

Country Case Study

**BANGLADESH TRAINS
HEALTH WORKERS TO REDUCE
MATERNAL MORTALITY**



**GHWA Task Force on Scaling Up Education
and Training for Health Workers**



**World Health
Organization**



global health
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SUMMARY

Medical doctors and nurses in Bangladesh are concentrated in urban secondary and tertiary hospitals, while 70% of the population lives in rural areas. This situation has created a major challenge for the national health system, particularly for reducing the high maternal mortality rate, with fewer than 20% of births being attended by a skilled birth attendant. To address this issue, the Prime Minister signed the Declaration of Safe Motherhood in 1997. A number of national programmes and strategies, such as the Health and Population Sector Programme (1998-2003), the Health Nutrition and Population Sector Programme, and the National Strategy for Maternal Health of 2001, further supported this declaration.

The government created two nationwide human resource development plans: (1) to train emergency obstetric care (EmOC) teams to work in district and subdistrict hospitals (medical officers and nurses), and (2) to train 17,000 skilled birth attendants to work at the community level by 2015. The Directorate General of Health Services manages the two complementary initiatives. However, due to limited government budgets, education and training activities require significant technical and financial support from a large number of international partners.

The training approach evolved throughout the EmOC initiative. Medical officers were initially sent to Nepal for training, while capacity was built in Bangladesh. After developing nationally accepted curricula, Bangladesh medical college hospitals took over the training of emergency care providers. Midway through the initiative, a shorter, 17-week, competency-based course was introduced to train emergency care providers in teams; and an orientation programme was launched for facility managers, with an overriding objective to institutionalise competency-based training.

Plans to employ and retain the emergency obstetric care providers were embedded in the EmOC initiative, which included a bonding period at designated facilities after training. However, by the end of 2007, the government had reached only 60% of its training target, and funding for the initiative had decreased. Without increased investment and training capacity, it would be difficult to sufficiently staff all services. In addition, the attrition rate, both within and after the bond period, was about 35%. Major challenges were faced in attracting medical officers, particularly females, to work in remote rural areas, where working conditions are poor and there is no clear path for career advancement after training.

At the community health worker level, family welfare assistants and female health assistants are being trained in a six-month, competency-based course for community-based skilled birth attendants, and are then certified and registered by the Bangladesh Nursing Council.

Skilled birth attendants are being trained by an array of partners through projects that have to be institutionalized into relevant training institutions. At the same time, Nursing Institutes continue to produce direct-entry nurse-midwives, who have limited roles in midwifery services. Efforts are needed to link these initiatives to the national health strategy with the goal of improving the education, training and placement of these cadres of workers.

To strengthen management capacity, a joint plan was developed in 2007 between the Government of Bangladesh and WHO to conduct training courses for programme managers at all levels of the health system, as well as provide quarterly monitoring and supervision visits to service providers of maternal and newborn health.

BACKGROUND INFORMATION

For many years, Bangladesh's public health system struggled to provide skilled birth attendants to assist with normal deliveries and to have the capacity to refer complicated cases to hospital for often life-saving emergency obstetric care (EmOC). From 1993 to 1997 the importance of EmOC gained support from professional bodies, women's rights activists, development partners and key policy makers. During this period the UNFPA, UNICEF, WHO, the European Union and other development partners supported government projects to establish EmOC services. On May 28, 1997, the Prime Minister signed the Declaration of Safe Motherhood highlighting the need to focus on reducing maternal mortality and violence against women and calling for action and commitment of resources to address the issues. In 2000, the government committed itself to the Millennium Development Goals (MDGs) to reduce maternal and child mortality, and has reiterated this commitment through various policy, strategy and planning documents.

The period following 1998 marked the beginning of more concerted scaling up of efforts, with a plan designed for establishing EmOC within the Health and Population Sector Programme (1998-2003) and Health, Nutrition and Population Sector Programme, the sector-wide approach adopted by the government to improve the overall health situation of the country.

Three major milestones were: 1) the formulation and approval in 2001 of the National Strategy for Maternal Health in Bangladesh, which aims to strengthen the provision of essential (including emergency) obstetric care and improve the utilisation of services; 2) the Interim Poverty Reduction Strategy of December 2002, which reaffirmed the obligation to reduce maternal mortality; and 3) the 2004 Poverty Reduction Strategy Paper, which expresses a particular goal

to reduce the maternal mortality rate by 75% by 2015, complying with the MDGs, and to ensure access to reproductive health services to all.

Data from surveys indicated high levels of mortality and morbidity, and low coverage of services. In 1993 there was only one comprehensive EmOC centre for every 3.4 million people, with centres mainly located in urban, district hospitals and staffed with medical consultants in obstetrics, gynaecology and anaesthetics. In subdistrict hospitals, medical officers and nurses delivered specialised care, but were not generally trained or experienced in EmOC. More than 82% of pregnant women gave birth without a skilled birth attendant present. In 2000 the maternal mortality ratio was estimated at 320 per 100,000 live births, representing more than 30 deaths among pregnant women every day.

Due to the very high burden of maternal death and inadequate service provision, the government launched the Women's Right to Life and Health Initiative (WRLH) in 2000, with the aim of reducing maternal mortality through the provision of comprehensive EmOC in the country's district and subdistrict hospitals. The four-year initiative was implemented by the Directorate General of Health Services in collaboration with UNICEF and the Averting Maternal Death and Disability Programme at Columbia University.

Major areas of activity within the WRLH included renovation of facilities, in-service training of medical officers, nurses and laboratory technicians, supply of necessary equipment and logistics, including strengthening of the health management information system, improvement of emergency readiness and quality of care. Human resources development was one of the initiative's

major activities. Training activities were designed to develop EmOC competencies among medical officers, nurses and laboratory technicians, as well as strengthen management capacity. In 2003 the government began piloting a training programme for community-based skilled birth attendants in six districts, with technical support from WHO and Obstetrical and Gynaecological

Society of Bangladesh. Later on, UNFPA provided financial support for scaling up of the training. It aimed at expanding the skilled birth attendance programme through six-month competency-based training on basic midwifery for community health workers in order to improve access to skilled care at community level, and strengthen referral to EmOC for women with complications.

SCALING UP EmOC SERVICES

This country case looks in more detail at Bangladesh's experience in scaling up EmOC services and skilled birth attendants. The 1998 Health and Population Sector Programme contained objectives for increasing EmOC coverage (one comprehensive and four basic EmOC facilities for every 500,000 population) and utilisation of EmOC services (met need increased from 5% to 70%). The WRLH EmOC initiative launched in July 2000 aimed to strengthen the capacity of 59 district hospitals and 120 of the country's 400 subdistrict hospitals to deliver EmOC. Human resources development activities aimed to supply at least two medical officers (one each in obstetrics and anaesthesia) and four nurses to each designated subdistrict hospital, and an additional five nurses at district hospitals, all with improved skills for EmOC. To meet this target, 336 medical officers, which included a 40% reserve for attrition, and 775 nurses were to be trained.

The Director for In-Service Training of the Directorate General of Health Services coordinated all the training activities and the

Training Coordination Committee at each medical college hospital reported to them, while holding their own training departments accountable. UNICEF maintained close connections with all levels of the Ministry and medical college hospitals in the implementation of the project. The involvement of key stakeholders, particularly the Directors of the medical college hospitals, helped to promote understanding of EmOC training activities and needs, as well as systems of accountability. Although this system involved some administrative complexities, training of managers improved.

Per trainee costs were approximately \$1550 for one year for medical officers, \$1020 for the 17-week competency-based team training, \$340 for nurses and \$140 for laboratory technicians. The government bore the cost of salaries (of trainers, participants and government project personnel) along with the cost of improving training facility infrastructure and related logistics. Due to limited government funds, the education and training activities were primarily funded by development partners and donor agencies.

TRAINING OF TEAMS IN EmOC

The WRLH initiative included in-service training of medical officers in obstetrics and anaesthesia, nurses in midwifery, and laboratory technicians in safe blood transfusion. Initially, medical officers were trained in Nepal under the Maternal and Neonatal Health Care project. Subsequently, curricula were developed and the training was organised at the eight medical college hospitals in Bangladesh, where the nurses and lab technicians were being trained. Training of medical officers was originally designed as a six-month course, but was later extended to one

year. Similarly, training of nurses was extended from six weeks to four months. Laboratory technicians participated in a two-week training course.

Midway through the initiative, in 2003, a new 17-week competency-based training programme, along with one-year training on obstetrics and Gynaecology was introduced to train medical officers and nurses in teams. The objective was to institutionalise competency-based training and accelerate output of trained providers

Medical officers from any facility could apply for training at a designated facility and they were selected by interview. Nurses and laboratory technicians were selected directly from the designated facilities where they were working. Trainees were given a monthly scholarship, book grant, travel allowance and training materials. On successful completion of training, they received a certificate. The one-year training of medical officers is recognised by the Bangladesh Medical and Dental Council. This could be counted towards specialised degrees in the future. Non-monetary

incentives, such as preference for in-country and foreign training, annual award and preference for higher education were based on satisfactory service.

Following their training, medical officers and nurses were required to complete a bond period, during which they served at designated facilities. The bond period was originally three years, but was shortened to two years in 2002 by the project's core committee.

EMPLOYMENT AND RETENTION

Making training a key part of medical officer and nurses' duties is important if this approach is to be expanded and sustained, along with sufficient funds to support direct training costs.

There have been some issues with attracting providers, particularly medical officers, to training. The government offers mechanisms to cover travel and daily allowances for staff,

but the amount is insufficient encouragement. Employment of EmOC trained staff is built into the training plans and there are positions available. However, retention of medical officers in rural facilities is difficult. Recognition of work in hardship posts needs to be factored into benefits packages, and professional advancement could be used to incentivise medical officers to work in designated facilities.

MANAGEMENT

Midway through the EmOC training programme, an orientation programme for facility managers was developed to improve understanding of technical and managerial issues involved in supporting an efficient response to obstetric emergencies.

To strengthen management capacity more broadly, it is intended that the Joint Government-

WHO 2008-09 biennium plan will conduct programme management training and develop materials for programme managers at national, district and subdistrict levels. The training will be combined with quarterly monitoring and supervisory visits to professional midwifery services and community-based skilled birth attendants.

MONITORING AND EVALUATION

The number of personnel trained in EmOC through the joint initiative of UNICEF and Bangladesh Government until December 2007 were:

- 178 medical officers trained in obstetrics (year 1)
- 150 medical officers trained in anaesthesia (year 1)
- 665 nurses trained on safe delivery (year 1)
- 186 lab technicians trained on blood transfusion
- 38 medical officers trained in competency-based obstetrics and gynaecology
- 26 medical officers trained in competency-based anesthesia
- 33 medical officers on training in anesthesia

Although there was some success, through increased training capacity fewer than half the targeted number were produced. Management, monitoring and coordination were found to be inadequate to cater to the large number of service providers in need of the in-service training.

At the 1999 baseline, only 36 of the country's 400 subdistrict hospitals were functional for EmOC (3 with comprehensive EmOC, and 33 with basic EmOC), while among the country's 59 district hospitals, only 35 were providing comprehensive EmOC. By the end of 2007, 105 sub-district hospitals had become functional for EmOC and 59 district hospitals were providing comprehensive EmOC. Even though the capacity for EmOC at district hospitals still relies mostly on the presence of consultants, trained nurses are nonetheless playing a central role in conducting normal deliveries, identifying complications and working with consultants to provide emergency services. Compared to the baseline of 1999, significant increases were observed in the 2003 caseload of the district hospitals and subdistrict health complexes providing either basic or comprehensive EmOC services. Natural deliveries increased by 63%, admissions of complicated cases increased by 135% and caesarean deliveries increased by 70%.

LESSONS LEARNT AND POLICY RECOMMENDATIONS

STAFFING TARGETS

Initial staffing targets (see earlier) were not sufficient to provide the 24-hour care needed at each facility. A more realistic target would be to have at least four medical officers (two each for obstetrics and anaesthesia) at both subdistrict and district hospitals. Consultants at district hospitals also need back-up support for 24-hour care. A total of 834 medical officers would need to be trained to complete the current target as well as move towards 24-hour care. If the 17-

week competency-based training programme could be scaled up to more than one training institution, the time required to meet these targets could be greatly reduced.

The Government has planned to train newly recruited doctors on obstetrics, gynaecology and anesthesia for 6 months in order to increase the number of service providers to achieve MDG5. After the training, they will work at sub-district-level hospitals for at least 2 years.

ATTRACTING AND RETAINING PARTICIPANTS

Attracting more medical officers for training is a major challenge. The bond period was a disincentive for training to some but is programmatically important in order to avoid misuse of training resources. Unwillingness to work in remote rural areas in often overcrowded, under-equipped public facilities was another common disincentive, along with lack of a clear career path following training. The overall attrition rate, both within and after the bond period, was about 35%.

Additionally, fewer than one quarter of the medical officers trained in obstetrics are women, and it has been suggested that attracting qualified female applicants to become nurse-midwives requires a promotion strategy to elevate the image of the nurse-midwife in society.

Innovative incentives to retain trained staff are needed. Enabling working environments need to be provided so that staff can provide quality care and feel appreciated. Incentives for medical professionals to work in rural areas are also needed. At a more fundamental level, increasing attendance by female children at secondary school in rural areas is essential. This would increase the pool of potential applicants for health professional training and the hope is that students from rural areas will

be more willing to go back and work in their communities.

FUNDING

Funding for the initiative decreased in 2004, but a cost extension made it possible to continue project activities past the original end date of mid-2004 albeit at a greatly reduced level. Despite this, institutionalisation of education and training is deemed in principle to be cost-effective and sustainable.

MANAGEMENT AND MONITORING

In addition to the training and deployment of health workers, their subsequent management and follow-up after the training are important. Monitoring and supportive supervisory mechanisms must be in place to ensure the quality of health services at health facilities and in the community. The implementation of evidence-based protocols to standardise and improve practice should be considered. The obstetricians' professional organization has developed, printed and distributed 15 protocols on management of cases.

COORDINATION

Collaboration and coordination among government, non-government and international institutions and agencies has been seen to be effective, with everyone working towards the same goals.

SCALING UP SKILLED BIRTH ATTENDANTS

The government aims to increase the rate of deliveries by skilled birth attendants to 50% by 2010, and 86% by 2015. To do this, it plans to

cover in phases all 464 rural subdistricts within the country's 64 districts with 17,700 community-based skilled birth attendants (see table).

PLAN FOR SCALING UP COMMUNITY-BASED SKILLED BIRTH ATTENDANTS

Year	No. of functioning districts	No. of new CSBAs	Cumulative No. of CSBAs	Total annual deliveries conducted by CSBAs	% of births by CSBAs	% of births by current SBAs	Total % of births by SBAs
2006	30		2500	210,000	7	13	20
2007	40	1280	3780	317,520	11	15	26
2007	50	1600	5380	451,920	16	18	34
2009	55	1760	7140	599,760	21	21	42
2010	55	1760	8900	747,600	27	23	50
2011	55	1760	10,660	895,440	32	25	57
2012	55	1760	12,420	1,043,280	38	27	64
2013	55	1760	14,180	1,191,120	43	29	72
2014	55	1760	15,940	1,338,960	48	31	79
2015	64	1760	17,700	1,486,800	53	33	86

The Bangladesh Nursing Council provides certificate and registration for some education and training programmes. Efforts are ongoing to strengthen the Council's management and its regulatory system, including a systematic accreditation system for nursing education and services to help improve the quality.

The six-month competency-based training of community-based skilled birth attendants was provided to family welfare assistants and female health assistants. Trainees were certified and registered as skilled birth attendants by the Bangladesh Nursing Council and began performing services in their area. Following the piloting of the training course, the Ministry

of Health and Family Welfare has been scaling up the training. A curriculum for an additional three-month training course has been developed and training has been implemented in different districts.

Various nursing and midwifery qualifications exist in Bangladesh. It is estimated that throughout the country there are 22,000 nurse-midwives who have earned a four-year diploma, which includes one-year training in midwifery. However, this level of training is not considered sufficient to deliver professional midwifery services, and therefore an in-service training programme for midwifery services is being proposed.

LESSONS LEARNT AND POLICY RECOMMENDATIONS

PROJECT BASED

Training programmes for community-based skilled birth attendant are currently conducted as projects. However, for cost-effectiveness and sustainability, the training should take place as part of a national programme with suitable institutes and organisations offering the courses as part of their regular teaching programmes, and with graduates automatically integrated into the health system upon completion.

POLICY AND LEGISLATION

Because nurse-midwives with standard four-year diplomas have limited involvement in providing professional midwifery services, a programme of advanced midwifery training is needed. A clear policy direction is needed in this area, with clear roles and responsibilities for the different cadres.

REFERENCES

1. United Nations Children's Fund (UNICEF), Regional Office for South Asia. A book of case studies: *women's right to life and health*. Kathmandu, 2004.
2. Islam MT, Haque YA, Waxman R, Bhuiyan AB. Implementation of Emergency Obstetric Care Training in Bangladesh: Lessons Learned. *Reproductive Health Matters* 2006;14(27):61–72.
3. World Bank Health Nutrition and Population Sector Programme. Bangladesh, 2005.
4. WHO Country Office, Bangladesh, 2007.
5. Human Rights Impact Resource Centre, Case Study, 2007
(<http://www.humanrightsimpact.org/case-studies/item/casestudy/6/>)

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Launched in 2006, the **Global Health Workforce Alliance** is a partnership dedicated to identifying and implementing solutions to the health workforce crisis. It brings together a variety of actors, including national governments, civil society, finance institutions, workers, international agencies, academic institutions and professional associations. The Alliance is hosted and administered by the World Health Organization.

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