, India, Nepal and Pakistan. The course was conducted by JHPIEGO staff Emmanuel 'Dipo Tolorin, Harshad Sanghvi, and Jeffrey M. Smith, and JHPIEGO consultants S. Tipu Sultan, Sharen Blake, Ann Davenport, and Grace Korula.

Classroom presentations covered evidence-based practices for the management of the five most common causes of maternal death. The participants also addressed the need to dispense with the risk approach to maternity

care and with harmful practices such as the administration of enemas in labor, shaving of pubic hair, fundal pressure for delivery of the placenta, unnecessary episiotomies, amniotomy in latent phase of labor, and encouraging women to push before they have the urge to do so.

The second and third weeks covered clinical skills standardization at the two Dhaka hospitals. Only participants who achieved skills competency on anatomic models were allowed to progress to clinical practice in the two hospitals. Even though there were not enough cases for all participants to practice life-saving skills on patients experiencing life-threatening complications of pregnancy, some participants had opportunities to manage hemorrhagic shock, septicaemic shock, ectopic pregnancy, ruptured uterus, eclampsia, breech delivery and twin delivery, and management of postpartum hemorrhage by bimanual compression, manual removal of placenta and suturing of vaginal and cervical lacerations. Participants and

trainers were able to save many patients from unnecessary cesarean sections.

Participants' knowledge and skills were evaluated by a midcourse questionnaire and by the use of procedure checklists. Participants who failed to obtain a score of 85% at the first attempt in the midcourse questionnaire were given additional information and allowed to repeat the test.

All participants achieved the requisite minimum score of 85% at the 1st or 2nd attempt. On the last day of the workshop, participants committed to implementing at least 3 EmOC best practices.

The August 2002 workshop provided an opportunity to pre-test the new anesthesia module for EmOC (an EmOC curriculum had already been drafted and presented at a South Asian regional meeting in November 2001). Feedback on the manual included the sense that the materials were generally written for physicians and were not always appropriate for non-physicians.

In October 2002, the same participants returned to Dhaka for a course to give them skills as clinical trainers. Among other things, they presented an illustrated lecture to demonstrate their new training skills and participated in a demonstration/coaching session. At the conclusion of the course, participants were joined by Deborah Maine and Ahmed Al-Kabir of AMDD, and Dale Davis of UNICEF/ROSA to discuss challenges and constraints to implementation—and the strategies they could devise to address the challenges. ■

⁴ JHPIEGO staff and consultants participating in the June visit were: Emmanuel 'Dipo Otolorin, Jeanne-Marie Crowe, Harshad Sanghvi, and S. Tipu Sultan.

⁵ Conducted by S. Tipu Sultan, Matthews Mathai, and Diana R. Beck.



This column addresses questions that arise in using UN process indicators to monitor progress in the provision of crucial obstetric services.¹ Anne Paxton is an epidemiologist who has worked in Asia and Africa. She is a Senior Program Officer for Monitoring and Evaluation at AMDD.

Q: I don't understand the 3rd UN Process Indicator. Why are we looking at 15% deliveries to be performed in an EmOC facility?

A: This is a question that is asked often by partners and providers of EmOC (emergency obstetric care). The 3rd of the 6 UN Process Indicators is called "Proportion of births in EmOC facilities" and the target is that at least 15% of the estimated number of births in a population should take place in an EmOC facility. Together, the six UN Process Indicators measure availability, utilization and quality of EmOC.

Indicator 3, which measures utilization of EmOC services, is based on the assumption that at least 15% of all pregnant women in a population will develop serious, direct obstetric complications.² It follows, then, that if less than 15% of births in a population are being performed in an EmOC facility, some complications are going untreated, resulting in injury or death to women. However, the inverse is not true. If 15% or more of births in a population are taking place in EmOC facilities, it does not mean that all complications are being seen and treated. These deliveries may be normal, uncomplicated deliveries.

Indicator 3 is one of three measures of utilization of EmOC services. The other two indicators of utilization are Met Need (the proportion of expected complications treated in an EmOC facility – Indicator 4) and the C-section rate (proportion of expected births in a population performed by caesarian section – Indicator 5). It is important to look at the three indicators of utilization together to form a good picture of the pattern of utilization. It is unlikely that Met Need or C-section rate will increase without proportion of births in EmOC facilities also increasing. And if the proportion of births

in EmOC facilities increases but Met Need and C-section rates do not increase, then we can assume that most of the deliveries taking place are normal ones, and facilities should make special efforts to draw in women with obstetric emergencies.

Some countries, such as Morocco and Sri Lanka, have a policy of encouraging institutional deliveries. For example, Morocco's Ministry of Health has set 52% of estimated births as its own, national target for births to take place in health facilities.³ However, this is not necessarily the goal of AMDD's programs. AMDD's philosophy is that as long as emergency obstetric complications are treated, countries can lower the rate of maternal mortality, even where home deliveries are common.

It is also worth noting that there are two indicators in the world of maternal mortality prevention that are similar to, but not the same as, the 3rd UN Process Indicator. One is proportion of institutional deliveries, which is the proportion of expected births taking place in all facilities whether or not they are able to provide emergency obstetric care. Another similar indicator is skilled attendants at delivery, which is the proportion of births attended by someone skilled in midwifery, whether this delivery takes place in or outside of a facility.

These indicators may be informative, but the most important factor for addressing maternal death and disability is the ability of women to access quality care during an obstetric emergency, because the vast majority of maternal deaths (around 75%) are due to obstetric complications during pregnancy, childbirth or the post-partum period. The three indicators of utilization directly address this issue. ■

1. The UN Process Indicators are set out in the Guidelines for Monitoring the Availability and Use of Obstetric Services developed in 1991 by Columbia University and UNICEF, and issued by UNICEF, WHO, and UNFPA in 1997.

2. The estimate of 15% was proposed in an early version of the Process Indicators and later adopted by a Technical Working Group assembled by the World Health Organization in 1993. See WHO, Indicators to Monitor Maternal Health Goals: Report of a Technical Working Group, Geneva, 8 - 12 November 1993, Geneva, 1994.

3. It should be noted that not all health institutions qualify as EmOC facilities. A clear definition of what constitutes an EmOC facility is outlined in the guidelines for the UN Process Indicators, based upon the availability and regular use of specific emergency obstetric functions.

TAKING THE FOCUS ON EMOC TO THE DEVELOPMENT COMMUNITY

The 9th International Forum organized by the Association for Women's Rights in Development (www.awid.org) on the theme of "Re-inventing Globalization" attracted some 1,300 women and men from 105 countries. The Forum, held in Guadalajara Mexico in October, provided a good opportunity for the Averting Maternal Death and Disability Program to reach out to both the development and human rights communities with information about Emergency Obstetric Care.

Some 45 women participated in the workshop on health, human rights, and development conducted by AMDD colleagues Lynn P. Freedman (JD, MPH, Associate Professor of Clinical Public Health, and Director of the Law and Policy Project at Columbia University), Martha de la Fuente (MD, MPH, Associate Research Scientist for the AMDD Program), and Nadia Hijab (Documentation Consultant to AMDD). The workshop focused on how each speaker, coming from the different disciplines of development, health, and human rights, had found that the focus on EmOC provided a useful entry point for thinking about some of the limitations faced in these fields.

Hijab argued that the development community has a "problem with focus" in this and other fields, identifying five possible reasons why: misunderstanding what focus means, acting on untested assumptions, lack of measurable indicators, pressure to deliver quick results, and organizational culture. She noted that safe motherhood programs tended to deal with a range of issues – low social status, poverty, education, nutrition, and general health – important issues but not central to the reasons why women die.

She pointed out "Focus does not mean being narrow, it means dealing with the actual problem. Focus can be done within a holistic framework, and, in fact, we now know that providing emergency obstetric care to avert maternal death requires a well-integrated package of interventions." The focus on EmOC also "enables you to open out and deal with a much broader range of issues, including policy issues."

Martha de la Fuente conveyed the experiences gained from several AMDD projects, which call into question issues of power, health systems, and human rights. She explained that AMDD projects go beyond technical issues and that social actions require both local and national participation. Indeed, the approach reaffirms key points that the women's health movement

has defended over the years: maternal mortality is a political issue, a public health problem, and a problem that reflects social injustice.

The challenge was, she pointed out, "to focus but not to isolate ourselves; to resolve small aspects of situations, linking and integrating them with larger issues and a greater commitment on the part of health providers; and sustaining what we have achieved."

Lynn Freedman noted that the standard human rights approach to a problem such as maternal mortality centers on which rights are violated. This "helps you use a human rights lens to understand the big picture. But it does not necessarily tell you what to do about it," which disempowers practitioners and communities.

She emphasized, "Rather human rights is about identifying the workings of power that keep unacceptable things as they are, and using a different vision of human well-being to call for change. To do that in the health field generally, and certainly in the maternal mortality field specifically, we must have 1) a good sound causal model: not all interventions are equal; and 2) a strong analysis of power and how it is functioning. We know that changes in the health system to make EmOC accessible to all women – not just wealthy women – require a confrontation with power. We need new and constructive approaches to accountability from both the international community and local health systems. And this requires depth and focus from human rights advocates."

In addition to the workshop on EmOC, Lynn Freedman presented lessons learned from maternal mortality to over 100 women at a major conference workshop on "Women's Rights, Globalization and Strategic International Venues". She noted how the decimation of the public health system, and hence the key strategy to tackle maternal mortality – EmOC – was kept invisible at global conferences and in indicators used for global goals, even though "what we count shapes what we do and where the resources go."

She pointed out that counting "the proportion of births attended by skilled health personnel" leaves out "all the issues surrounding health sector reform, user fees, privatization, decentralization, health equity – in short, the economic policies associated with globalization." Many women came up to her afterwards and said that this was a very interesting way of looking at the issues, and one they had not previously considered. ■

RESOURCES AVAILABLE

The New Year is a time to replenish stocks, and many of the publications key to improving EmOC are now available from the AMDD New York office. These include:

- * Improving Emergency Obstetric Care through Criterion Based Audit, Columbia University 2002 (English, French and Spanish)
- * Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors, WHO, 2002 (English and Spanish)
- * Reducing Maternal Deaths: Selecting Priorities, Tracking Progress, Distance Learning Course on Population Issues, UNFPA and Columbia University, 2002 (English)
- * Infection Prevention Multimedia Package: Training CD-ROM and Reference Booklet, EngenderHealth 2000, (in English),
- * Guidelines for Monitoring and Evaluation of Obstetric Services, UNICEF/WHO/UNFPA, 1997 (available in English, French and Spanish),
- * Design and Evaluation of Maternal Mortality Programs, Columbia University, 1997 (English, French and Spanish)
- * Safe Motherhood Programs: Options and Issues, Columbia University, 1991 (available in English, French and Spanish)
- * Prevention of Maternal Mortality Network Abstracts, Columbia University 1996 (available in English and French)
- * Maternal Mortality in 1995: Estimates Developed by WHO/UNICEF/UNFPA WHO 2001 (English)
- * Setting Priorities in International Reproductive Health Programs Columbia University 1996 (English)

The Guidelines, Criterion Based Audit (English, French and Spanish) and the Design and Evaluation Manual (English and Spanish) are also available on the AMDD website (<http://www.amdd.hs.columbia.edu>). Also available on the website is the link to Keystone, the special recent section dealing with field experience in averting maternal death and disability in the International Journal of Obstetrics and Gynecology. ■

AVERTING MATERNAL DEATH AND DISABILITY (AMDD)

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