



Skilled Attendance at Delivery in Bangladesh a Strategy Development Tool

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Glossary

ANC	Antenatal Care
Ada	Ginger
Apa	Elder sister
APH	Antepartum Haemorrhage
Aya	Attendant
Bari	Household
BAMS	Birth Attendants with Midwifery Skills
Bangla Dai	Untrained Traditional Birth Attendant
BAVS	Bangladesh Association for Voluntary Sterilisation
BDHS	Bangladesh Demographic and Health Survey
Bhalo	Better off
Bou	Village bride
BRCS	Bangladesh Red Crescent Society
CFR	Case Fertility Rate
CS	Civil Surgeon
Dai	Traditional birth attendant
D&E	Decidual and Evacuation
DH	District Hospital
Dhoni	Rich
DHS	Demographic and Health Survey
Din Cholena	Poor
Doshi	Possessed by an evil spirit
EmOC	Emergency Obstetric Care
EsOC	Essential Obstetric Care
ESP	Essential Services Package
FGD	Focus Group Discussion
FWA	Family Welfare Assistant
FWC	Family Welfare Centre
FWV	Family Welfare Visitor
GOB	Government Of Bangladesh
Gorib	Poor
HA	Health Assistant
Haat	Local market held once in a week
Haspatal	Hospital
HFWC	Health and Family Welfare Centre
HPSP	Health and Population Sector Plan
ICDDR,B	International Centre for Diarrhoeal Disease, Bangladesh
ICMH	Institute of Child and Mother Health
IGA	Income Generating Activates
IUD	Intra Uterine Death
Kaida Koishol	Techniques
MA	Medical Assistant
Magreb	Evening prayer time
Matri Mongol	Maternal and Child Welfare Centre

MC&H	Medical College and Hospital
MCH	Mother and Child Health
MCHTI	Maternal Child Health Training Institute
MCWC	Maternal and Child welfare Centre
MO	Medical Officer
Moddhyam	Middle
MOHFW	Ministry Of Health and Family Welfare
MR	Menstrual Regulation
NGO	Nongovernmental Organisation
NIPORT	National Institute for Population Research and Training
NVD	Normal Vaginal Delivery
Pani Bhangga	Leak in the membrane
Palli	Village
PC	Private Clinic
PET	Pre Eclamptic Toxaemia
PNC	Postnatal Care
RDRS	Rangpur Dinajpur Rural Service
SAC	Satellite Antenatal Clinic
SBA	Skilled Birth Attendant
SES	Socio-economic Status
SDT	Strategy Development Tool
TB	Tuberculosis
TBA	Traditional Birth Attendant
Tejpata	Cassia Leaf
TFR	Total Fertility Rate
TT	Tetanus Toxoid
UNICEF	
UHC	Upazila Health Complex
UHFPO	Upazila Health and Family Planning Officer
UHFWC	Union Health and Family Welfare Centre
Union Parishad	The Local Government
Upazilla	Breech presentation
WFHI	Women Friendly Hospital Initiative
WHO	World Health Organisation
WRA	Women of Reproductive Age

Executive Summary

SAFE study aimed to provide new knowledge on the identification, implementation and evaluation of effective, affordable and equitable strategies to increase Skilled Attendance at delivery in developing countries. It was a multi country research and five countries including Bangladesh were involved in this study. The main purpose of SAFE study was to develop a Strategy Development Tool (SDT), which would enable the policy makers and programme planners to systematically gather and interpret information on skilled attendance at delivery. The SDT contained five components, which revealed the collection, analysis and synthesis of existing and new data on skilled attendance. The five modules were: problem identification, situation analysis, needs assessment, quality of clinical care and synthesis. The cost of the application of the SDT was also examined during SAFE study as part of the field test to consider the affordability.

In Bangladesh under SAFE study using the SDT, certain strategy options to promote skilled attendance at delivery were developed. The key findings in SAFE study and the strategy options are given in the following.

A review of existing literature showed that in Bangladesh only 7% of deliveries were assisted by qualified medical practitioners, while 22% by relatives and almost half by traditional birth attendants (TBAs). At community level where home delivery was almost universal certain factors were related to skilled attendance at delivery: mother's age and education, religion, residence poverty status and child's birth order. It was found that proportion of deliveries done at health facilities were highly inequitable. Whereas the proportion of well-to-do women delivering in a facility was 17.3 percent, it was less than one percent for the poorest women. DHS¹ data (1999-'00) revealed that women who had used health facilities for other health services like immunisation, contraception, and antenatal care (ANC) in the past used health facilities for deliveries more frequently compared to others. DHS data also showed that the proportion delivered at a Govt. Hospital increased by four times who had 4+ ANC visits, but the need assessment study

¹ Demographic and Health Survey.

revealed that ANC during pregnancy was not that considered important by the women for the purpose of delivery.

The need assessment study also identified a number of barriers at different levels which hindered women's access to formal delivery care. At individual level women were not willing to deliver in the hospital due to shame, fear of caesarean and death. At family level it was noted that the major decision makers i.e. mothers-in-law, husbands were the least knowledgeable about different level of obstetric services, which eventually increased the expenditure of delivery care. In the need assessment study, the villagers pointed out that in emergencies the neighbours extended their cooperation. However, as most of them were poor, often it was difficult for them to provide financial support or loans. Thus, economic constraints were noted as one of the major hindrances in accessing formal delivery care services. At community level it was found that neighbours discouraged to go to the health facilities for delivery care and over dependence on TBAs was also noted. The key informants pointed out that although many NGOs in Bangladesh had motivational activities at community level, but those were not adequate for promoting skilled attendance. The study revealed that at facility level unfriendly behaviour of the healthcare providers, lack of female doctors and problems in the system of referral prevented people's access to formal delivery care.

The study indicated that doctors at Upazila (sub district) level mostly did not have specialised obs & gynae training, which limited service provision. The qualified health care providers were found to be concentrated in the urban areas and few female doctors could be found in rural areas. Most of the key informants opined that lack of professional commitment was a major problem in promoting skilled attendance in Bangladesh. The doctors posted at the Upazilas were mostly found not to reside in the campus and were more interested in private practice.

The quality of clinical care component of the SDT revealed that at the facility level most of the information was not recorded. At district hospital and Mother and Child Welfare Centre (MCWC) it was found that key information like discharge diagnosis, duration of

gestation at admission, presentation of foetus, time between delivery of baby and placenta, urine albumin and sugar were not recorded. It was also found that in some cases MCWC had some records but the district hospital did not have any. For instance according to the record postpartum follow-up was not given at district hospital level but at MCWC there was some recording.

Regarding enabling environment the study found that the government facilities were distributed in a way that made comprehensive facility available only at the divisional and district levels. Therefore, to provide minimum acceptable level of Emergency Obstetric Care (EmOC) services at periphery level there was a greater need for expansion of the government services at Upazila level. With the assistance of UNICEF some of the Upazila Health Complexes (UHCs) were presently found to be upgraded to provide EmOC services. The study also revealed that the existing healthcare system was not user friendly and there were many informal costs imposed by the hospital personnel. The healthcare providers pointed that there was shortage of supplies such as drugs and equipments in the facilities, which prevent them from performing their duties.

In analysing the policies and initiatives of the government as an enabling factor the study found that the approach to train TBAs had failed due to lack of establishment of proper referral system and follow-up. Nevertheless in the current health and population sector programme (HPSP) the government was found to implement an essential service package, which includes maternal and child health. The initiative of establishing EmOC in all 64 districts, 358 UHCs and 13 MCWCs was likely to be a major step to reduce maternal deaths. Along with the Women Friendly Hospital Initiatives, Bangladesh national strategy for maternal health was found to be developed where training to Family Welfare Assistants (FWAs) was mentioned for clean and normal delivery at community level.

In terms of referral the needs assessment study revealed that transportation from community to delivery facility during obstetric emergencies was not well organised. Transportation was often costly and travelling at night was hazardous. The secondary

sources revealed that at the facilities there were lack of standardised practice of decision making for referral and follow up systems. According to the key informants, there was no value of the referral slip from the Family Welfare Visitors (FWVs) at Upazila level to the district hospital. Since referral chain does not function well, district hospitals were overcrowded.

The synthesis of the findings from the SDT indicated some key problems regarding skilled attendance in Bangladesh. Such as: inadequate motivational activities in the community, financial constraints, lack of professional commitment of the healthcare providers, lack of enabling environment, poor recording of information in the facilities, and poor referral linkages. The key problems denoted some solutions to fulfill certain objectives. Accordingly, in order to increase appropriate utilisation of skilled attendance in Bangladesh motivational activities in the community to use formal delivery care services were needed to be increased, it was required to strengthen the possibilities of reaching appropriate formal delivery care and improvement of quality of clinical care in the facilities was necessary.

In order to fulfil the purpose more comprehensively the objectives were combined to develop a strategy option, which included motivational activities in the community to initiatives for improving the quality of care in the facilities. The strategy option addressed the broader context of the Government's national strategy for maternal health in Bangladesh. However, at the end of SAFE study on the basis of this strategy option a three-year demonstration project was proposed. Through operational research it would try to develop a model for improving skilled attendance at delivery in Bangladesh.

1. Introduction

1.1 Background

One of the most daunting challenges facing the world today in the field of health is the issue of maternal mortality. Over the previous few decades remarkable progress has been made in almost every sector of development. More children now survive in developing countries than ever before and more of them now go to school. Unfortunately the situation in terms of maternal mortality has not changed much for many developing countries. It is estimated that 585,000 maternal deaths occur annually worldwide, 99 percent of this in developing countries (WHO 1996). The world has utterly failed to do much in this respect. This has been rightly called 'scandal of the century' (Graham 1998). It is not that there is nothing that can be done. All developed countries and some in the developing world have been able to bring the maternal mortality rate down significantly. But for a vast majority of the poor countries it is a 'neglected tragedy' for effective interventions are available to deal with this persistent crisis (Rosenfield and Maine 1985).

In 1987, the Safe Motherhood Initiative was launched. In his address to its first-meeting in Nairobi, Halfdan Mahler, the then Director General of the World Health Organization (WHO), had declared, "We face a tragedy of multiple causes and we must confront the challenge with a multiple strategy..... we must stop believing as if there were a single magic bullet that could slay this dragon" (Weil and Fernandez 1999). Ten years later in Colombo, the world discovered that although the tragedy is multi-causal but to effectively address it requires resorting to a magic bullet and that is 'essential obstetric care'. While all other strategies as enunciated by the Safe Motherhood Initiative including family planning, antenatal care, clean/safe delivery, essential obstetric care, basic maternity care, primary health care, and equity for women (WHO 1993) are important determinants of maternal deaths, it is the 'essential obstetric care (EsOC)' services which has the most potential of having a significant impact (Papiernik

1995). It has been shown that maternal mortality is effectively addressed only by institutionally based medical interventions (Maine and Rosenfield 1999).

It is now accepted internationally that to reduce maternal mortality significantly it is necessary to make EsOC available (WHO 1991)². But the challenge is how to do it. Governments and non-governmental organizations (NGOs) in developing countries trained tens of thousands of TBAs in the 1980's and 1990's. But just training TBAs hardly makes any difference (Donnay 2000). Most complications occur at childbirth which is frequently unpredictable and unpreventable (Chowdhury & Chowdhury 1998); addressing these require prompt medical intervention. Unfortunately no studies could convincingly show a positive impact of such training alone in reducing maternal mortality (Weil and Fernandez 1999). Home birth is preferred and often the only option available in many developing countries (Walraven and Weeks 1999). Priority has now shifted to providing high quality care by skilled attendants (WHO 1999) and attendance for all deliveries. Thus there are several reasons why skilled attendance at delivery is recommended as a way of ensuring EsOC (Dugald Baird Centre 1999):

Historical evidence both from industrialised countries, (such as Sweden and the United Kingdom) and transitional countries, (such as Sri-Lanka and Malaysia) indicate the essential role played by the improvement of delivery care in the reduction of maternal mortality.

It is now known that about two-thirds of deaths occur around the time of delivery and the vast majority of cases could not be predicted as complicated according to commonly used antepartum risk factors.

The effectiveness of training projects for TBAs as mentioned above, is now openly questioned. There is a lack of evidence of any population relying heavily on TBAs lowering its maternal mortality.

² There are non-obstetric care interventions, which have also been found effective in reducing maternal mortality. For example, a study in Nepal has found that a regular supplementation of vitamin A in a vitamin A-deficient population can reduce maternal mortality by up to 49 percent (West et al. 1999). We hold this discussion until later, however.

There is strong evidence, both historically and contemporary for the impact of skilled attendance at delivery on reducing perinatal mortality. Thus this intervention has the potential to relieve a double health burden-maternal and perinatal death - in developing countries.

An issue that is largely unresolved is what constitutes 'skilled attendance'. According to some, skilled attendants or 'professionally qualified birth attendants' include midwives, doctors and practitioners who have received at least 18 months of midwifery training and attend on average, 5-10 deliveries per month (Donnay 2000). With this definition the proportion of births in developing countries attended by skilled attendants is 58 percent with a range from 2 to 97 percent (WHO 1997). In countries, which are on the lower range, the role of family members and trained and untrained TBAs is enormous, and the challenge is how the transition to skilled attendance is expedited. Some have suggested creation or identification of an intermediate group of 'birth attendants with midwifery skills' or BAMS (Walraven and Weeks 1999) and/or following an approach of moving in a phased manner from the present home-delivery by non-professional TBA-based care to a comprehensive obstetric care facilities (Koblinsky et al 1999).

Increasing the net of deliveries by skilled attendants is thus the latest thrust in the international safe motherhood movement. The present goal is to ensure that 80 percent of deliveries is assisted by a skilled attendant by 2005. It has been reckoned that no other countries than those in Latin America and the Caribbean will be able to reach this goal (AbouZahr and Wardlaw 2001).

But for a vast majority of other countries the challenge will continue to exist. There will be a host of barriers and hurdles to overcome. Those include, from the supply side of the equation, training and posting of skilled attendants, resource allocation, functioning referrals, new roles and responsibilities of medical, midwifery and nursing professions, supervision and monitoring of the new provision, and adequacy of appropriate supplies and equipment. Since the provision of skilled attendance does not necessarily guarantee their use by the women and the communities, community preferences along with

cultural, physical, and economic barrier, that women face in utilizing these services need to be neutralized. The question of equity is also important, as the problems faced in seeking care by poorest women in poor countries are different from those of non-poor women. It is quite possible that if adequate 'safety nets' are not provided, the existing inequities in skilled attendance at delivery would widen (Dugald Baird Centre 2000).

SAFE was a multi centre research, which aimed to provide new knowledge on the identification, implementation, and evaluation of effective, affordable and equitable strategies to increase Skilled Attendance at delivery in developing countries. SAFE study comprised a number of independent but relative activities. These included (a) development of a new strategy tool for programme planners to increase the proportion of deliveries with skilled attendance, (b) generation of new knowledge on access to skilled attendants at delivery among the poorest women, (c) improved understanding of the trends in the proportion of deliveries with skilled attendants, (d) improved ability to monitor proportion of deliveries with skilled attendants through a 'rapid assessment package', and (e) application of the strategy development tool in developing countries (Dugald Baird Centre 2000). The study was being carried out in five developing countries including Bangladesh and coordinated by the Dugald Baird Centre for Research on Women's Health, University of Aberdeen, UK.

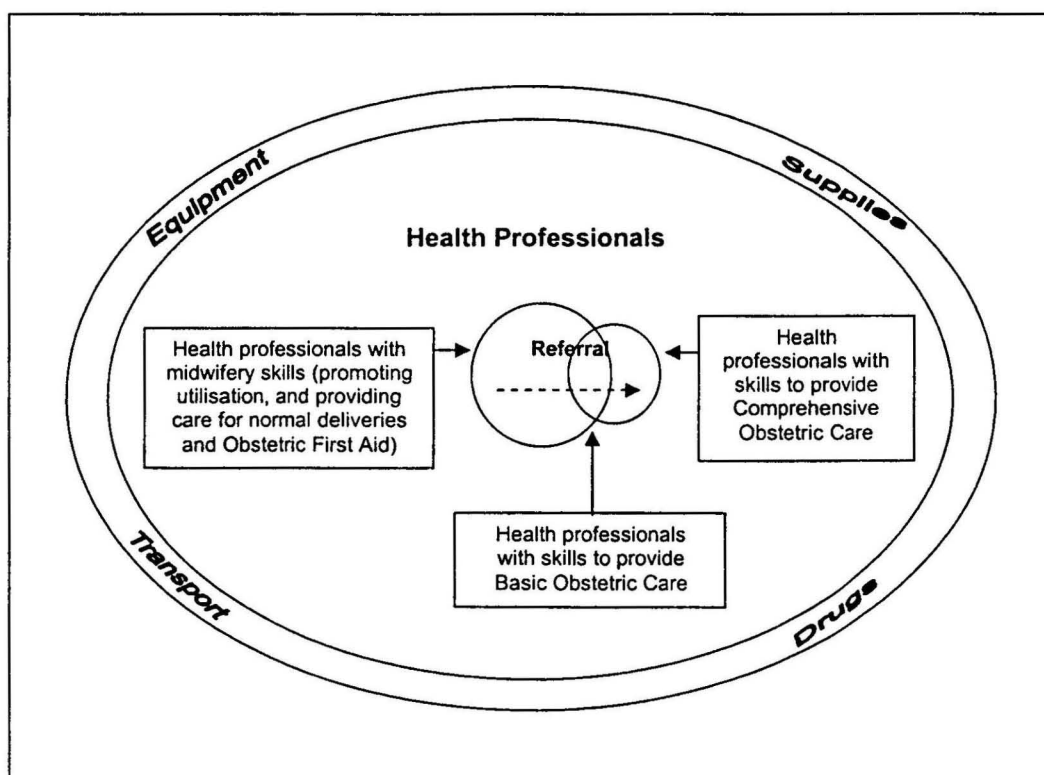
1.2 Skilled attendance at delivery

Skilled attendance is a process through which a pregnant woman is provided with adequate care (McDonald and Starrs 2002). SAFE study was based on a schematic framework (Figure 1), where skilled attendance could only be effectively delivered when integrated with a functioning health system, as represented by the providers (with the skills to manage deliveries), the service users and the enabling environment. In fact, the framework was within the context of a health system approach. The community in the schematic framework indicated demand for care, which were mostly influenced by socio-cultural and economic situation. TBAs were also considered as a part of the community as they were largely preferred birth attendants.

Indeed it was a complex concept requiring skilled personnel in the form of health professionals, who among them had the competencies to provide care for normal delivery as well as to provide basic and comprehensive essential obstetric care. It also required the capacity to refer women to an appropriate level of care and an enabling environment in the form of necessary drugs, supplies, equipment and transport.

The concept of skilled attendance only included health professionals who fulfil the criteria of being trained attendants as defined by WHO. The other non-professionals health workers may play an important role in providing delivery care and in referral. “At delivery” was taken here as the process of labour, delivery, and immediate postpartum care of the mother and the neonate. The care of women during the antenatal period, those suffering from complications or medical complaints during pregnancy were not included in the definition (Dugald Baird Centre 2003).

Figure 1: Schematic framework for skilled attendance at delivery.



1.3 Strategy development tool (SDT)

The main purpose of the SAFE study was to develop Strategy Development Tool (SDT). It could be considered as a resource document that would enable the policy makers and planners in a developing country to systematically gather and interpret information and to plan for a strategy to increase the proportion of skilled attendance at delivery (Dugald Baird Centre 2003).

The SDT contained five modules describing the collection, analysis and synthesis of existing and new data on skilled attendance. The five modules are:

- Problem identification: It was a preliminary diagnostic exercise using qualitative methods to explore key informants' view on the main problems.
- Situation analysis: It was divided into two parts. In the first part could be considered as a guide for the identification, analysis, interpretation and organisation of existing data. The second part was the guidelines to analyse existing datasets from DHS and other similar population based surveys.
- Needs assessment: It was done in the community to determine the needs of the poorest by using qualitative methods.
- Quality of clinical care: By using delivery records it was done to measure the clinical quality of care provided in health facilities.
- Synthesis: It was done to interpret the information collected through above mentioned modules for the formulation of strategy options.

The cost of the application of the SDT was also examined as part of the field test of the SDT. The results of the costing module also presented in this report along with the other modules of the SDT.

2. Module 1: Problem identification

2.1 Introduction

The SDT in SAFE study aims to provide policy makers and programme managers a structured framework to synthesis lessons learnt in relation to skilled attendance and to identify feasible and sustainable strategy options for future action. As a first step of the process a preliminary diagnostic exercise is needed where the views of the key players explored. The exercise would help to outline the current situation regarding skilled attendance at delivery in Bangladesh and prioritise problems associated with skilled attendance and thus provide direction for the following modules. This part of the report is based on the diagnostic exercise with the key players. The policy makers, programme planners, researchers, NGO activities, healthcare providers, etc. who have vast knowledge and experience in the area of safe motherhood are considered here as the key players in the study.

2.2 Methodology

2.2.1 Respondent identification

For problem identification exercise data was mainly collected from three types of key players at national and sub national level. These were:

- People with macro level perspective: People involved with Ministry of Health and Family Welfare, programme planners and managers at national level were included in this category.
- People with micro level perspective: People who were in post which allow them to take decisions regarding strategies and provision in the area of skilled attendance at delivery at sub national level were considered here.
- Researchers, NGO activists and healthcare providers: Researchers and NGO activist who were quite knowledgeable in safe motherhood area were dealt with in the study. Some healthcare providers at national and sub national levels who

had better understanding about the situation regarding skilled attendance in the country were also comprised in this of the study.

However, primarily, with the assistance of steering group the possible key players of different type were listed down. During listing down the key players the following criteria were considered:

- They understand the situation regarding skilled attendance at delivery at national and local level.
- They can provide information and balanced opinion on the main problems regarding skilled attendance at delivery in Bangladesh.
- They have good insights into current policy and provisions at national level regarding skilled attendance at delivery.
- They are knowledgeable of available information on skilled attendance in Bangladesh.
- They can influence the decisions related to strategies regarding skilled attendance at national and sub-national level.

Depending on consideration of the relative importance of each key players and their availability the list was finalised and through this process eighteen key players were selected from different category.

2.2.2 Data collection techniques

A part from ten individual interviews, two FGDs was conducted to obtain essential information to outline the current situation regarding skilled attendance at delivery and prioritise the associated problems. Table 1 shows an overview of data collection techniques indicating the number and type of respondents. The different data collection techniques used was complementary to each other. To reduce the chances of biases triangulation of different techniques and sources was done.

2.2.3 Lesson learnt

After finalising the list of the key players for individual interview prior contact was made to get their appointments. In this regard, due to their involvement in various

concerns, difficulties were encountered in having appointments. Sometimes the appointments repeatedly kept on changing.

A part from the above situation it was often found that the key players often was unable to provide any supporting reference as evidence against their information. Still the information was considered valuable as they were talking from their experience and based on the information supporting literature were explored.

The key informants talked about the problem from their own perspective. Therefore no consensus was found in the study in terms of prioritizing the problems regarding skilled attendance at delivery in Bangladesh.

Table 1: An overview of data collection techniques and type of respondents.

Respondent type	Data collection techniques	
	Individual interview	FGD
Ministry of Health	1	-
Programme planners/managers at national level	2	-
Health Administrator at sub national level	2	-
Researcher	2	-
NGO Activist	2	-
Health care providers at medical college hospital	-	4
Health care providers at district level hospital	-	5
Total Respondents	9	9

2.3 Results

2.3.1 Situation in Bangladesh concerning skilled attendance at delivery

According to the key players due to certain socio-cultural factors home delivery is mostly preferable in Bangladesh. Almost 85% of birth disregarding socio-economic condition was taken place at home by the untrained family members and traditional birth attendants. Regarding the situation although educational status was not very significant factor but the problem was mainly concentrated in rural area and among the poor.

In promoting utilisation and providing care for normal deliveries and obstetric first aid the UHFWC had a role, as these were widespread in rural areas. These centres were originally thought of performing maternal services including deliveries and the FWVs posted in UHFWC were trained in deliveries. But due to lack of proper equipments and adequate number of FWVs the centres did not work effectively. However, presently these are working as outpatient clinics. The FWVs who were involved in the UHFWC were more interested in conducting delivery at home as they could earn some money out of it.

The key players pointed that it would be better if the EmOC were ensured at Upazila level. The FWVs and nurses mainly dealt the delivery at UHC. They were skilled in providing services for normal vaginal delivery but they were not skilled to provide EmOC. The doctors posted in UHC often did not reside in the campus even though they had the provision of living there. It was reported that they were more interested in private practice to earn some extra money. Therefore during emergencies they were hardly present to deal with the complication. However with the assistance of UNICEF some UHC were upgraded to provide EmOC at Thana level.

In explaining the situation regarding skilled attendance and relevant problems the key players pointed that poor referral linkage is another important factor here. Some of them stated that referral chain did not function well for which the District Hospitals (DHs) were overcrowded. They further reported that there was lack of standardise practice of decision making for treatment of referral and no follow up also. DH did not pay value to the referral slip from FWVs at Upazila or Union level. Presently even though due to the infrastructure development communication was easier but in times of emergencies transport was not available. Transportation services for obstetric emergencies at community and facility level were not well organised.

According to the healthcare providers at national and sub national level lack of enabling situation was a considerable factor for which skilled attendance was not functioning well. There were shortage of supplies and manpower at UHC and DHs.

The key players argued that although many NGOs have motivational activities at community level still it was not adequate for promoting skilled attendance. They pointed that without enough motivation at the community skilled attendance would not function well. One of the NGO activists shared her experience that they had to do a lot of motivational activities to make their delivery care service to be utilised by the community. Along with community motivation leadership in the facility was revealed as a notable aspect to be addressed. As one NGO activist stated that in a pilot project they conducted motivation activities in two communities but received better result where the leadership in the facility was good. From their experience they also shared that due to the informal cost in the facility was a barrier in attending the services.

2.3.2 Prioritizing problems

In terms of prioritizing the problems regarding skilled attendance in Bangladesh different perspectives were revealed. The policy planners and managers pointed that due to lack of professional commitments the situation was not improving. The healthcare providers were found to provide more effort to increase their private practice than performing their duties in the facilities.

The healthcare providers argued that lack of enabling situation was the main problem in terms of promoting skilled attendance in Bangladesh. Due to lack of supplies they were unable to perform their job properly. They could not pay immediate attention to the patients, as there was shortage of manpower.

A different perspective emerged from the NGO activist and researchers in prioritising the problems regarding skilled attendance. They stated that lack of motivation in the community was the main barrier in promoting skilled attendance. In this regard one researcher stated that, *“you can open a shop but can not ensure people would come to buy things from you shop. Thus utilisation of service largely depends on people’s willingness to use the service.”*

2.4 Conclusion

As a diagnostic exercise this module made an effort to explore the current situation regarding skilled attendance in Bangladesh and prioritise problems from key players' point of view. The findings from the module provide an outline about the situation and related problems but indicate that further analysis from the existing literature is required in this regard.

3. Module II: Situation Analysis in Bangladesh

3.1 Introduction

Subsequent to the diagnostic exercise with the key players in problem identification module a situation analysis on skilled attendance at delivery in Bangladesh was done. At this stage, data from secondary sources was explored to obtain information regarding the factors affecting the situation and to understand the extent to which skilled attendance was being provided. This section is divided into two parts. The first part provides the findings from the review of existing literature i.e. study reports, documents, strategy papers related to the issue. The second part is based on analysis and interpretation of existing data set. It mainly dealt with demonstrative analysis of relevant Bangladesh Demographic and Health Survey (BDHS) data.

3.2 Part A: Literature Review

3.2.1 Data source

During problem identification exercise suggestion was asked from the key persons of safe motherhood area in identifying the possible source of existing relevant literature. In this regard, assistance was also taken from the steering group members. However, data was mainly collected from the related existing study reports, strategy papers and other relevant literature of different government and non-government organisations and international agencies i.e. UNICEF, WHO. While data was being collected, it was organised under the elements of skilled attendance, which were provided in the schematic framework.

3.2.2 Results

The situation analysis revealed that in Bangladesh maternal and neonatal health was serious public health concerns. According to the government statistics, maternal mortality rate stands between 4.2-5.0 per 1000 live births or approximately 28,000

deaths per year (UNICEF 1999). A most recent survey based on a large national sample estimated the maternal mortality to be in the vicinity of 320 to 400 (NIPORT 2002). Almost 50 mothers die each day during delivery, orphaning a large number of children at least as large as this. Of the children born to mothers who die in childbirth in Bangladesh, 95% die within one year of life and the survival of their siblings becomes also at stake (Kay et al 1991; MOHFW 1997).

Most deliveries in Bangladesh take place at home by traditional birth attendants (TBAs) or by family members. Untrained/medically non-competent birth attendants conduct about 85% of all deliveries (Barkat et al 1998). Studies, which have explored traditional birth practices by TBAs in Bangladesh and elsewhere, have often found potentially harmful procedures increasing frequent vaginal examinations, pressure on the fundus, exhortations to push during the first stage of labour, pulling and manipulation of the infant and forced delivery of the placenta (Goodburn et al. 2000). Malnutrition, infections and high fertility put women at high risk during pregnancy and childbirth.

A large number of the deaths can be attributed to unhygienic and dangerous delivery practices and inadequate pre and postnatal care. Most deaths result from complications of induced abortion (21%), eclampsia (16%), antepartum and postpartum haemorrhage (26%), infection (11%) and complications of delivery such as ruptured uterus, obstructed (8%) and prolonged labour and other conditions (18%) related to pregnancy and child bearing. For every woman who dies of pregnancy and child birth related causes, at least 15 other women experience severe infertility all of which result in serious social and marital as well as physical complications and 100 others suffer various morbidities (Goodburn et al 1994). Seventy percent of maternal deaths are due to direct obstetric causes and less than 5% of women with complications have access to EmOC services (UNICEF 1999).

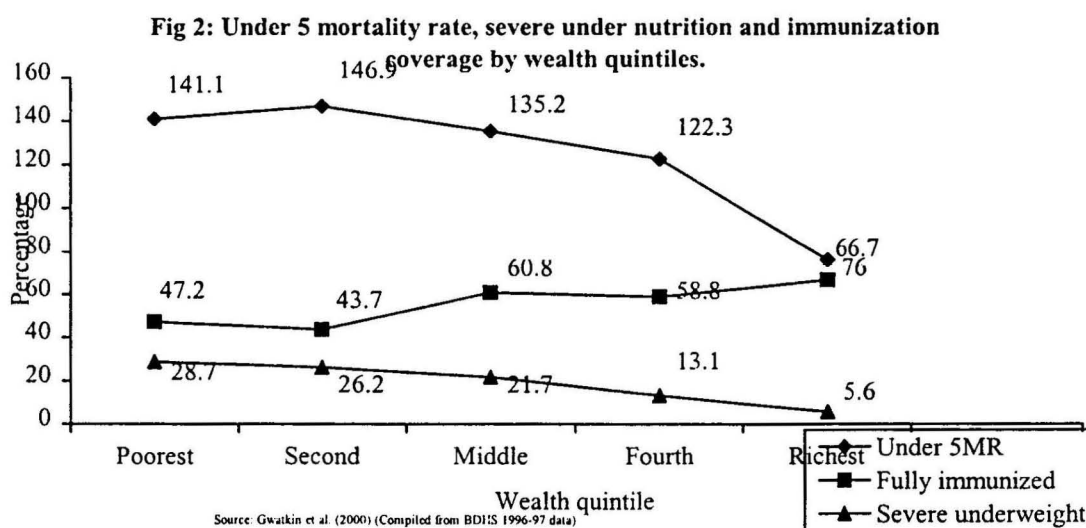
A study in Matlab found that the use of health facilities during childbirth contributes in reducing the incidence of maternal mortality (Maine et al 1996). Due to poor quality of formal health care services most people are unwilling to seek childbirth care from the

hospital (World Bank 1999). At present only 12 percent (Table 3) of births are assisted by doctors or trained nurses or midwives. The challenge is how to increase the access of the women to skilled attendance at birth.

An overview of the existing literature indicated that demographic, educational status, status of the women in society, economic and cultural constraints and situation in formal delivery care services are profoundly interrelated in many ways with the situation of skilled attendance at delivery in Bangladesh.

Community and skilled attendance

Nearly 80 percent of Bangladesh is rural. About half of Bangladesh's population are poor and nearly a third are considered 'extremely poor' (World Bank 1999). Among the many correlates of poverty, poor health status and its contribution to 'income erosion' are important reasons for pauperisation and destitution (BRAC 2001). The health indicators are affected by the economic status of households. Figure 1 shows the poor-rich divide by various health and health care parameters. It shows how the under 5 mortality and severe under-nutrition reduce and immunization status improve with the rise in economic status (proxied by wealth quintiles).



Gender differences in health or the lack of health overwhelmingly reflect the low socio-cultural status of women in the society (Aziz and Maloney 1985). There are 25 million

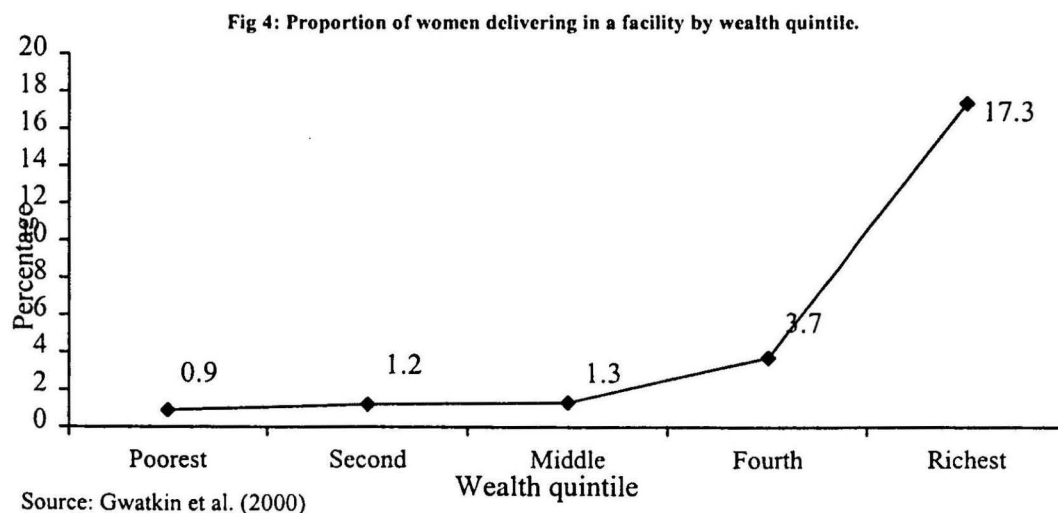
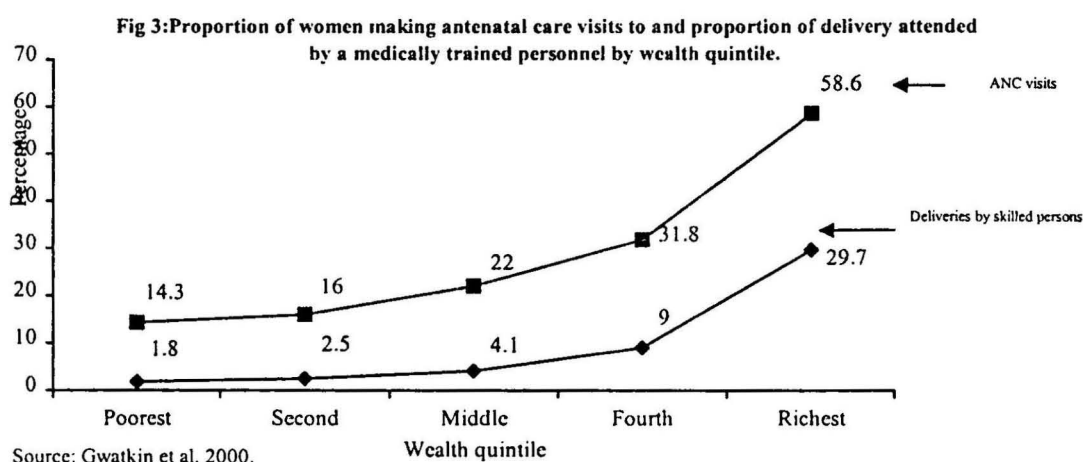
women of reproductive age in Bangladesh. Among them 60 percent are between the ages of 15 and 29, and most women (78%) in their reproductive age are married. The mean age at marriage is about 18 years (BDHS 1997). The median age at first birth for women aged 20-49 is 17.4 years and almost 60 percent begin childbearing by age 20 (BDHS 1997). The Total Fertility Rate (TFR) has plateaued at 3.3 for the last five years (BDHS 2001).

Figure 2 shows that the poorest group in Bangladesh is disadvantaged in terms of infant mortality, nutritional status or child immunization. The same type of inequity also occurs in maternal health and healthcare. Figure 3 shows the proportion of women who visited different providers for antenatal care (ANC) by economic status. It shows that a higher proportion of well-to-do women seek ANC compared to poorest groups. In respect of delivery care, more of the well-to-do women seek skilled attendants than the poorest. While a medically trained person conducts nearly 30 percent of the deliveries for the well-to-do women, this is less than two percent for the poorest women.

Similarly, proportion of deliveries done at a facility is highly inequitable. Whereas the proportion of well-to-do women delivering in a (private or public) facility is 17.3 percent, it is less than one percent for the poorest women (Figure 4). In other words, proportion delivering at home increased with increase in poverty level.

Medically assisted deliveries are more common for urban births and births to highly educated mothers than rural births (35 vs. 6%) (Barkat et al. 1995). The proportion of births with medical assistance during delivery has increased since 1996-97 (from 8 percent to 12 percent). Table 3 shows that 81 percent of the mothers received at least one tetanus toxoid injection during pregnancy. It also shows that ANC coverage is 33.3 percent, an increase of two percentage points since 1996-97 (BDHS 2001). Table 3 also shows the various inequities in terms of access to reproductive healthcare services. Those who are particularly disadvantageous are women of rural areas, illiterate and older and higher birth orders.

In Bangladeshi rural society the pregnant women are discouraged to their natural mobility outside home thus restricting her chances of seeking health care independently. She always has to depend on the family members to accompany her or needs prior permission or consent from husband or in-laws to seek care. Antepartum and postpartum care are not usually encouraged and supported by the family members as any associated morbidity is considered as normal consequences of pregnancy (Blanchet 1999). It is so much ingrained in the culture that often the women do not feel the necessity of attending ANC, as they think that they had no problem with the pregnancy (Goodburn et al 1994).



In addition, food restrictions put a woman into a state of malnourishment. In a poor rural household, the mother eats last and naturally she gets what is left over. The proper diet of mother is crucial for a successful delivery, which she is often deprived of (Bhatia 1981). The women are usually encouraged to eat less so the baby would remain small to facilitate an easy delivery.

Home delivery is almost universal in rural areas of Bangladesh. The role of women in decision-making is minimal. It was found that only in 20 percent of cases that the women take decision about who should deliver their baby. In 30 percent of cases the husband and in 27 percent of cases the family decides. Outside family members are involved in rest of the cases (Akhter et al 1995). Women are dependent on male guardians (sometimes mothers-in-law in the extended family) in case of a complicated delivery, to decide whether outside (medical) assistance would be required or not.

In a 1995 study on the community perspective of EmOC services it was found that accessibility and quality of care were crucial factors influencing the decision to seek care (Barkat et al 1995). The husband and the mother-in-law who are usually the major decision makers in the family were the least knowledgeable about the concept of EmOC. Availability of trained medical personnel, cost of services, social prejudices and poor knowledge were key factors influencing the decision to seek care for obstetric problems. Role of the community leaders like *Imam* (Muslim Priest) is also important as people often seek advice or suggestion from them in case of complications. Many people in rural and urban areas believed that evil spirits orchestrated delivery complications. Therefore, they ask the religious leaders whether the mother needs an amulet and sanctified water or should be sent to a health care centre in that situation (Blanchet 1984). The tendency of seeking help from spiritual healers often causes delay in proper health care needs and sometimes result in fatal consequences.

While the delivery pain occurs at night in most cases the decision to take the mother to a faraway facility requires money and transportation means. They also have to consider traveling during night, which is often not hazardous.

Transport and referral

Timely referral and transport facility are essential components of an effective maternal health care system (Maine et al 1996). Due to poor infrastructure access to formal health care services is hindered. Roads do not provide access to many remote villages. During the rainy season, transportation and services become even more difficult. Many women never manage to get to a doctor or hospital even in emergencies. A study showed that despite the existence of five health facilities in the area, 75 percent of women dying in childbirth did not see a doctor before their death and 89 percent did not go to a modern health facility (Caldwell 1992).

The commonest types of patients referred to different facilities include pregnancy with malpresentation, prolonged labour, PET/eclampsia, APH/placenta previa (Table 2). Essential obstetric functions including caesarean section are usually provided at district and medical college hospitals. Due to the poor referral linkage district hospitals are over crowded and unable to provide necessary services due to a lack of adequate supplies, equipment or appropriately trained personnel. Many doctors at most Upazila levels (sub district) do not have specialised Ob/Gyn training, limiting the services they are able to provide (Gill 1993).

Government interventions and skilled attendance

There are five major causes of maternal mortality and Table 4 shows the effectiveness of different interventions for each. It shows that it is only the appropriate management for each case of delivery that can save lives. However, the existing government facilities are distributed in a way that comprehensive facilities regarding delivery are available at the divisional and district levels and basic at the district as well as at Upazila level. In order to render minimum acceptable level of EmOC services at sub national levels, there is a greater need for expansion of the government facilities at district, Upazila and union levels. Rural people have to rely on the government facilities because of the high cost of the private clinics, which are concentrated in four big cities: Dhaka, Chittagong, Rajshahi and Khulna (Khan et al 2000).

Table 2: Commonest type of patients referred to various facilities.

Commonest type of patient referred	Type of facility			
	DH (57) %	MCWC (55) %	THC (610) %	FWC (50) %
PET/eclampsia	7.0	20.0	14.8	26.0
Prolonged labour	14.0	30.9	9.8	14.0
Pregnancy with malpresentation	31.6	32.7	44.3	34.0
APH/placenta praevia	14.0	10.9	23.0	2.0
PPH/retained placenta	3.5	1.8	1.6	-
Abortion	-	1.8	1.6	10.0

Source: BIRPERHT: 1995

Table 5 shows that among the institutional deliveries, 65.5 percent were normal vaginal deliveries, 30.6 percent Caesarean and 3.9 percent assisted deliveries. The number of deliveries (Oct. 98-Sept 99) at government facilities constituted only 5.3 percent of the total estimated annual deliveries. Case fatality rate (CFR) being an assurance of quality of EmOC services provided at the facility in the country (all types of facilities combined) is 2.24, which is more than double of the maximum acceptable level of one percent (Khan et al 2000). If the CFR is computed of all complicated obstetric cases, the CFR is expected to be much higher. For a district hospital, the latter was found to be four percent (Maine et al 1996).

Regarding availability of service providers at government facilities, consultants/specialists were posted/available in 83 percent DH, 22.9 percent MCWCs and 9.5 percent UHCs. Only 25.4 percent DHs and 34.8 percent UHCs had MOs trained in EmOC (Khan et al 2000). Doctors play an important role in maternal health care but qualified medical technicians concentrated in urban areas. The rural areas maintain the imbalance of skilled attendants at birth. There is hardly any female gynaecologist to be found in rural areas.

Government strategies

The Government of Bangladesh (GOB) has focused its attention on improving maternal health since the mid 1980's. Since then it has gone through different phases starting from Third Five Year Plan to Fourth Five Year plan and now the Health and Population

Sector Plan (HPSP) 1998-2003. In the past, the government took initiative to train one Traditional Birth Attendant (TBA) for each of the 86000 villages to handle normal delivery along with identifying risky births and making proper referral (Akhter et al 1995). However, it could not make much headway in reducing maternal mortality. This is due to inadequate duration, lack of supervision and follow up of the training and more importantly, an overtly high expectation. Indeed it was more of a classroom approach and did not incorporate practical exposure to the trainees. The government failed to anticipate that without proper referral and EmOC support, supervision, proper linkage, the training alone could not deal with a complex issue like maternal mortality reduction. As no linkage between the formal health-care system and TBAs established, the TBAs did not act as effective referral agent (Gazi et al 1998; Blanchet 1991).

Table 3: Reproductive Healthcare indicators in Bangladesh

Background Characteristics	Tetanus toxoid injection	Antenatal care		Assistance at delivery		Number of Births
		From doctor	From auxiliary ¹	From doctor	From auxiliary ¹	
Age						
<20	85.5	23.6	12.3	6.4	5.2	1,580
20-34	80.9	24.9	8.7	9.1	5.2	3,337
35+	65.3	12.3	6.1	2.4	4.5	347
Residence						
Urban	88.3	49.9	8.7	22.7	11.9	913
Rural	79.8	18.2	9.8	4.7	3.7	4,350
Division						
Barisal	80.5	25.2	8.6	5.1	6.0	334
Chittagong	82.6	24.9	5.8	7.0	5.9	1,075
Dhaka	79.7	25.0	7.5	9.1	4.2	1,646
Khulna	85.5	27.7	16.0	11.3	8.0	579
Rajshahi	84.3	20.0	13.5	6.1	4.9	1,271
Sylhet	67.4	19.5	7.4	7.9	2.9	357
Education						
No education	73.2	11.5	8.5	2.7	2.8	2,390
Primary incomplete	82.8	18.7	10.4	3.8	4.6	990
Primary complete	84.2	22.9	10.7	4.3	4.7	542
Secondary/Higher	93.3	49.5	10.5	21.4	10.0	1,342
Birth Order						
1	89.1	32.7	11.7	13.6	6.6	1,437
2-3	84.1	24.8	10.6	7.6	5.2	2,286
4-5	73.5	15.9	7.0	3.4	4.3	928
6+	63.9	10.6	4.8	1.7	3.0	612
Total	81.2	23.7	9.6	7.8	5.2	5,263

¹ Includes nurses, midwives, and family welfare visitors
Source: BDHS 2001

Table 4: Influence of various interventions in prevention of maternal death

Cause of death	Influence of intervention			
	Family planning	ANC	Trained birth attendant	Case management
Haemorrhage	_____	Advocative	Advocative	Life saving
Induced abortion	Preventive	_____	Advocative	Life saving
Eclampsia	_____	Preventive	Advocative	Life saving
Puerperal sepsis	_____	Advocative	Preventive	Life saving
Obstructed labour	_____	Advocative	Advocative	Life saving

Source: GoB (1998).

Table 5: Type of deliveries by facilities

Type of delivery	Facility					
	MCHs	DHs	MCWCs	THCs	PCs	All
	13	59	62	104	224	
Normal delivery	47.33	79.58	86.22	96.21	53.50	65.48
Assisted delivery	5.04	2.75	3.85	3.68	4.15	3.89
Caesarean	47.63	17.67	9.93	.11	42.35	30.63
Total	100	100	100	100	100	100

Source: Khan et al 2000

Under the new health and population sector strategy (1998-2003) the government is now implementing an Essential Services Package (ESP), which includes interventions related to maternal and child health. The establishment of EOC in all 64 DHs, 358 UHC, 3200 UHFWCs and 13 MC&Hs at divisions and other health facilities is likely to be a major intervention towards reducing maternal health in Bangladesh. The framework of action is based on the 'Three delays model'³ and includes community awareness, proper referral and ensuring care in the facilities. Women Friendly Hospital Initiative (WFHI) is another effort supported by UNICEF and the Ministry of Health and Family Welfare (MOHFW) of the government. The goals of WFHI is to create the conditions necessary for women in a hospital, to be treated in a way that respects human dignity and women's needs while challenging oppressive cultural practices. It is supposed to provide Mother-Baby Package of services that will include easily accessible EmOC provided by skilled attendants and neonatal care.

³ Delay in deciding to seek medical care, reaching a medical facility and receiving care.

Under the HPSP (1998-2003) the structure of health services for maternal care is the following.

Community level: At this level, the services are provided from a static centre called the Community Clinic, serving a population of approximately 6000 and within the community's reach (by 30 minutes walking distance). For ESP service delivery a team comprising of one HA (HA: 5000), one FWA (FWA: 23500) are the core personnel who are supervised by FWV (FWV) and MA (MA). The personnel are supported by and imparted with relevant training so that they are able to provide the obstetric first aid with normal delivery care closest to the community (GOB 1998a: 22). There will be on average four clinics in a union with 16 outreach centres. The services include recognition of complications, ANC, trained birth assistance, PNC and obstetric first aid (parenteral antibiotics, oxytocics, and sedatives). The service would ensure clean delivery at home, detect complications and refer them promptly and also mobilise community in arranging transportation. Following the change of government in 2001 there is some uncertainty as to the future of community clinics.

Union level: Union level facilities such as HFWC provide obstetric first aid and all the 4500 unions will be covered by the year 2003. There are one MO, one MA, and one FWV for each H&FWC. The services include ANC, PNC, Health education particularly danger signals during pregnancy/delivery and after delivery breast-feeding, diet, immunisation, cord care, and appropriate referral. The MA provides clinical services but the FWVs are for outreach to cover a population of 27,000.

Upazila level: The target for the Upazila levels are two fold. About 280 Upazilas will be ready to provide basic obstetric care and 120 will provide comprehensive obstetric care services in phases. This will include parenteral antibiotics, oxytocics, anticonvulsants, management of shock, manual removal of placenta, Decidual and evacuation (D&E); assisted vaginal delivery, repair of first degree tears, management of labour using photograph, fresh blood transfusion, treatment of severe anaemia of

pregnancy. There will be two MOs trained on basic EsOC, FWVs and trained blood technician.

District level: All the district hospitals will provide round the clock comprehensive EsOC services including caesarean section. There will be two consultant obstetrician, MO trained in anaesthesia and nurses/FWVs.

Under the new strategy, training is considered as the strong base to develop efficient birth attendants in the health care system. Training will be provided to the FWA and female HA regarding clean and normal delivery. Training is focused on development of skill with practical exposure. A six month training of midwifery for 300 FWVs was started from August 2000. This is the first batch planned in the sector plan to develop a cadre of community midwives. The Institute of Child and Mother Health (ICMH) has been given the responsibility of the lead training institute for the training. There are other training facilities where various training programmes are being implemented to provide skilled human resource for delivery, like NIPORT, Nursing Institute, Medical colleges and different NGOs.

At present there are 5000 FWVs. Giving them six months of training with a slow pace, as taking 300 at a time, will require a long time. Bangladesh needs skilled persons in lower level of health care service delivery.

Table 6: Existing Infrastructure for Maternal Health Care.

Institutions	Administrative unit (and number)	Obstetric Care provider	Expected services
Medical College Hospital	District (13)	Specialist Medical Officer (MO) Nursing Stuff	EsOC* & EmOC*
District Hospital	District (59)	Specialist MO Nursing Stuff	EsOC & EmOC
Maternal Child Welfare Centre (MCWC)	District (52) Upazila (240) Union (11)	MO FWV, dai nurse FWV FWV	EsOC & EmOC ANC, delivery ANC, delivery
Upazila Health Complex (THC)	Upazila (402)	MO, Nursing Stuff, FWV	EsOC
Health & Family Welfare Centre (H&FWC)	Union (4,770)	FWV, MA	ANC delivery
Community Clinic	Village (18,500)	FWV, Health Assistant (HA), FWA, TTBA	ANC, delivery

Source: HPSP 1998-2003

Bangladesh is committed to reducing maternal mortality to below 3 per 1000 live births. The HPSP (1998-2003) expect to reduce maternal mortality and morbidity using the following strategies (MOHFW 1998):

- Focus on EOC for reducing maternal mortality
- Provisions of EOC services for promotion of 'good practices' early detection and appropriate referral of complications
- Addressing the needs of women through a woman friendly hospital initiative
- Communication for behaviour change and development
- Involvement of professional bodies
- Stakeholders participation
- Promotion of innovation

The existing health care system is less people friendly and maternal health is no different. Improving the existing infrastructure increases coverage of EsOC services in different levels of health facilities and recruiting skilled personnel are important but not sufficient to reduce maternal deaths. Women also need community and family support to seek formal care (Gazi et al 1998). Costs and unfriendly behaviour of providers often dissuade women from accessing formal healthcare (Afsana and Rashid 2000).

The Models of Delivery Care and Bangladesh

As already mentioned nearly 90 percent of births are delivered at home by TBAs or family members. The challenge for Bangladesh is how to transition from a home-based unskilled or semi skilled delivery care to a more skilled attendance. Researchers have identified four models of delivery care (Koblinsky et al 1999) as below:

- Model I: Deliveries are conducted at home by a briefly (and traditionally) trained community member.
- Model II: Deliveries are conducted at home by professionally trained attendants.
- Model III: Deliveries are conducted in basic obstetric care facilities by professionally trained personnel.
- Model IV: Deliveries are conducted in comprehensive essential obstetric care facilities by professionally trained personnel.

It is clear that Bangladesh falls under Model I. For us the challenge is to move to higher models at the quickest possible time frame. Over the previous few years there has been some experience with Model II, III and IV or their combination in the country. There are a few projects which trained and posted village-level nurse or midwives to provide skilled attendance at birth (Model II). The *Palli Nurse* (Village Nurse) project run by the Bangladesh Association for Voluntary Sterilization (BAVS) selected village women in Chandpur district with eight years of schooling and provided them with training for 24 days. The latter included observation of 3-5 deliveries and conduction of at least 10 deliveries in a maternity hospital in Dhaka. The nurses work from their own home, carry ANC and conduct normal deliveries. The high risk complicated cases are referred to the nearest district hospital. Another project implemented by the LAMB hospital also follows a similar strategy as the BAVS (GoB 1998). The Matlab Maternity Care project run by ICDDR,B posted trained midwives at the village level. It showed very promising result as the maternal mortality substantially reduced (Fauveau et al 1995). However, analyses done afterwards cast doubt about its real causes. It has been argued that it was not only the posting of the midwives that brought the mortality down but their ability to send complicated cases to nearest maternal clinics or district hospital with the use of project transportation and availability of referral care in the latter facilities (Maine et al. 1996).

Other interventions provided essential obstetric care at facility levels (Model III). The Bangladesh Red Crescent Society (BRCS) trained community midwives and posted them in MCH centres in Khulna and Barisal Districts. These midwives have a longer training of four years. They are assisted by junior midwives with 18 months training. The programme claims to have reduced maternal mortality from 4.1 to 2.3 per 1000 live births (GoB 1998).

BRAC has also been implementing a women's health programme with ANC and safe motherhood components. Under the latter BRAC promotes institutional deliveries and has set up 54 health centres in different parts of the country. The deliveries are mostly conducted by FWVs; however, in a small number of centres female doctors where

available conduct the deliveries. The health centres are general clinics where other services such as outpatients and pathology are also available. Inpatient facilities are available only for normal deliveries but complicated cases are referred to district hospitals. A recent study has reviewed the BRAC experience in providing delivery care (Afsana and Rashid 2001). It was found that the delivery facilities were still not very popular. Most women were brought with complications but they had to be referred to district hospitals for lack of adequate facilities. Women had complaints about with the clinics, as they were required to deliver lying down in a squatting position. Very recently a few centres have been upgraded where comprehensive obstetric care including caesarean section are also available. BRAC charges fees for all services and Tk. 250 (approx. US\$ 5) is charged for each delivery. On average over 50 percent of the costs are recovered. Although the programme was started in the mid nineties, it is only recently that the number of deliveries is showing some increase. In 1996 when the programme started there were only 24 deliveries per centre. In 2000, this increased to 60. It took a long time to build the credibility of the centre and to get people used to deliveries in a health centre.

3.3 Part B: Interpretive guidelines

3.3.1 Methodology

In this part Bangladesh Demographic and Health Survey datasets (1993-94, 1996-97 and 1999-2000) produced by Macro International in association with NIPORT and Mitra and Associates was used (for details on how the survey is conducted, please see BDHS, 1999-'00). Women who had had a live birth in the preceding five years were included in the survey, and data were collected with reference to the most recent birth. Beside socio-demographic data, pregnancy care related data such as antenatal care, place of delivery, and type of assistance during delivery were used in the analysis.

Data were analysed in two stages: first, bi-variate analysis was done to characterize the influence of individual socio-demographic factors on the outcomes of interest. Next a logistic regression was run to identify the predictors of skilled assistance during

delivery. For analysing time trends, all the three rounds of BDHS data were used while for the rest of the analysis, only the 1999-2000 data were used.

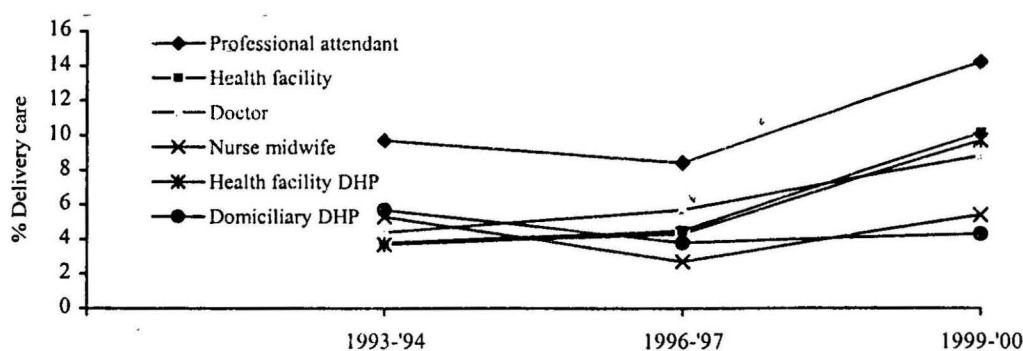
3.3.2 Results

Figure 1 represents time trends of different delivery care indicators during 1993-2000. Professional attendant at delivery i.e., delivery by doctors, nurses/mid-wives and FWVs, has risen from around 10% in 1993-94 to 14% in 1999-2000 ($p < 0.001$). This increase was largely due to increase in the proportion of doctors attending delivery (from 4.4% to 8.8%) during this period. The proportion of trained TBA attending delivery also more than doubled during the survey period (from 4.3% to 9.5%). Encouragingly, delivery at health facilities increased at each successive survey with increasing proportion of health professional delivering at health facilities. Interestingly, a reversal in trend with respect to delivery by health professional at home and health facilities respectively was noted during the period of observation.

Antenatal Care

Proper care during pregnancy and childbirth is important for the health of both the mother and her child. During ANC visits, screening for complications (e.g., anaemia, pre-eclampsia and infections) is done and advice on a range of issues including place of delivery and referral of mothers with complications is given. Table 7 shows the distribution of the most recent live births in five years preceding the survey (1999-'00) by visits to ANC centre and socio-demographic characteristics of mothers. Findings reveal that around 3/4th of the pregnant women (72%) did not visit any ANC while only 8% completed 4 visits. Of these visits, 77% was attended by health professionals (not shown). Analysis by sub-groups showed sharp differences in antenatal coverage. The latter was strongly associated with mother's age and education, child's birth order, and household's poverty status. Women in their second and third decade of life, women with some secondary education, and child's lower order birth (1st or 2nd child) accessed antenatal care much more frequently than others. Also residence in urban areas, especially in some specific regions like Khulna division, and higher wealth quintiles was significantly associated with increased use of antenatal care. Non-muslim women

Figure 5: Delivery care indicators over time



and women exposed to mass media (radio and/or TV and/or newspaper) were found to visit ANC ≥ 4 times much more frequently than muslim and unexposed women respectively. Substantial fall in the number of ANC visits was noted with the increase in age and parity, illiteracy, rural residence, specific geographic location like Sylhet and Chittagong, and extreme poverty (e.g. lowest wealth quintile, the poorest).

Delivery Care

Both place of delivery and kind of assistance during delivery are important factors for delivery outcome and health of the mother and the newborn. This is because the above factors determine the environment of delivery, i.e., whether or not management of complications is possible in a hygienic environment. Table 8 displays distribution of births by place of delivery, and socio-demographic characteristics of mother. Most of the deliveries (92%) took place at home while 4% of the deliveries occurred in any govt. health facilities. Women in their 2nd and 3rd decades of life, with five+ years of schooling and residing in urban areas, especially if from Khulna division, mostly used govt. health facilities for the delivery of their first child. However, contrary to common wisdom, government health facilities were more frequently used by women from the richest quintile (14%) compared to women from poorer quintiles (1-2%). Home delivery was much more common among Muslim women (93%) and women without exposure to any mass media (97%). Interestingly, health facilities, both government and non-government, were more frequently used by women who had used other health facilities like immunization, contraception and ANC in the past (Table 9).

Table 7: Distribution of most recent live births (in the five years preceding the survey) by ANC visits and background characteristics of mother, BDHS 1999-2000.

Background characteristics	No. of ANC visits*			No. of births (n)	
	None	1 - 3	4+	Unweighted	Weighted
Mother's age at birth					
<20	67.3	26.7	6.0	1107	1159
20 - 34	71.6	19.1	9.2	5042	5072
35+	81.5	13.8	4.7	683	708
Child's birth order					
1	66.3	22.2	11.5	2024	2041
2-3	68.7	21.9	9.4	2857	2913
4-5	80.0	16.0	4.0	1180	1205
6+	85.9	12.0	2.0	771	782
Mother's education					
None	83.2	14.6	2.2	3120	3285
Primary	73.3	21.3	5.4	1981	2012
Secondary+	47.6	28.7	23.7	1731	1641
Religion					
Islam	72.3	19.6	8.1	6063	6205
Others	68.2	22.4	9.4	769	733
Residence					
Urban	50.2	25.0	24.8	1737	1143
Rural	76.2	18.9	5.0	5095	5797
Division					
Barisal	71.7	20.7	7.6	610	435
Chittagong	77.3	16.9	5.8	1481	1522
Dhaka	72.3	18.6	9.1	1614	2128
Khulna	60.8	26.5	12.7	1003	716
Rajshahi	68.9	22.4	8.7	1238	1626
Sylhet	79.3	16.0	4.7	886	513
Media exposure					
No	81.9	15.4	2.7	3717	3990
Yes	58.4	25.9	15.7	3115	2950
Poverty status					
1 (Poorest)	83.5	14.8	1.7	1630	1789
2	81.8	15.4	2.8	1444	1563
3	74.7	20.9	4.5	1298	1362
4	67.0	25.3	7.7	1140	1160
5 (Richest)	39.8	27.7	32.6	1320	1066
Total	71.9	19.9	8.2	100.0	

* The association between no. of ANC visits and socio-demographic characteristics was highly significant ($p < 0.001$) except religion ($p = 0.06$).

Table 8: Distribution of most recent live births (in the five years preceding the survey) by place of delivery and background characteristics of mother, BDHS 1999-2000.

Background characteristics	Place of delivery*					No. of births (n)	
	Home	Govt. Hospital	Govt. Health Centre	Private hospital/ Clinic	Lower facility (pub/priv)	Un-weighted	Weighted
Mother's age at birth							
<20	93.6	3.0	0.8	1.8	0.9	1106	1159
20 – 34	91.1	4.1	0.8	3.0	0.9	5033	5062
35+	95.7	1.8	0.1	1.7	0.6	683	707
Child's birth order							
1	87.1	5.7	1.0	4.8	1.3	2021	2039
2-3	92.2	3.6	0.9	2.6	0.8	2852	2907
4-5	95.8	2.6	0.3	0.8	0.5	1179	1204
6+	98.2	0.8	0.1	0.5	0.4	770	780
Mother's education							
None	96.8	1.7	0.6	0.3	0.5	3117	3283
Primary	95.0	2.3	0.6	1.4	0.6	1979	2008
Secondary+	78.6	9.6	1.0	9.0	1.8	1726	1636
Religion							
Islam	92.9	3.5	0.7	2.6	0.7	6054	6196
Others	87.4	6.0	1.2	3.4	1.9	768	732
Residence							
Urban	74.8	11.8	0.3	9.7	3.3	1733	1140
Rural	95.7	2.1	0.8	1.3	0.3	5089	5790
Division							
Barisal	95.9	1.8	0.7	0.7	0.9	610	434
Chittagong	93.7	2.5	0.1	2.4	1.3	1480	1521
Dhaka	91.4	4.5	0.8	2.8	0.6	1612	2125
Khulna	85.6	6.2	1.4	5.9	1.0	1002	715
Rajshahi	92.7	3.5	1.1	2.0	0.7	1233	1620
Sylhet	93.6	3.1	0.6	2.1	0.6	885	512
Media exposure							
No	97.1	1.4	0.7	0.5	0.4	3715	3987
Yes	85.2	6.9	0.8	5.7	1.4	3107	2941
Poverty status							
1 (Poorest)	98.0	0.7	0.6	0.3	0.4	1628	1786
2	97.5	1.4	0.5	0.4	0.2	1440	1561
3	96.7	2.3	0.3	0.4	0.4	1298	1361
4	92.1	3.9	1.2	1.7	1.1	1140	1159
5 (Richest)	67.9	13.9	1.4	14.0	2.7	1316	1062
Total	91.9	3.7	0.7	2.7	0.8	100.0	

* The association between place of delivery and socio-demographic characteristics was highly significant ($p < 0.001$)

Table 9: Distribution of most recent live births (in the five years preceding the survey) by place of delivery and mothers' previous use of health services, BDHS 1999-2000.

Previous use of health services	Place of delivery*					No. of births (n)	
	Home	Govt. Hospital	Govt. Health Centre	Private hospital /clinic	Lower facility (pub/priv)	Unweighted	Weighted
Full Immunisation for <5 child(ren)							
No	94.3	3.3	0.7	1.0	0.6	975	810
Yes	89.2	4.8	0.6	3.9	1.2	1608	1595
Contraception use							
No	94.8	2.4	0.6	1.6	0.7	3538	3648
Yes	89.0	5.2	0.9	3.9	1.0	3284	3281
ANC visits							
None	97.3	1.6	0.4	0.5	0.2	4731	4988
1-3	88.9	4.9	1.5	3.0	1.7	1408	1375
4+	53.3	19.3	1.9	21.6	3.9	683	566
Total	91.9	3.7	0.7	2.7	0.8	100.0	

* The association between place of delivery and previous use of health services was highly significant ($p < 0.001$)

The single most importance of traditional birth attendants (untrained TBAs) in providing assistance during delivery in contemporary Bangladesh was once again reiterated in the findings (Table 10). They assisted more than half of the deliveries in the study population. Only 7% of the deliveries were assisted by qualified medical practitioners and 22% of the births were assisted by relatives or other non-professionals. Lower order births (1st or 2nd child), mothers with some secondary education, better-off mothers, and mothers living in urban areas, were significantly more likely to be assisted by doctors and other health professional than others ($p < 0.001$). Also, non-Muslim women and women exposed to any mass media were found to be assisted by qualified professionals (doctors, nurses, mid- wives) including FWVs much more significantly than the Muslim women and women without any exposure to mass media ($p < 0.001$). The stark inequity in skilled attendance at delivery was shown when segregated by poverty quintiles: there was about 20 times difference between the lowest and the highest quintiles in case of assistance by doctors. Also, the highest proportion without any assistance at delivery was found among the poorest quintile. Interestingly, there was no urban/rural difference found for trained TBAs in

assisting deliveries. The positive impact of ANC visits during pregnancy is shown by the gradual increase in the proportion of professional (doctors, nurse/midwives) assistance at delivery with the increase in the number of visits.

In the study population, only 8% of the women received both antenatal care and delivery care from any health-care provider for the most recent child birth (Table 11). It is interesting to note the wide gap between the proportion who received ante-natal care (20%) and who received only delivery care (4%) or both antenatal and delivery care (8%). The influence of socio-demographic characteristics on different types of pregnancy care received followed the usual trend noted earlier.

Table 10: Distribution of most recent live births (in five years preceding the survey) by type of assistance during delivery and background characteristics of mother, BDHS 1999-2000.

Background characteristics	Assistance during delivery %*							No. of births (n)	
	Doc-tor	Nurse/mid-wife	Trained TBA	TBA	Other health worker	Relative/other	None	un-Weighted	Weighted
Mother's age at birth									
<20	6.0	4.1	11.6	51.9	0.8	24.7	1.1	1106	1159
20 – 34	7.9	4.7	9.4	54.0	0.5	22.0	1.5	5028	5059
35+	2.7	3.8	8.9	58.4	0.4	22.3	3.4	681	705
Child's birth order									
1	12.1	5.7	10.5	51.0	0.8	19.2	0.6	2018	2035
2-3	6.8	4.6	9.9	52.6	0.4	24.4	1.4	2850	2906
4-5	3.0	3.7	9.6	58.3	0.2	22.8	2.5	1179	1204
6+	1.4	2.4	7.2	61.3	0.6	23.5	3.5	768	778
Mother's edu.									
None	2.6	2.5	8.9	58.0	0.3	25.4	2.3	3112	3279
Primary	3.8	4.0	9.4	57.6	0.3	23.6	1.2	1975	2004
Secondary+	20.1	9.2	11.8	42.0	1.2	15.2	0.6	1728	1639
Religion									
Islam	6.7	4.4	9.4	54.9	0.5	22.5	1.6	6047	6190
Others	10.4	5.9	12.7	96.9	0.5	22.0	1.6	768	733
Residence									
Urban	21.3	11.0	9.5	42.3	0.8	14.3	0.9	1731	1136
Rural	4.3	3.3	9.8	56.4	0.4	24.1	1.7	5084	5784
Division									
Barisal	5.3	4.6	7.8	60.3	0.9	19.7	1.4	610	436
Chittagong	5.9	5.4	9.9	64.2	0.6	13.7	0.3	1479	1521
Dhaka	8.1	3.9	12.0	54.8	0.3	19.5	1.5	1610	2123
Khulna	11.4	7.2	8.6	43.8	0.7	26.2	2.2	999	713
Rajshahi	5.7	3.9	8.0	43.6	0.6	35.4	2.7	1233	1621
Sylhet	6.4	2.7	9.0	62.9	---	17.0	2.0	884	512
Media exposure									
No	2.4	3.0	8.2	58.1	0.3	25.9	2.1		3979
Yes	13.4	6.6	11.7	48.6	0.8	17.9	1.0		2945
Poverty status									
1 (Poorest)	1.4	2.0	8.4	58.1	0.1	27.1	3.0	1626	1782
2	2.0	2.6	9.9	57.5	0.4	25.9	1.7	1440	1561
3	3.1	3.2	10.6	57.6	0.2	24.3	1.0	1295	1358
4	7.7	5.1	10.3	55.4	1.3	19.2	1.0	1139	1159
5 (Richest)	28.4	12.8	10.1	36.4	1.0	10.8	0.5	1315	1061
ANC visits									
None	2.5	3.0	8.3	59.4	0.2	24.7	1.9	4722	4976
1-3	9.3	6.6	14.4	47.8	1.1	19.9	1.0	1412	1378
4+	42.0	13.4	10.4	22.9	1.4	9.2	0.7	68	567
Total	7.1	4.5	9.7	54.0	0.5	22.5	1.6	100.0	

* The association between assistance during delivery and socio-demographic characteristics was highly significant (p<0.001)

Table 11: Distribution of most recent live births (in the five years preceding the survey) by use of ANC/DC during delivery and background characteristics of mother, BDHS 1999-'00.

Background Characteristics	Women with most recent live birth in the last 5 years				No. of women (n)	
	Received no ANC/DC	Received ANC only	Received DC only	Received both ANC/DC	Unweighted	Weighted
Mother's age						
<20	63.5	25.8	3.8	6.9	1107	1158
20 – 34	67.3	19.6	4.3	8.8	5042	5073
35+	78.7	14.4	2.8	4.1	683	708
Birth order						
1	59.5	21.9	6.8	11.9	2024	2041
2-3	65.3	22.9	3.4	8.4	2857	2913
4-5	77.6	15.6	2.4	4.4	1180	1205
6+	83.7	11.8	2.3	2.2	771	781
Mother's education						
None	80.2	14.5	3.1	2.3	3120	3286
Primary	69.6	22.3	3.6	4.5	1981	2011
Secondary+	40.9	28.7	6.6	23.8	1731	1642
Religion						
Islam	68.4	20.1	4.0	7.6		6206
Others	63.2	20.1	5.0	11.7		733
Residence						
Urban	42.6	24.4	7.7	25.3	1737	1142
Rural	72.8	19.2	3.4	4.6	5095	5797
Division						
Barisal	67.6	21.8	3.9	6.7	610	435
Chittagong	72.3	15.8	5.1	6.8	1481	1522
Dhaka	68.5	19.2	3.8	8.5	1614	2127
Khulna	54.6	26.3	6.1	13.0	1003	716
Rajshahi	65.9	23.8	3.0	7.3	1238	1627
Sylhet	76.4	14.5	3.1	6.1	886	512
Media exposure						
No	78.5	15.8	3.4	2.3		3990
Yes	53.4	25.8	5.1	15.8		2999
Poverty status						
1 (Poorest)	81.5	15.0	2.0	1.5	1630	1788
2	78.8	16.3	2.9	2.0	1444	1563
3	71.3	22.2	3.4	3.1	1298	1362
4	61.2	24.7	5.8	8.3	1140	1160
5 (Richest)	31.5	26.7	8.3	33.9	1320	1066
Total	67.8	20.1	4.1	8.0	100.0	

* The association between women's ANC visit and delivery care by professional, and socio-demographic characteristics was highly significant ($p < 0.001$)

Logistic regression

Finally, a logistic regression was done to identify the predictors of skilled attendance at delivery (coded 'skilled attendance =1, no skilled attendance=0) for the most recent birth. 'Skilled attendance' comprised of assistance during delivery by doctors, nurse/mid-wives, and FWVs. All variables found significant in the bi-variate analysis were entered into the model simultaneously.

The results of logistic regression identified age (probability highest for the 20-34 years age group), birth order (probability decreased successively for the latter childs), mother's education (probability increased beyond primary education), religion (probability increased for non-Muslims), residence (probability decreased for rural areas), ANC visits (probability sharply increased with the number of visits), and wealth quintiles (probability sharply increased with higher quintiles) as the most significant predictors of skilled attendance at delivery in the study population. Thus the probability of skilled attendance is increased if the women is about 20-34 years of age, have some secondary education, non-Muslim, resides in urban area, have visited ANC centre during pregnancy, and of course, hails from a better-off family!

Table 12: Odds ratios of factors predicting skilled assistance at delivery for the most recent live birth (in the five years preceding the survey), BDHS 1999-'00.

Characteristics	Skilled attendance at delivery (n=6815)	
	Odds (n=6815)	SE
Mother's age at birth		
<20	1.00	
20 – 34	1.40*	0.13
35+	1.39	0.24
Birth order		
1	1.00	
2-3	0.53***	0.11
4-5	0.47***	0.16
6+	0.40***	0.24
Mother's education		
None	1.00	
Primary	0.89	0.13
Secondary+	1.63***	0.13
Religion		
Islam	1.00	
Others	1.53**	0.13
Residence		
Urban	1.00	
Rural	0.45***	0.11
Division		
Dhaka	1.00	
Barisal	1.21	0.20
Chittagong	1.24	0.12
Khulna	1.78***	0.14
Rajshahi	1.31*	0.13
Sylhet	1.30	0.20
Media exposure		
No	1.00	
Yes	1.09	0.10
ANC visits		
None	1.00	
1-3	2.17***	0.10
4+	6.91***	0.12
Poverty status		
1 (Poorest)	1.00	
2	1.29	0.18
3	1.29	0.18
4	2.35***	0.17
5 (Richest)	4.69***	0.19
-2log likelihood	3650.40	
Model Improvement	1464.19***	
Overall predicted	90.4%	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

3.3.3 Conclusion

This part of the report analysed the current situation regarding 'skilled attendance' using 1999-2000 BDHS data. The study findings presented a dismal picture regarding status of pregnancy and delivery related care currently existing in Bangladesh. In general it can be said that, women who had previous contact with health services were found to avail ANC services more frequently and again, women who received ANC services more frequently both gave birth at a health facility, and received skilled attendance during delivery, in a much greater proportion than others. Personal characteristics like age (second and third decade of life), parity, religion and geographical location emerged as significant predictors of skilled attendance at delivery. The results indicated that more in-depth studies are needed to explore how attendance at ANC is translated into delivery into a health facility by skilled attendance, for identifying strategic components of effective intervention.

The importance of improving women's social and economic status for reducing MMR in Bangladesh is re-emphasized here. This is revealed through the highly significant effect of education, residence, and wealth quintiles on skilled attendance at delivery. It is now known that about two-thirds of maternal deaths occur around the time of delivery. However, in most of the cases, the conventional risk-screening fails to identify cases requiring professional interventions (Vanneste et al. 2000), sometimes due to non-specificity of the screening procedure itself (Chowdhury and Chowdhury 1998). Once a woman develops complications she needs prompt access to emergency obstetric care services (EmOC) if death or disability is to be prevented.

4. Module III: Need assessment

4.1 Introduction

Using qualitative methods as a part of the SDT a need assessment study was done. The aim of the study was to get an understanding about the need of the poorest women regarding skilled attendance at delivery and to elicit barriers and facilitating factors encounter by them in accessing skilled attendance.

4.2 Methodology

4.2.1 Data collection techniques

A variety of qualitative techniques were used to collect information on different themes (Table 13). Apart from in-depth interviews, several participatory techniques were used for data collection that included focus group discussion (FGD), free listing, matrix ranking, decision flow chart, ranking and problem tree (Chambers 1992). Table 4 shows an overview of data collection techniques indicating the number and type of respondents. To get an overview about the study area and the study population, social mapping and wealth ranking exercises were carried out beforehand.

The different data collection techniques used was complementary to each other. Triangulation of different techniques and sources was done to maximise the validity and reliability of data and reduce the chances of bias. For instance, data on a same theme was collected from several sources, such as women of reproductive age, mothers-in-law and husbands and by using participatory techniques, FGD and in-depth interview.

4.2.2 Study area

The study was conducted in two poor communities of rural and urban Bangladesh. For the purpose of comparison, the study was repeated in the better off communities as

well. Korail slum in Dhaka city was selected as the poor community in urban area and Lalbagh and Rayar Bazar area of Dhaka city were considered as comparison areas.

Given the economically indolent background, Chilmari Upazila of Kurigram District was selected as the study area in rural category. With the assistance of local BRAC personnel Patro Khata village in the same Upazila was chosen for the study. This village or the Upazila did not have any special programme on safe motherhood undertaken by a government or nongovernmental organizations. In the village we interviewed the poor and non-poor individuals as part of the overall design of the study.

Prior to the main study a pilot study was carried out in a village of Rajnagar Upazila in another district (Maulvi Bazaar) to test the suitability of various research methods as a means of data collection. The pilot study helped to review the checklists used for data collection. From the learning of the pilot study we decided that areas where safe motherhood initiatives were present would be avoided for the main study.

A brief profile of the study areas is given in the following.

Korail Slum in Dhaka city

Korail slum is located in Mohakhali area in the northeast part of Dhaka city. It is situated on T&T⁴ land and had 5000 households. It was a huge slum divided into five units, but the study covered a small part of it. The slum was accessible by road, and by boat across the Gulshan Lake. A study done by BRAC in 1997 had found that the inhabitants in this slum came from various districts of Bangladesh and that they had been living in Dhaka city one month to twenty-five years (Khan et al 1997).

The male slum dwellers worked as rickshaw pullers, daily labour, garment worker, baby taxi drivers, shopkeepers, tempo drivers, small traders and domestic help. Many of them did multiple jobs too. The women worked as domestic help, garment workers, daily labour, and small traders. The children in the slum were also in the labour market

⁴ Telephone and Telegraph Department (of the government).

and involved as shop assistant, helper in garment factories and rickshaw pulling, etc. Some children collected throwaway things from the street and then used or sold those to others. Legally or illegally people had access to electricity in Korail slum and many households owned a television and/or a radio.

In the slum, there were a few schools ran by NGOs, two Madrashes (religious school) and one coaching centre for secondary and higher secondary students. There were many children who did not attend school. The slum dwellers fetched water from tap, pond, or shallow tubewell for drinking, washing and cooking purposes. Although a few slum dwellers had slab latrines but most of them were found to use *katcha* latrine⁵. Often the children were found to defecate on the roads and those were hardly cleaned or wiped.

NGOs like BRAC, Proshika, Caritas, Innerwheel and Marie Stopes had their activities in the slum. Besides, there were some local NGOs working in the slum. The slum was in close proximity of pharmacies (drug store), private clinics and other health care facilities run by NGOs and other voluntary groups. The slum dwellers received health care services from these places. There were some informal healthcare providers like *kabiraj* (traditional healer) and *dais* (TBA) and people were found to consult them in times of need. People's perception of the causes of illness was noted to influence their utilisation of different healthcare services (Khan et al 1997).

Patra Khata Village

Patra Khata village is situated in Chilmari Upazila of Kurigram district. Kurigram is historically vulnerable to natural and man-made disasters like flood, river erosion and famine. Located in northern Bangladesh, it is a chronic food deficit area where poverty incidence is highest (Bangladesh Bureau of Statistics 1997). The village, where the research was done, is located 40 km from Kurigram district town, and 10 km from the Chilmari Upazila town. The village is about 5 km away from the main road and could

⁵ It is bamboo-fencing open latrine hanging on the water.

be reached by rickshaw. The rickshaw fare was about eight taka from the Upazila town. Chilmari town is reached from Kurigram and Rangpur by bus or train.

The study area in the village was along the main road and fields and included the main clump of *baris* (households). It consisted of 142 households (Map of the village is given in Annex 4). The village produces crops such as rice, jute, wheat and mustard. The main occupation of the male is largely agriculture, and the female are mainly involved in household chores. Some poor women were employed as domestic help in the houses of village elites; they received three meals a day as wage. Rearing domestic animals was common among the women but they were not found to do it commercially; in emergencies however, it provided cash. A few women were found to do earth work organised by the local Union Parishad office. Majority of the people in the village earned their living as agri-labourer. During the peak agricultural season the wage rate ranges from Tk. 40-50 plus one meal a day. In other seasons it is about Tk. 25-30 without any meal. Through a wealth ranking (WR) exercise the villagers identified 13 households in the village who were considered *bhalo* or better off with food security throughout the year and five of them were considered *dhoni* or rich who had surplus after the year's consumption.

The WR divided all the households into four categories as follows:

Category 1 rich (*dhoni*): 5 households (4%)

Category 2 slightly better off (*bhalo*): 13 households (9%)

Category 3 middle (*moddhyam*): 13 households (9%)

Category 4 poor (*gorib/din cholena*): 111 households (78%)

Total: 142 Households.

Many households in categories three and four are migrants to the village from other places of the same Upazila. They came here after losing their land through river erosion. Thus they were basically landless. Many of the villagers often migrated out to big cities to work as rickshaw puller or construction labourer. Some of the women as well went to the cities to work in garments factories and as domestic help.

The nearest primary school and high school were in Sharifer Haat, 5 km away from the village but there was a non-government primary school in the village. The nearest bank branch was also 5 km away. The local bazaar and *haat* were both one and a half km away. There was no electricity in the village. Only two households owned slab latrine and there were a few private tubewells installed cooperatively in the village. The nearest health centre was in Sharifer Haat Union. But for maternal health problems villagers' usual destination is Upazila Sadar, which is about 20 minutes away by rickshaw. For delivery another popular choice is MCWC in Ulipur the neighbouring Upazila which is 15km away. The villagers can reach there by rickshaw or bus. Sometimes during delivery complications the women are found to go to Kurigram district hospital, the means of transport is mainly bus or train. In case of severe complication the women are taken to the Rangpur Medical College Hospital, which is 160km from the study village. The villagers can reach there by bus or train but during emergency they are found to hire microbus.

Some of the NGOs like BRAC, Chinna Mukul, Apon Uddoyg, RDRS and Grameen Bank had their services in Patra Khata village. Most of these provided micro credit to facilitate income-earning activities. BRAC also had its essential health care programme in the village with seven components including: health and nutrition education, safe water and sanitation, family planning, immunisation, routine health check-up for the BRAC VO (Village Organisation)⁶ members, basic curative service through *Shasthya Shebika*⁷, and care for pregnant women.

4.2.3 Study population and sampling

The study was conducted among women of reproductive age (WRA) belonging to poor and non-poor households, influential family members and health care providers from both formal and informal sectors.

⁶ The VO is a primary organisational unit through which BRAC mobilises the poor women and implements its programmes (Mannan et al 1995).

⁷ Voluntary health worker. BRAC has trained a VO member in each VO to take care of the common illnesses faced by the poor. They diagnose and sell medicine with a small mark-up.

Women of Reproductive Age (WRA): Sixteen women of reproductive age were interviewed in rural and urban areas. Table 15 shows the profile of WRA interviewed in the study. In the rural area a WR exercise was carried out prior to selecting women respondents. As mentioned earlier the villagers categorised the households in the study village into four socio-economic groups according to their judgement of the relative wealth. The respondents were selected purposively from both the poor and non-poor groups to explore the role of economic status in decision making related to pregnancy termination. It has already been mentioned that the poor WRA in the urban area came from the slum and the non-poor WRA from Lalbagh and Rayar Bazaar area of Dhaka city. In selecting the WRA, priority was given to younger women to ensure that the findings reflect the current and recent practices. The WRA in rural and urban areas were further divided into two categories: user and non-user of the formal health service during delivery. In order to identify the barriers and enablers concerning service utilisation for delivery care, the contrasting groups of 'users' and 'non-users' were included in sample. There were some women who had experience of delivering in both within and outside the formal system, and their circumstances were also recorded in the study.

Influentials: In the Bangladeshi society it is not always the WRA or the pregnant women who decides on what to do at the time of delivery or labour complications. There are certain family members who play important role in such decision making. On the basis of literature review and pilot interviews with WRA, the groups of 'influential' most suitable for inclusion in the study emerged to be mothers-in-law and husbands. Therefore, one FGD was held each with mothers-in-law and husbands of WRA from the poor category. They were selected on the basis of availability. In the urban area one informal group discussion was held with the elderly women (mothers and mothers-in-law) in the slum.

Health care providers: The study included several categories of health care providers. In the urban area, two doctors and a nurse from the government hospitals were interviewed. They were selected purposively. In the rural area two FGDs were

conducted with the nurses of UHC and field based FWA. The Upazila UHFPO was also interviewed. Given the important role of TBA, an FGD was also conducted with them.

4.2.4 Field operations and lesson learnt

In the urban area, assistance was received from BRAC's urban development programme in order to get access in the slum. Through the *Shasthya Shebika* the WRAs were contacted in Korail slum for interview and other participatory exercises. The purpose of data collection was clarified to the women in advance so that they felt free and at ease to participate. Some women however were somewhat cool in the participatory exercises. They observed the processes from a distance and every now and then threw their remarks on particular issues under discussion. On the whole the slum women were found to be well responsive and cooperative. We had planned that both user and non-user WRAs would be selected from Korail slum but identifying two user WRAs was found difficult, since institutional delivery was less prevalent in that place. As a result, one of the users WRA was selected from Korail slum but the other was taken from a nearby slum called the TB gate slum. In identifying user and non-user WRA from non-poor category in urban area, personal linkages and communication of the researchers was applied.

BRAC personnel assisted the researchers in doing the fieldwork in Patra Khata village. Prior to data collection a meeting was organised with local elites to win their support. In that meeting the activities and purpose of the study were explained. Due to BRAC's presence in the area access to rural and urban study areas was smooth. Otherwise, it would have required some extra effort and time to build enough rapport with the villagers to create an environment of trust for conducting ethnographic research in the community.

A preliminary rapport was built with the villagers through the social mapping exercise. It also served as a useful guide to household location and sample selection. The

researchers were cordially received in the village and the rural women were very spontaneous to participate in every exercise. Yet, during individual interviews a few women were not forthcoming. It indicated that more rapport should have been built prior to conducting the interviews with the women. Due to curious onlookers it was quite hard to conduct the in-depth interview in a quiet and relaxed atmosphere, which often affected the interview. The respondent also felt uneasy to share her experience in front of her female in-laws and other women of the village. The participatory exercises, on the other hand, turned out as a better means for revealing information from various perspectives.

With regard to collecting information from providers of formal health care in both rural and urban areas the consent was received verbally and then the interviews and FGDs took place. Senior staffs assisted the researchers in organising the FGDs with FWVs/FWAs and nurses. In order to further understand the situation relevant documents were scanned and reviewed. The TBAs were brought to FGD at BRAC's office in Chilmari Upazila by *Shasthya Shebikas*.

During fieldwork ethical considerations were taken into account. The respondents were assured from the beginning that the information they provided would be kept confidential. During individual interview with some WRAs, their in-laws and other relatives had to be informed and were convinced beforehand as they became suspicious about the interview. The work schedule was adjusted with the activities of the women in both rural and urban area so that data collection did not interfere with their daily household chores. Throughout the data collection due respect was paid to people's values, attitudes and beliefs.

Tape recorder was used to record interviews and FGDs, and field notes were taken during participatory exercises and informal discussion with the respondents. Data was transcribed and the field note was finalised almost the same day as data collection. Data was always checked in the field to ensure that all the information had been properly collected and recorded.

4.2.5 Processing of data and analysis

The data was processed and analysed manually. Different codes or levels were devised from the study themes or research question to order the data. These themes were also used in developing guidelines and checklist for data collection. However after ordering the data they were summarised and then interpreted. Data analysis included comparison of the facts from different area and sources and relation between the themes. In case of PRA methods “spot Analysis” ((Chambers 1992) was done where the villagers themselves interpret the data for the researchers.

Table 13: The themes in the study with number of sample and techniques used.

Data collection techniques	Number		Themes in the study
	Urban	Rural	
Interview	10	9	Significance of ANC, access and quality; Normal delivery care access and quality; Emergency delivery care access and quality; Postpartum care and care of baby; Quality of a good attendance at delivery; Groups of women attending; Job satisfaction; Communication with patient.
Focus group discussion	1	6	Perception of delivery care services; Decision about delivery care; Difficulties in accessing formal care; Expected quality of care; Way of overcoming the problems; Job satisfaction; difficulties in fulfilling the job; Communication with patient; Perception of an ideal delivery care services.
Free list	1	1	Delivery care; Good quality of care; Decision maker in the family; Barriers in accessing care.
Matrix ranking	2	2	Associate advantages and disadvantageous in delivery cares.
Decision flow chart	1	1	Decision makers and their role.
Ranking	1	1	Prioritising good quality of care.
Problem tree	1	1	Linkage among the barriers in accessing the care.

Table 14: An overview of data collection techniques and respondents in rural and urban area.

Techniques	Respondents														Total
	Rural								Urban						
	WRA		Care providers				Decision makers		WRA				Care providers		
									Slum		N-slum				
U	NU	D	FWA	NS	TBA	H	G	U	NU	U	NU	D	NS		
Interview	4	4	1	-	-	-	-	-	2	2	2	2	1	1	19
FGD	1		-	1	1	1	1	1	1		-	-	-	-	7
Free list	1		-	-	-	-	-	-	1		-	-	-	-	2
Matrix ranking	2		-	-	-	-	-	-	1		-	-	-	-	4
Flow chart	1		-	-	-	-	-	-	1		-	-	-	-	2
Ranking	1		-	-	-	-	-	-	1		-	-	-	-	2
Problem tree	1		-	-	-	-	-	-	1		-	-	-	-	2

U = User, NU = Non user, D = Doctor, FWA = Family welfare assistant, NS = Nurse/Midwife, TBA = Traditional birth attendant (trained and untrained), H = Husband, G = Grand Mother.

Table 15. Profile of sample WRA in rural and urban area.

Rural area

ID.	SES	Type	Age	Length of marriage	No. of living children	No. of pregnancy	Years of schooling	Delivery condition	IGA
A.	N-poor	N-user	16	3	1	1	7	Normal	No
B.	Poor	User	30	4	2	2	7	Complicated	No
C.	Poor	User	26	6	2	2	7	Complicated	No
D.	N-poor	N-user	30	10	3	3	2	Normal	No
E.	Poor	N-user	19	8	1	1	0	Normal	No
F.	N-poor	User	24	5	1	1	12	Normal	No
G.	N-poor	User	19	3	1	1	11	Complicated	No
H.	Poor	N-user	19	10	1	1	5	Normal	No

Urban area

ID.	SES	Type	Age	Length of marriage	No. of living children	No. of pregnancy	Years of schooling	Delivery condition	IGA
A.	Poor	N-user	25	12	2	3	0	Complicated	No
B.	Poor	N-user	30	7	2	3	0	Complicated	No
C.	Poor	User	30	8	1	3	0	Complicated	Yes
D.	Poor	User	32	21	7	8	0	Complicated	No
E.	N-poor	User	28	11	2	3	12	Complicated	No
F.	N-poor	N-user	27	11	3	4	9	Normal	No
G.	N-poor	User	24	3	1	1	14	Complicated	Yes
H.	N-poor	N-user	26	6	2	3	9	Normal	No

SES = Socio-economic status

IGA = Income generating activities

4.3 Results

4.3.1 Significance of antenatal care services, access and satisfaction

It has been argued that antenatal care (ANC) is an important prerequisite for the reduction of maternal mortality (Fathalla 1994). In Bangladesh, however, most women considered it less important (Ahmed et al. 1999). According to Bangladesh Demographic and Health Survey 1999-2000, ANC coverage was 33.3 percent, which was 31 percent in 1996-97 (BDHS 2000). The women who attended ANC were mostly for tetanus toxoid (TT) immunisation (Ahmed et al. 1999). The present study explored the significance of ANC for the women and their access to and satisfaction regarding the services.

4.3.1.1 Perception of the need for ANC

In the study it was found that the need of ANC during pregnancy was not that important for the delivery process to the women. However, almost all of the women were keen on taking TT vaccine. The rural women mentioned that they came to know about the importance of receiving TT from radio, Family Welfare Assistants (FWA) of the government and other neighbouring women. As part of receiving TT they attended ANC session in UHC and Family Welfare Centre (FWC). Apart from this a few women attended ANC either to confirm their pregnancy or for consultation on physical discomforts that they were experiencing.

Most urban women irrespective of their socio-economic status perceived that ANC was not that essential unless there was physical discomfort during pregnancy. One of the women in the slum wondered:

As no one expects to be sick during pregnancy, visiting the centre for a check-up is not necessary. What is the point for going for a check-up in a healthy condition!

(Poor; urban; in-depth interview)

Similarly, one of the non-poor women explained her reason for receiving ANC:

I would not have gone for check-up if I did not have pani bhangga (leak in the membrane) from the sixth month of my pregnancy. I thought that I didn't require any check-up if I wouldn't have any problem. (Non-poor; urban; in-depth interview)

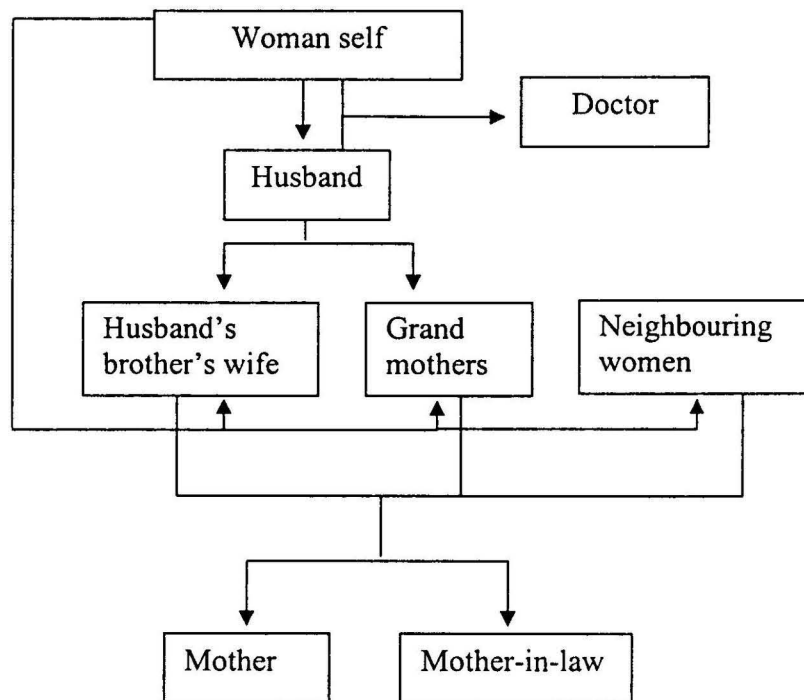
Women from non-poor category were found to attend ANC routinely during pregnancy. Also a few women in the urban slum received ANC from a nearby centre. Apart from the reason of physical discomfort, women were found to attend ANC services if they had any serious complication in a previous pregnancy or childbirth. Some slum women however went to the centre as they provided medicine and advice. As a cross-check on the response on ANC, the women were asked to name the essential needs for safe pregnancy and childbirth. They pointed out many things including good food like vegetable, egg and fruits, mental peace, rest, avoid weight lifting, etc, but the need for attending ANC was seldom pointed out.

Women usually consulted their sisters-in-law, neighbouring women, sisters, and husband regarding diet, mobility, and for advice in case of any problems during pregnancy. In the urban slum during focus group discussion the women said that whenever they discovered themselves pregnant they usually went to the nearby ANC centre in the first instance. But when this was compared with information collected from individual interviews this did not stand out. Visit to an ANC centre therefore might not be that common as one may infer from the other informants. Through decision flow chart exercise we received information regarding situation during antenatal period in urban slum (Figure 6). As indicated in the chart when a slum woman found herself pregnant she usually informed her husband or husband's brother's wife, grandmother or neighbouring women. Sometimes they were found to go to the nearby clinic directly for advice from the doctor. In the extended family when a husband found his wife pregnant he often informed his brother's wife and grandmother about it. Afterwards they informed the matter to the mother or mother-in-law. In the urban slum in a nuclear family the decision regarding to go for an ANC was found to be

taken by woman herself or by her husband. In the extended family, however it was either her husband's brother's wife or the grandmother; but often the main decision maker in this regard was the mother-in-law.

The village women reported that seeking ANC during pregnancy was not common among them. Nevertheless it was found that sometimes the sisters-in-law suggested and accompanied them to the health centre to have ANC. It appeared that sisters-in-law, grandmother and the neighbouring women influenced decision making on several issues during antenatal period. But the mothers-in-law had a major role in the whole process.

Figure 6: Chart of information flow during antenatal period in urban slum.



Inter generational differences in attitude towards ANC revealed by the study. In the rural area, the older women especially the mothers-in-law did not consider ANC essential during pregnancy and as such they often discouraged their daughters-in-law from attending ANC. In contrast, many mothers in the urban slum were enthusiastic to accompany their daughters in attending the ANC services. Peer consultation played a

significant role in regard to ANC attendance during pregnancy. Monowara, a slum dweller, went for ANC during her pregnancy and found it helpful. In her words:

I always counsel the neighbouring women to go for check-up during pregnancy as I have realised the benefit of having it regularly. Even I accompanied some of them to the centre. (Poor; urban; in-depth interview)

4.3.1.2 Access to ANC services

In order to explore women's experience in accessing ANC services a facility mapping exercise was done with the slum women. During that exercise different available ANC services and women's preferences regarding those facilities were identified (Figure 7). The barriers in accessing the services were also noted.

The women pointed out that the services in Marie Stopes Clinic run by an NGO was the most accessible to them in terms of distance and other benefits. They elaborated:

As the service is just behind our house, we do not have any problem to go there. They provide us tablets and family planning methods and even injection. After childbirth they provide injection (vaccine) to the children also. We need to pay a small fee but we can pay this according to our ability. (Poor; urban; FGD)

In terms of accessibility they ranked Wireless Gate Charitable Dispensary run by a private charity, as second. According to them they required rickshaw fare for visiting that place as it was slightly far away. They mentioned their reasons:

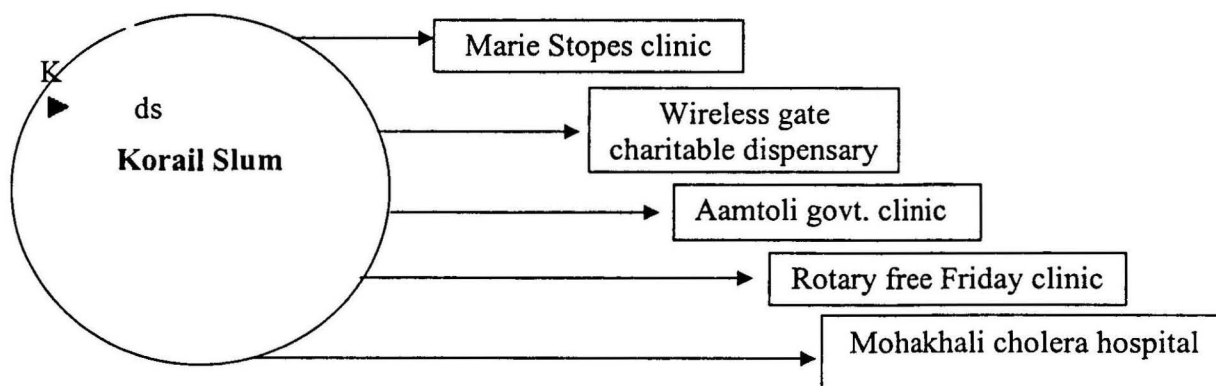
It is a bit difficult for us to go there. We need to pay eight taka as rickshaw fare. Besides, we are poor, and some of us work as domestic help in others' houses. Therefore, it is not always possible for us to go to that place. Usually we take half an hour's leave to make the trip but we cannot get everything done within this time. They don't provide much medicine as Marie Stopes does. (Poor; urban; FGD).

Aamtoli government clinic was ranked third by the women. Here, they had to pay ten taka for check-up and rickshaw fare to reach that place. Moreover, the waiting time was longer than the other two places. The Rotary Free Friday Clinic was ranked poorly though it was providing free service. According to the women the clinic was open only on Fridays.

Mohakhali hospital⁸ was placed at the end of the facility map, as that was the farthest. The women stated that that service was rarely used by them. Thus in using available ANC services distance, free or subsidised medicine provided, waiting time, amount of fees, period of availability of the services were important consideration for the women in urban slum.

The study women in non-poor category visited MCWC⁹, a private medical college hospital and private clinics for ANC. According to them they did not have any problem in accessing those services. One of them stated that she noticed during her check-up in pregnancy in a private medical college that the same doctor was more attentive to the patient in her private clinic than at the hospital outpatient clinic. In her opinion the doctor should have paid similar attention to the patients of both places, so that the women who were unable to afford private check-up could receive equal benefit.

Figure 7. Available ANC services and women's preferences in urban slum.



⁸ The International Centre for Diarrhoeal Disease Research, Bangladesh runs this hospital; they also provide MCH services.

⁹ Government Mother and Child Welfare Centre.

As the village women did not go for ANC much and the facilities available was limited, there was not much question of preference. Some village women who were found to visit UHC and FWC for ANC and TT vaccine did not have any complaint about accessing those services. But a few women grumbled that their families did not allow them to attend ANC. One poor WRA stated:

I wanted to go for check-up in the hospital but I could not convince anybody in the house to accompany me. Everybody asked me to stay home. They teased me that it became a fashion of present time to visit a hospital. Due to poverty they did not pay any heed to me. It would have required some money to go to the centre and get a check-up. (Poor; rural; in-depth interview)

The study also revealed that the village women were not aware of the schedule of ANC in UHC and other facilities. As one WRA informed:

I went to thanahaat (UHC) for check-up but I failed to meet the doctor, as that was not the day for check-up. The people in the hospital asked me to go the next day but I could not make it. (Poor; rural; in-depth interview)

4.3.1.3 Satisfaction about the ANC services

The women in the slum who attended ANC in a centre run by an NGO expressed their satisfaction about the services. A woman Pari said:

I was pleased to receive their services. They told me to visit there every month. Each time they measured my weight and checked the position of the baby. They advised me what should I do for the well-being of the baby and myself. They also provided me medicine. They talked nicely. Sometimes they also visited my house to inquire about my health.

(Poor; Urban; in-depth interview)

The non-poor women were also more or less satisfied about the services they received during their pregnancy. Although they grumbled that when it was very crowded the doctors paid less attention to them and made hasty examination.

The village women who attended ANC in UHC and FWC were more or less satisfied as they received vitamin tablets and were able to know the position of the baby.

4.3.2 Delivery Care, Access and Quality

4.3.2.1 Delivery planning

The study found that almost all the women in rural and urban areas irrespective of socio-economic condition had some kind of plan and preparations for their delivery. Except three WRAs (two from urban non-poor and one from rural non-poor category) all preferred home delivery. Regarding delivery the WRAs consulted their mothers, sisters, sisters-in-law, neighbouring women, *dais* and elderly women whom they considered knowledgeable and experienced. The WRAs took a variety of measures in advance in accordance with their plan. In the urban area WRAs who preferred home delivery made prior contact with *dais* and collected instruments, viz. new blade and thread (sterilised in boiling hot water). One WRA in urban slum stated:

I collected blade and thread in advance. We are very poor; still I tried to save some money every month during my pregnancy. I knew that I would not be able to join my work until forty days after delivery; therefore, I needed to save some money for that period. In addition, as I might have difficulties during delivery, I needed some money in my hand. Thus I saved as much as possible; even when my husband asked for money in need I refused him. (Poor; urban; in-depth interview)

Similar to the urban WRAs the rural women undertook certain initiatives according to their delivery plan. As one of the younger non-poor WRA reported:

"It was a shame and embarrassment for me to deliver at my natal home, as there were many people in that house. Thus I planned to deliver at my in-law's house. I talked to

my mother regarding the matter. According to my plan I came to my in-laws' house with my grand father just before my delivery." (Non poor; rural; in-depth interview)

Another non-poor rural WRA who from the very beginning wanted to have hospital delivery pointed out:

I did not like the way a woman gives birth at home in the village. Therefore I preferred to deliver the baby at Matri Mongol (local maternity hospital in Upazila town). My mother also advised me to do so. She had seen how other women entering into the delivery room and deteriorated the condition by stirring that place of the woman. My husband was convinced of my plan. As soon as I felt the labour I went to Matri Mongol. My mother and husband accompanied me. (Non poor; rural; in-depth interview)

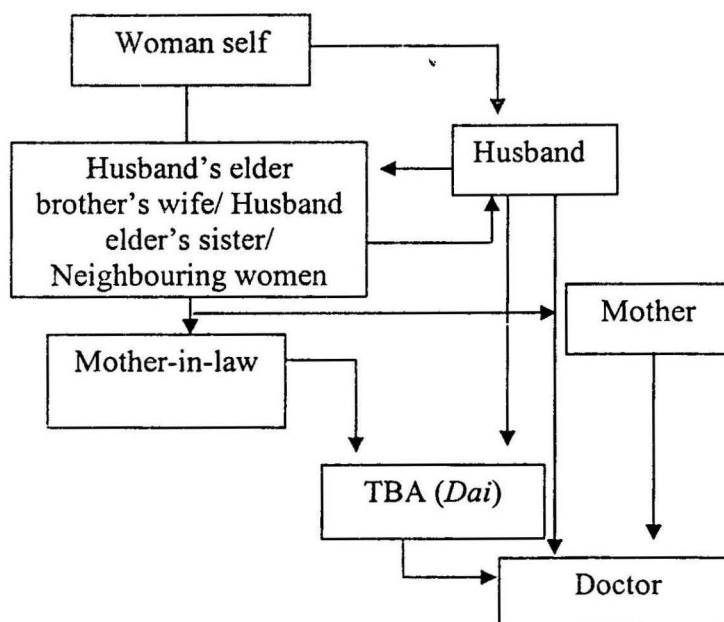
4.3.2.2 Delivery situation and decision making process

In the study a nearly common pattern emerged regarding delivery situation in rural and urban area that permeates decision-making process during that condition (Fig 8 and Table 16). It was reported that in urban slum when labour pain started the pregnant women usually informed her husband about it. The husband then called his mother, aunt, brother's wife or the neighbouring women for assistance. They tried to deliver by themselves as far as possible. Once unsuccessful they called in a TBA. Often the TBAs accomplished the task by providing injection and other drugs that stimulates labour. Sometimes they also consulted a doctor for assistance. If the TBA failed either another TBA was called or the woman was taken to a hospital. In the later case her husband usually accompanied her and the neighbours helped to get a transport. As soon as the woman was taken to the hospital the doctors and the nurses became the prime decision makers as they were expected to do everything to save the women and the baby.

Clearly woman herself had the deciding role on whom to inform first about the labour pain. Unlike rural area, often the husbands were the first to be informed about the

matter in the urban slum. Sometimes the woman herself sent her husband to call in a *dai* whom she had contacted beforehand.

Figure 8. Chart of information flow in delivery in urban slum



In case of complications it was the husband and mother-in-law who decided what should be done. The TBA also had a significant role in this regard. However, the study found that the neighbouring women also influenced the decision making process during complications. One such example is Parveen, a slum woman:

Parveen fell from a rickshaw when she was about eight months pregnant. She was bleeding. She went to a nearby doctor who suggested her to get admitted at the medical college hospital immediately. As the neighbouring women advised her not to go to the hospital, she remained at home. She herself also wanted home delivery. She had severe pain but one neighbouring woman who was also a *dai* assured her that the delivery would take place when Allah wished. The woman tried to handle the situation by inserting her hand, which resulted in hand prolapse. The bleeding did not stop and gradually Parveen felt weak. The women were whispering among themselves that as it was bleeding profusely before the labour the baby may not be delivered in a good condition. At the same time they were discouraging her to go to the hospital as they

thought it was not a worthy place for delivery. Parveen's husband brought a doctor and a traditional healer but nothing helped. Finally after remaining under such condition for almost ten hours, she was taken to the medical college hospital at two o' clock in the morning. (Poor; urban; in-depth interview)

It was found that in rural area when the labour pain started, women usually asked their elder sisters-in-law or neighbouring women for assistance. Primarily they were found to provide all kind of assistance for giving birth. In the words of a woman:

Some of them make the woman sit; some women hold her shoulders and massage her back, some encourage her to press down. (Poor; rural; FGD)

When the labour became prolonged or other complications show up the women from the neighbourhood assemble in the courtyard. They talk among themselves on how to deal with the situation. They might suggest to the husband to bring a doctor or take the woman to the hospital. Considering the situation and followed by a discussion with the mother-in-law, the husband take the decision. The decision flow chart indicates the role of different people in the view of study women (Table 16).

Table 6: Role of neighbours regarding decision-making in delivery in rural areas.

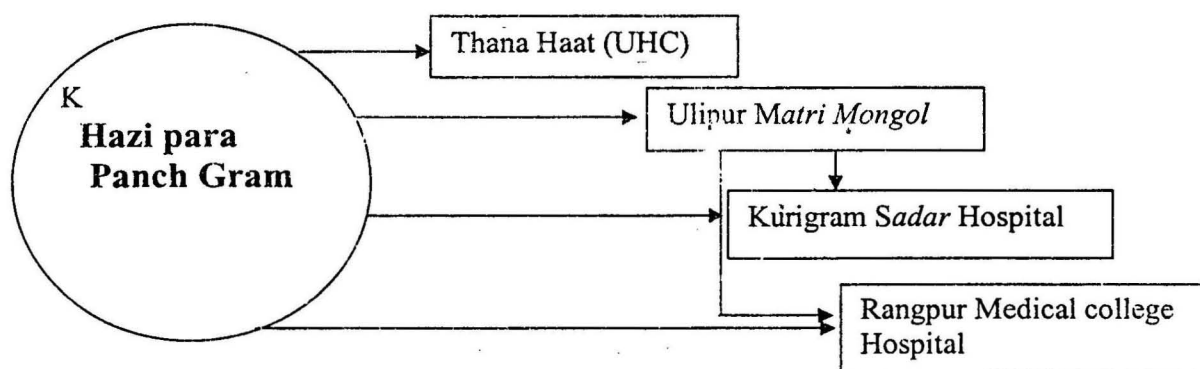
Person	Role
Woman herself	Inform sisters-in-law/mother-in-law about the labour pain.
Sisters-in-law	Take care during labour and assist in normal delivery.
	During complication advise the husband to take proper action.
Grandmother-in-law	Sometimes is informed about the labour first.
	Assists normal delivery.
	Provides suggestion to the husband during complication.
	Accompanies the woman to the hospital.
Mother-in-law	Asks the husband to take the women to the hospital.
The neighbouring women	Provide suggestion about taking measures during labour.
	Provide financial assistance to take the woman to the hospital.
Dai (TBA)	Admitting failure, advises the members in the household to take the woman in the hospital.
	Often accompanies the patient to the hospital.
Husband	During labour and complication asks for suggestion to the sisters-in-law, neighbouring women, mother and grandmother.
	Decides to take the woman to the hospital and arranges transport.

4.3.2.3 Delivery care services in the views of women

The rural women mentioned four delivery care facilities, which they visited in case of complications (Annex 6 gives an account of the existing facilities). During facility mapping exercise the women prioritised the facilities on the basis of distance (Figure-9). They told us that during complications in delivery they preferred to go to UHC, as that was close to the village. If the doctors and nurses in UHC failed to deal with the condition, their next stop was Ulipur *Matri Mongol*. The women pointed out that as *Matri Mongol* exclusively dealt with delivery they sometimes preferred to take the patient directly to that place. However, if the nurses in *Matri Mongol* failed to deal with the complications, depending on the nature of the complications some women were taken to Kurigram District Hospital and some directly to Rangpur Medical College. The village women opined that very few women could make it to the last two facilities, as the decision to taking the women to the hospital were taken at the eleventh hour. Besides the villagers did not have adequate knowledge about the facilities. Therefore, they were found to try the facilities one by one, which eventually became expensive for them.

A number of delivery care services were available for the women in the urban slum. Although the women named different hospitals in Dhaka city, it however appeared that during complication they preferred to take the women directly to Dhaka Medical College Hospital. A few well-to-do women were found to prefer private clinics as they could afford it. Women from non-poor category mentioned the services of private medical college hospitals, government hospital and the government MCWC (Mother and Child Welfare Centre). Surprisingly, no woman in slum mentioned MCWC.

Fig 9: Facilities preferred by the rural women during complication in delivery.



4.3.2.4 Advantages and disadvantages of the delivery services

Advantages and disadvantages of different delivery care services were revealed through matrix scoring exercises with the poor women. It came up also during individual interviews and group discussions.

In assessing advantages and disadvantages of different services the women in the rural area mentioned several criteria. According to the women in the village they felt encouraged delivering at home as it was a familiar atmosphere and all near ones were close by. Home delivery was inexpensive as well. The women were frightened in going to distant places like Kurigram or Rangpur for receiving delivery care services and it was considered as last resort. One woman Fulbanu stated,

Depending on the severity of the condition a woman is taken to either Kurigram or Rangpur. If the condition is serious the woman thinks she will not survive, so she takes blessings from others before she leaving. (Poor; rural; FGD)

Ulipur Matri Mongol was considered as low-cost. The services were also perceived as better in the sense that nurses were more qualified. Therefore, next to home the rural women felt at ease in delivering at Matri Mongol. In terms of better arrangements and availability of the facilities the women gave highest score to Kurigram District Hospital and Rangpur Medical College Hospital.

However, in terms of the advantages of the delivery care services available for women in the village Rangpur Medical College Hospital was given the highest score (25%) followed by Ulipur *Matri Mongol* (19%) Kurigram District Hospital and home were given similar score (17%) (Table 17).

In terms of disadvantages, the poor village women pointed out that as no measure could be taken at home during complication; they gave highest score to home. Since all kind of measures were readily available at Rangpur Medical College Hospital during complication, they did not see any problem in that service. They opined that *dais* were more knowledgeable than the sisters-in-law and the neighbouring women. Insufficiency of qualified doctors and nurses was pointed as a drawback of UHC. The women said:

There is a lack of qualified doctors and nurses in thana haat haspatal in dealing with delivery. Hence women feel nervous to go there for delivery. Rather they are much comfortable in Matri Mongol as the nurses are more qualified there. (Poor; rural; FGD)

Regarding Ulipur *Matri Mongol* it was revealed that the nurses and *ayas* demanded money and clothes more than the other delivery care facilities and the behaviour of the nurses was not good as well. The women informed us that although *dais* demanded soap and clothes at home, they did not require to pay instantly, they could be paid afterwards in instalments.

Unavailability of transport to reach such distant facilities as Kurigram District Hospital and Rangpur Medical College Hospital was stated as a limitation of the services. In addition, the cost for transport, food, and accommodation along with treatment increased the total expenditure in these services. Thus the delivery services became expensive for the villagers. It is clear from Table 18 that the women scored Ulipur MCWC and UHC as highly disadvantageous (22%) followed by Rangpur Medical College Hospital (20%).

In assessing advantages and disadvantages of the delivery care services the slum women of Dhaka city mentioned that although home delivery was inexpensive and a women received better care at home but no assistance could be given at home in case of complications (Table 19). *Dais* and trained *dais* were found to take care of the patients similar to the relatives. They were found to massage the back of the women and provide warm tea and milk to them for comfort and easy delivery. Regarding trained *dai* the women opined:

Trained dais are more knowledgeable than the bangla dai (untrained). They can even inject (injection) to the patient on their own. Nevertheless, the payment is almost the same. Usually they are given two soaps and a bottle of coconut oil. If we are pleased, we give them a saree, but this is not obligatory. If one cannot afford it they would not mind. (Poor; urban; FGD)

It appeared that in women's view the trained TBAs had some capacity to deal with adverse situation in delivery as they were more knowledgeable and could provide medicine and injection. In complicated delivery women in slum consulted the doctors in the nearby pharmacy in Korail bazaar. They took them as somewhat more capable in dealing with prolonged labour and other complications during delivery. The women considered DHaka Medical College Hospital and private clinics most suitable place for taking measures for all kind of complications during delivery. Nevertheless they pointed out the disadvantages of these services, as it was expensive in terms of transport and treatment cost. Besides they thought the patients did not receive proper care in the hospital.

Table 17: Advantages of delivery services: in the view of rural women.

Delivery services	Advantages						Total
	Feel encouraged	Apply delivery techniques	Facilities at low-cost	Less costly	Better arrangements	All facilities available	
Home	9	1	-	10	-	-	20 (17%)
Dai	2	2	-	4	1	-	9 (7%)
UHC	4	3	5	3	2	1	18 (15%)
Ulipur MCWC	5	4	7	2	3	2	23 (19%)
Kurigram hospital	-	4	4	1	5	6	20 (17%)
Rangpur hospital	-	6	4	-	9	11	30 (25%)

Table 18: Disadvantages of delivery services: in the view of rural women.

Delivery services	Disadvantages						Total
	No measures during complication	Money/clothes need to give	Lack of qualified doctor	Unfriendly behaviour	Transport unavailable	Costly	
Home	9	-	-	-	-	-	9 (7%)
Dai	5	6	-	3	-	1	15 (12%)
UHC	3	4	11	5	2	1	26 (22%)
Ulipur MCWC	2	7	4	7	3	3	26 (22%)
Kurigram hospital	1	2	3	4	5	5	20 (17%)
Rangpur hospital	-	1	2	1	10	10	24 (20%)

Table 19: Advantages/disadvantages of delivery care services: in view of women in urban slum.

Delivery services	Advantages/disadvantages					Total
	Less costly	Good care	More skilled	Aid to progress labour	Measures to deal with complication	
Home	1	5	1	-	-	7 (7%)
Dai	2	5	2	2	1	12 (12%)
Trained dai	3	5	3	3	2	16 (16%)
Korail bazaar doctor	4	3	4	5	3	19 (19%)
Dhaka Medical College hospital	5	1	5	5	7	23 (23%)
Private clinic	5	1	5	5	7	23 (23%)

4.3.2.5 Barriers in accessing formal delivery care services

A number of barriers to accessing formal delivery care services were revealed through the problem tree exercise (Annex 7) in rural area. This was also reflected in the in-depth interviews. Women's unwillingness to go to the hospital due to fear and sense of shame was identified as one of the barriers. In the word of one WRA Morjina:

I was not willing to go to the hospital at all as I have heard that in the hospital the nurses bring out the baby by inserting their hand inside. What an embarrassing matter it is! I was frightened as well. (non-poor; rural; indepth interview)

The women emphasised their disliking about the method of delivery in the hospital. A previous study had found that rural women were conditioned to giving birth in a particular way (Afsana and Sabina 2000), which was often not identical the way the delivery took place in a hospital. In the present study the village women stated that they did not feel comfortable with the way the nurses in *Matri Mongol* and other hospitals conducted delivery, as they were asked to bend their legs and hold by themselves. The behaviour of nurses also appeared as a barrier in using the services in formal delivery care. In this regard the women mentioned that due to ill behaviour of the nurses, those who went to the hospital were reluctant to go there again.

Due to ill behaviour of the hospital staff the influential persons in the family were also found to discourage the women in going to hospital for delivery. One such example in the village was Rahela:

Rahela had prolonged labour during her first childbirth. Becoming unsuccessful in getting the delivery at home her husband, grandmother and mother decided to take her to UHC. Considering Rahela's condition critical the nurse in the hospital asked them to take her to go to Rangpur Medical College. According to Rahela's mother and grandmother the nurse was not cooperative and did not behaved well with them. As Rahela stated, *"the nurse was not interested to attend me as it was late at night. Even*

though she helped to remove the water from my body (helped her to urinate through catheter), she did not want to give me any medicine. She was rebuking my brother and husband that they had not yet taken me to Rangpur. My brother urged her to provide me an injection. Although she listened to him but rudely asked them to take me away from the thana haat hospital immediately.” As the vehicle was not available, they could not decide what to do. The grandmother also wanted to wait until the morning. She thought there was still time for delivery as no sign was yet visible. However, at four o’ clock in the morning her grandmother recognised that the time of delivery had arrived. No nurse was available there as they went off to sleep. Finally she herself attended the delivery with the assistance of other female patients in that ward. According to them no nurse was present there throughout the night. After the delivery Rahela’s mother and elder sister cleaned the floor of the hospital and at seven o’ clock in the morning they left UHC without informing any hospital personnel. When Rahela became pregnant again her grandmother and mother strongly disapproved of her going to the hospital for delivery, even though her brother, who was a Health Assistant (HA) had suggested. Rahela was not very keen to go there either. (Poor; rural; in-depth interview)

In addition to ill behaviour of the nurse the above story indicated a communication gap between the nurse and Rahela’s family. It may be that the nurse was not able to present well the condition of the patient to her relatives. So they misunderstood her that as if she was evading to attend the delivery by sending them to Rangpur. Because of this adverse experience the hospital lost a future patient.

Lack of adequate transport facilities especially in the area created obstacles in taking the women to distant places like Kurigram or Rangpur. Often the cost for such transport goes beyond the means of the poor in the community. The villagers felt that as there was only one ambulance in UHC, it was unable to meet the need of the people in emergency. Although rickshaws were available in the village but the fare became prohibitive during emergencies. It was also discovered that due to lack of knowledge

about availability of exact services, the villagers usually spent extra money for seeking services in different facilities. In this regard a male villager Tonu Mia grumbled:

When my wife had complication during pregnancy and delivery I spent a lot of money for transport. I went to thana haat (UHC) first, then they referred me to Kurigram. As it was expensive for me to take my wife to Kurigram hospital, I took her to Ulipur instead. I thought she might recover there, but watching her condition deteriorate they refused to admit her. Then again I brought her back to thana haat. As she was not getting any better, the neighbours advised to take her to Kurigram hospital. The doctor in Kurigram hospital treated her for a few days but the condition did not improve then they asked me to take her to Rangpur Medical College Hospital. Finally, I rented in a microbus for Tk. 1000 and took her to Rangpur. Meanwhile, I spent a huge amount of money unnecessarily for transport, as I did not know where would I get the necessary service for my wife. I should have taken her to Rangpur Medical College Hospital in the first place and thus could save money and suffering of my wife. (Poor; rural; FGD and Indepth interview)

Not many women have a husband like Tonu Mia, unfortunately!

The villagers pointed out that in emergencies the neighbours extended their cooperation. But as most of them were poor, often it was difficult for them to provide financial support or loans. Although it was possible to get loans from the moneylenders the interest rate was very high. Therefore, economic constraints were noted as one of the major hindrances in accessing formal delivery care services. In this regard they mentioned Hosna's story:

Hosna's husband was an agri-labourer and earned thirty taka per day. During delivery Hosna experienced hand prolapse. The neighbouring women advised her husband to take her to the hospital. The husband did not have the ability to take her to the hospital. The villagers helped him by contributing some cash and kind. With this he called in a doctor. AS the condition deteriorated the doctor referred her to the hospital, but she

was not taken there. Finally her husband called in a *dai*. The child was dead by that time. The *dai* inserted her hand inside and brought the child out in pieces. (Poor; rural; FGD)

Almost a similar pattern emerged in the slum and among non-poor women of urban area in terms of barriers in using the formal services (Annex 8). Women were usually disinclined to have their delivery in the hospital due to fear of caesarean section and presence of male doctors. In the words of non-poor women, Shahinoor:

I resisted going to the hospital during labour until I had convulsion. I was taken to Dhaka Medical College when I lost my sense. I was reluctant as I thought it would be embarrassing if a male doctor in the hospital attended me. Besides, I had heard that in the hospital the doctors performed caesarean without any justification. (Non-poor; urban; in-depth interview).

Disapprovals by influential persons in the household, discouraging attitude of the neighbouring women and ill-behaviour of the hospital personnel acted as impediments in seeking formal care during delivery in urban area. Although transportation was not noted as a significant problem in the opinion of the urban women but the people in urban slum pointed out that the cost of local transport increased enormously in times of emergencies.

4.3.3 Perception of an ideal service

Clients' expectation from the services is essential to understand in order to enhance sensitivity in the service (Whittaker 1996). This study tried to identify women's perception of an ideal service regarding delivery care.

In urban and rural areas a number of expectations were mentioned (Tables 9 and 10). Although the women stated that each of the care was essential, nevertheless, they gave

priority to the issue of immediate attention of the doctors in the hospital. In explaining the immediate attention of the doctor a woman in urban slum shared her experience:

Once I took my neighbour to Dhaka Medical College Hospital as she had complications during delivery. It was eleven o' clock when we arrived in the hospital. The condition of the woman was critical with the hand of the baby hanging out. The doctor came to the woman and saw her but did not take any measure. The whole day passed by but neither a nurse nor a doctor came to visit the patient at all. The two males who accompanied us from the slum were trying to collect money from different places. The woman was very poor. I pleaded to the ayas and nurses to attend the woman. Finally, they took the woman for operation at the time of magreb prayer (evening) and a dead child was born. I took that woman in the morning and they operated her in the evening, her abdomen had become inflated by that time. The child could be saved if they had taken immediate measures just after our arrival. (Poor; urban; FGD)

The rural women mentioned that during complication immediate attention of the doctor was primarily required. Measures such as cleanliness during delivery were not mentioned in rural areas, whereas the urban slum women pointed this out as first priority. They opined that clean blade and thread should be used during delivery otherwise the women would suffer from tetanus, which was life threatening. Some of the urban women mentioned the need to have a lady doctor in handling delivery to make the women comfortable.

As a second priority the women in the slum mentioned about good quality of bed in the hospital. One of the WRA who delivered her baby in a hospital expressed her opinion in this regard. She stated:

In the hospital I had to share my bed with a woman who also delivered a child a few days earlier. It was very difficult for us to accommodate ourselves along with two children in that small bed in the hospital. (Poor; urban; in-depth interview)

Medicines at subsidized rate and care after delivery were ranked as third expectation by the urban slum women, but the rural women ranked it second. According to them in addition to providing medicine from the hospital, the hospital personnel should behave well with the patient and her relatives. They complained that the nurses, *ayas* and the doctors were always unnecessarily impolite to them in the hospital.

However the rural women placed the need of better accommodation at hospital in third position. At the same level they talked about the need of taking proper care of the patient by the hospital staff. They also argued that in delivery care the nurses should apply all techniques as far as possible so that a normal delivery could take place. They also pointed out the need to providing meal and soap to the patient in the hospital. Interestingly they talked about the need of providing cow's milk to the baby after delivery, which indicated that they had lack of awareness about giving colostrums to the child after delivery.

According to the women in urban slum the women should be given hot rice and curry and tea after delivery in the hospital for quick healing. They also mentioned the need for a seat for the attendants as well as cleanliness of the place. They placed the behaviour of *aya* and nurses in the hospital at the end of the list. In contrast the non-poor women of Dhaka city found this point as significant in ensuring quality services in the hospital.

Table 20: Ranking of expected quality of care in the view of urban slum women.

Rank	Issues identified by the women
1	The doctors should take immediate measures. Female doctor in the hospital. Use of new and clean tools (blade, thread, savlon) during delivery.
2	Provide seat to the patient.
3	Medicine at subsidised rate from the hospital. Taking care of the patient.
4	Provide food in the hospital. Provide tea with <i>ada</i> and <i>tejpata</i> to the patient after delivery. Provide hot rice and curry to the patient after delivery.
5	Seat for the attendant. Cleanliness of the place where the patient stays. Warm water soap and soda at home.
6	Inexpensive hospital. Good behaviour of <i>aya</i> and nurse.

Table 21: Ranking of expected quality of care in the view of rural women.

Rank	Issues identified by the women
1	The doctors should take immediate measures.
2	Provide medicine from hospital. Good behaviour of doctor and nurses in the hospital.
3	Provide seat, blanket, and mosquito net from the hospital. Apply techniques for normal delivery. Proper care of the patient.
4	Provide meal in the hospital.
5	Provide soap from hospital.
6	Provide milk for the baby from the hospital.

4.3.4 Perception of good attendants at delivery

In defining the good attendant at delivery the rural women emphasised the point that a good attendant would be capable to conduct the delivery nicely without any difficulties. In addition to that she would provide care to the women like massage oil, hold the shoulder during delivery and clean mother and child after delivery. A few women in the village mentioned adequate experience of the person who would attend birth. They also highlighted the capacity of such person in applying techniques to conduct a delivery by any means.

The non-poor women in urban area primarily indicated two points for good attendants at delivery. According to them the person should have knowledge and experience in handling the delivery and should be well behaved. The attendants should also have the sense of responsibility during delivery. The women in urban slum also gave importance to knowledge and experience in assessing the quality of a good attendant. A few women in this category mentioned that although a good attendant should have the competence to conduct the delivery by applying appropriate means a good attendant was not expected to insert hand inside and stir to expedite the process.

4.3.5 Care after delivery

The study revealed that the study women in urban and rural areas usually practised self-care for the newborn like keeping them warm and clean, placing them under the sun with an oil massage and giving them bath in a fixed time in the morning. Women in non-poor category and a few women in the slum reported that after a few days of birth they took their children to the nearby government MCWC or health clinic (non government) for weight monitoring. Consulting the pharmacists in case of children's sickness was common among the slum women. They were also found to buy medicine from the pharmacy to reinvigorate their body strength after delivery. As a slum women Morjina stated:

After my delivery I sent my husband to the nearby pharmacy for buying medicine for me. I told him to ask for medicines that which helped to regain energy after delivery. They gave him three/four types of medicine accordingly. (Poor; urban; In-depth interview)

The women in the village of all categories were also found to be given saline after delivery to resume body strength if they were considered weak. However, women were completely unaware of any postpartum care for themselves. Maintaining food taboos was included in the self-care, which was believed to be beneficial for both mother and child.

Whilst taking their baby for immunisation the weight of the baby was monitored. Similar to urban slum medicines were taken by consulting the pharmacist of nearby bazaar during children's sickness. Some women reported that they took their children to *Chinno Mukul Hospital*¹⁰ in case of mild to severe illness. Women in the village were found to be ignorant about giving colostrum to their babies after birth. Providing cow's milk to the child until three days after delivery was common in the village, as it was perceived that breast milk was only produced after three days of delivery.

¹⁰ A hospital run by an NGO called Chinna Mukul .

In general women in urban and rural areas received advice regarding postpartum care from the elderly women, i.e. mother, mother-in-law, grandmother and other senior women in the household and neighbouring households.

4.3.6 Providers perspectives

The strategy to overcome the obstacle and understand the issues vital to pregnancy and delivery care is to focus on understanding the problem from the provider's perspective as well. The issue of taking provider's views was to enhance the findings with their participation and to match with that of the clients, and, to look into the prevailing situation in the birthing culture. Another prime factor is to derive a practical and effective mechanism to ensure skilled attendance for every woman. The study dealt with the providers of both formal and informal attendants in delivery and the findings revealed a clear insight in accordance with the situation that was persisting in pregnancy and delivery care in Bangladesh.

4.3.6.1 The informal service provider: the nature of service of TBAs

It was found in the study village that the TBAs usually assisted in delivery of their own relatives or neighbours. Their profession was more of a social work than of earning money. The remuneration of their work depended upon the economic status of the family they serve. They usually received soap or a meal from a poor household whereas from a relatively better off household they might get a saree or two. They felt socially obliged to serve in times of need because a poor family did not have the means to afford otherwise. If they did not comply with such need they would earn a bad name in the society. Nevertheless the TBAs did not feel responsible for the outcome of a birth or a consequent morbidity of the pregnant women. As one of them said:

I was asked, why the baby died? This is not my responsibility. My duty is to facilitate birth. (TBA; rural; FGD)

They were found to have different traditional beliefs and took pride in sharing their experiences. One of the TBAs mentioned:

Once I had performed a complicated delivery. All the villagers knew that the woman was "doshi" (possessed by an evil spirit), therefore she already had experienced hand prolapse in all of her three deliveries. During this delivery I applied all of my kaida koishol (techniques) to deliver the baby and I was successful. (TBA; rural; FGD)

4.3.6.2 The participation of TBAs during birth

According to the TBAs they were not called in at the preliminary stage of labour. The female family members usually they tried to conduct the delivery themselves first. When they fail the TBAs are called in to deliver the baby. They were found to call in to complicated deliveries. As they were experienced in applying "*kaida koishol*" to handle complicated birth, they mentioned that people called them in emergencies. Besides, the fear of expense in seeking formal care, the distance and problem of transport enforced the people to call in a *dai* during complications.

The study found that the TBAs often insisted the family members not to take the woman to the hospital. Although they agreed that a better treatment could be received in the hospital but it might be expensive for the people. In addition they were confident enough that they would be able to perform the same job during complications. Some of them narrated their experience in handling the *upazilla* (breech presentation) and other complications. In this regard one TBA mentioned that she did not let her sister-in-law go to the hospital, because it would have cost them thousands of taka. In spite of complications she successfully performed the delivery at home.

4.3.6.3 TBAs and formal care

It appeared in the study that both TBAs and the women were aware that they would get better services from the doctors or midwives. Nevertheless, they turn to TBAs because of culture, accessibility and affordability. Moreover, TBAs were found to share and

respect their feelings, as well as provide services such as cooking, cleaning, massage, traditional rituals etc.

Women attended by the TBAs were mostly poor. The TBAs also mentioned of rich families who prefer home delivery and asked for their services. According to the TBAs hospitals was a safe place for delivery. Nevertheless, they preferred and promoted home delivery as it was cheap and convenient for the villagers. It also preserved the privacy of a woman from the male doctors of the hospital. The TBAs stated:

There are times when the delivery is complicated and it becomes necessary to take the woman to Matri Mongol because they have a special medicine, which they use to deliver the baby. They push injection and saline and thus make it easier for the woman to deliver. These things we do not have and that is why sometimes it becomes necessary to go to the hospital. Those are times when we become helpless after trying so hard.

(TBA; rural; FGD)

When they found that the delivery was beyond their capacity to handle, they referred the women to a health centre or a hospital, or whatever possible option could be reached at that time. Sometimes they even accompanied them.

The TBAs cited some examples of such experiences. One TBA said:

In some serious cases we feel that we will not be able to manage. Therefore we refer them to the maternity centre. I took a complicated patient a few days back. She was not having any pain. Her husband asked me what to do, as he wanted the delivery at home. I told him to take the patient to the maternity centre, as the condition was pretty serious. I, along with her husband accompanied her. (TBA; rural; FGD)

Another TBA said:

One of the women whom I attended, was having problem to release a part of the placenta. The mother-in-law told me to try hard. We waited the whole night but

nothing happened. Then I asked for a pushcart to take the woman to Chinno Mukul. The doctor came out and asked who was the Dai (TBA). Someone pointed towards me. She then charged me that I must have stretched the placenta and it tore off. I said that I did not. I lied. (TBA; rural; FGD)

It was found that none of the TBAs had ever referred any of their patient to the district hospital. They mentioned about *Marti Mongol* where only normal deliveries took place. They had very limited knowledge of what level of service points was provided in what type of obstetric facilities.

4.3.7 Conditions of the health care facilities in rural and urban areas

In the FGD session the nurses of UHC provided a clear view of the quality of services. It appeared that UHC was very poorly managed. There were shortage of supplies (medicines, cotton, gauge, saline, injections etc.) and equipment. The doctor being a male never entered the labour room no matter how critical the situation was. He always gave instructions by listening to the condition of the patient through the duty nurses. The nurses said:

Situation worsens during night, because we cannot even consult with the doctor, as he does not reside in the campus. (Nurse; rural; FGD)

There were provisions for housing for the doctor within the campus. However, it was found that the labour room was beside the female ward and poorly equipped with a rusted and almost broken labour table with no sucker machine. There was no weighing scale either to weigh the newborn. The nurses said:

It is very difficult to manage since the labour room is in the ward and it attracts the patients to crowd and scream outside the room, they even try to enter into the room and interfere with our work. (Nurse; rural; FGD)

The nurses informed that in case of normal condition they conducted the delivery otherwise they referred to Ulipur. There was no assistance for referral. The only ambulance in UHC was not working due to mechanical problem. However, the reason they gave for referral to *Matri Mongol* was the presence of female doctor in that place. Indeed in *Matri Mongol* a nurse (Family Welfare Visitor) was found to perform only normal vaginal delivery. The nurses and the Family Welfare Visitors (FWVs) insisted that there should be a separate labour room and a female doctor to provide quality service to the rural women. Health staff of the UHC feels the lack of skilled personnel to handle delivery.

In the urban setting the health providers appreciated their working environment although they pointed out the problems of inadequate supplies. The FWV in the urban centre termed it as a very recent problem. She said:

These days I find it difficult sometimes when I do not have the necessary supplies in the labour ward. Although I manage somehow but it definitely plays on my nerves. (Nurse; urban; in-depth interview)

The lady doctor there also mentioned that earlier poor people used to get absolutely free services by paying a registry fee of only two takas. But in recent days they had to buy medicines and other necessary things.

4.3.8 Provider's view on women not attending the services

In the UHC two to three normal deliveries usually took place per month. They commonly received patients suffering from eclampsia, locally termed as possession of evil spirit. The nurses informed that the complicated cases or premature pregnancy were not attended in the UHC. They said:

The villagers know that there is no medicine and no doctors, so they do not bother to come. People of Chilmari Upazila know what quality of service is available in the Upazila Health Centre, which is the nearest to their domicile. (Nurse; rural; FGD)

One of the nurses added:

People think that what is the use of going to the Centre, (Chilmari Upazila Health Complex) where there is no medicine, the service is not good and there are no doctors. Sometimes when the electricity goes off the staffs or the clients need to buy the kerosene for the lamp. In a situation like that it is very difficult to attend a delivery patient.
(Nurse; rural; FGD)

The study found that people in the village perceived that in the hospital they would get modern treatment, which assured better outcome in terms of recovery. But the problem lied in their understanding of when to seek care and the lack of knowledge regarding the whole pregnancy procedure and it's complications.

According to the health providers mostly the lower middle class and poor and illiterate people came to seek care in the government facilities or in the nongovernmental healthcare centre in rural areas. The rich went to the private clinics or sometimes called in the FWVs at their home. The healthcare providers opined that the village women tried to deliver at home first with the help of *dais* and in case of complications they looked for formal care.

In a government MCWC in Dhaka city people from socio-economic strata were found to receive services. The doctor informed that about four thousand women came to take ANC services per month but only about five hundred deliveries took place. She mentioned that not many poor came for delivery. It also turned out that those poor women were mostly illiterate. It was found that after the introduction of a new building the profile of the client had changed. It was mentioned that before the new building there were more poor people found in the hospital but in present days the ratio was fifty-fifty. The doctor informed that there were two complicated cases everyday, which indicated only 10% complicated cases went to the hospital whereas there should be 15%. In the urban area one of the nurses also mentioned that in their health centre three-fourths of the patients were registered and often the unregistered patients came with different complications including a high rate of IUDs (Intra Uterine Death).

In the urban area the providers said that complicated cases were mostly prevalent among the poor, as they did not come for ANC. Apart from that they tried to deliver at home first then came to the hospital, which made the delivery more complicated. One of the doctors mentioned the complicated case of a woman:

The pregnant woman was anaemic. They tried with a dai at home, they even gave her saline. She had a swelled valva when she came at the hospital. She was a fourth gravida. She had her previous delivery at home. Her husband is also a homeopath doctor; he also tried when all these efforts turned into vein then they decided to bring her at the hospital. Then we went for a caesarean. Though her condition was severe with the proper treatment she recovered later. (Doctor; urban; in-depth interview)

4.3.9 The reasons of women not taking formal care

Many reasons were revealed from the perspective for the providers of not taking any timely formal care. The FWVs and FWAs mentioned two important reasons. One of them was the absence of a proper system of service delivery in the health centres and another one was lack of family support. One of the FWVs elaborated:

We say that we are providing primary care but why do we refer our patients to a similar facility (Ulipur Matri Mongol) where they perform two deliveries on average per day. If they can provide the service then why can't we? All the cases do not require comprehensive obstetric care. When it is needed, there is always the provision of referral. So it means the system is not working properly. (FWV; rural; FGD)

A woman had to seek permission and needed the support of her family to seek care and even for her ANC check up. One of the FWVs said

Women are still not in a position that they can take decision on their own and can say that I am going for a check up. If she has a mother-in-law she needs her permission. Then her husband, her father-in-law, her others-in-law--- after taking everyone's

consent, maintaining the protocol she steps forward as she is going to attend some ceremony or something. There are husbands who are illiterate but they support their wives and do not bother to take consent of others. (FWV; rural; FGD)

Almost all of the health providers talked about traditional practices of people regardless of urban or rural background who did not think that it was necessary to be under a medical advise during gestation period. Especially, the mothers-in-law and other elderly women in the family had great influence in delivery and pregnancy. They always discourage and give examples of how they had managed well their multiple pregnancies without any medical help. The nurses and the FWVs quoted the elderly women:

We did not go for ANC, we delivered hundred babies at home. These are all new rules made to use as an excuse to take the woman outside home. (FWV; rural; FGD)

The health providers of the urban area also mentioned about the role of the family that created a barrier for the woman to seek care. One of the doctors said:

Often the patient say that the reason why they could not come earlier (in case of complicated delivery, one that should have come earlier) is either their in-laws did not allow them or their husbands. But there are differences between an educated and uneducated woman. I found the educated woman to be more conscious of their health and having more power in taking decisions for themselves. (Doctor; rural; in-depth interview)

The providers pointed out another issue. The women themselves preferred a female doctor, which sometimes acted as a strong barrier to seek care. Another reason that came up several times in the study was the fear of cost for which the poor avoid coming to the hospital. The cost included transport, accommodation, drugs and supplies as well as informal fees imposed by the health staff.

4.3.10 The missing part of the essential care: Referral

One of the priorities emphasised in the safe motherhood action agenda is the a functional referral system with reliable means of communication that is needed to ensure that women with complications are taken promptly to health facilities capable of providing appropriate care (The Safe Motherhood Action Agenda: 1997)

It was found that in the rural area even if the women came to the health centre after trying at home there were problems of referral. Because the nearest health centre, which was 15 kms away only provided primary obstetric care and there was no facility of referral for the clients. The poor people usually hired rickshaw or rickshaw van to reach the facility since they could not afford an ambulance. Even though they managed to pay the cost it would be difficult to get one, as ambulances were hardly available. A FWA said:

When a labour is in progress the villagers do not want to send their women to a distance of five to eight km by a rickshaw or by a van. They fear that incidence might happen on the way. They would have felt differently if the facility were situated in a nearby place. So distance is a major obstacle in the rural areas. Some even get discouraged fearing that they might be referred to different health facilities, one after another, which is a hassle and at the same time painful and expensive. (FWV; rural; FGD)

Moreover they were not properly received at the next higher level of health facility. The providers also found it difficult to refer a patient, as the client's expectation was to get treated in the primary health care centre. Thus they became disappointed and discouraged by the uncertainty of the circumstances. As one of the FWVs said:

It becomes very difficult to refer a patient as they come in a bad condition to a primary facility where there is not even a separate labour ward and no referral facility. If they are lucky they get a trained nurse who can refer the patient, but by that time the

condition of both the baby and the mother get worse. Then only the baby or the mother could be saved or none. For the clients, both their money and lives are lost. (FWV; rural; FGD)

4.3.11 Provider's view on communicating with the clients

In terms of communicating with the patients or the companions the providers seemed very confident. Almost all of them mentioned that the patient came to them in time of pain and crisis. So they had to be co-operative to whatever the provider's think as best for them. Although it had been widely mentioned by the service seekers that the behaviour and the attitude of the health providers were often not so good and regarded this as one of the reasons of avoiding formal care service. One of the health providers of an urban health care centre mentioned that there are times when the guardians hesitate to give decisions regarding caesarean section. This delays the procedure of treatment. The FWVs mentioned:

The guardians sometimes say we do not want caesarean, if the tree survives it will bear fruit, we will accept whatever God has decided for us.
(FWV; rural; FGD)

4.3.12 Provider's view on how to improve the situation

There were many suggestions that came from the providers on how to improve the situation. In rural areas they talked about to set up a basic obstetric care centre in each union providing with one FWV or FWA, skilled enough to handle normal delivery. They said that since the FWAs were posted according to their domicile they had easy access in the community and had greater acceptance as well. One of them mentioned:

The village people will not mind to take the service in time of a delivery because they would say she is our apa (like a sister) bring the pushcart and take our bou (Village bride) to the centre, this is our health centre. (FWA; rural; FGD)

There were also suggestions to increase ANC coverage and make them aware about complications and make them understand to seek care in case of complications without any delays. The FWAs were very much confident to bring a behavioural change by motivating the people towards proper delivery practices. According to the providers the poor expected that they would get free medicines (saline, injections etc.) from the hospital. At least they would like to get an assurance that the hospital would take care of the required medicines and other necessities rather than asking them to buy from outside. The emphasis was also given in increasing staff to provide quality service to the people. Almost all the providers put emphasis in having lady doctors to increase the client flow in the hospitals.

4.4 Conclusion

This study has looked at the barriers of accessing skilled attendance at birth, particularly those related to facilities. The study has found that the kind of facilities available varies between rural and urban areas. The kind of problems faced by poor and non-poor women also vary. Antenatal care (ANC) was not a felt need, neither for poor nor for non-poor women. They consider pregnancy as a normal thing in life and thus required no special attention. It seemed, however, that demand for ANC could indeed be induced with increased supply. In urban areas, many women in slums were found to go to ANC centre but that too was for getting free medicines in NGO centres. That the poor slum women utilised the ANC services indicates that the poor-rich inequity in service utilisation could be minimised with increased and quality services. The use of ANC, for that matter for any other health need, was regulated by various considerations. An important consideration was the factor of convenience. The ANC centre which was close by (not requiring a rickshaw ride), which required less waiting time, and was accessible at the time the women are free was more preferred. The cost of transportation and service fees were also important considerations. Sometime the cost factor is overtaken by the convenience factor. For example, the Free Friday Clinic was less preferred because it was open only on a fixed day. In rural areas, this was hardly a problem as ANC services were little available. But for those who used ANC

services, the attitude of the family members was critical as many of them were not convinced about the usefulness of ANC.

It was quite interesting to find that all women, irrespective of poverty status, or residence (rural, slums, non-slums) made some preparations for their deliveries from the day they became pregnant. The following decisions and preparations are made from very early on in pregnancy.

Place of delivery (own or natal)

Person to deliver (Family member/TBA or facilities)

Blade for cutting umbilical cord, and

Save money for unforeseen expenditures at the time of delivery.

It was interesting to find that neighbours played an important role in the decision on whom to call for delivery. This was particularly true for poor women in both rural and urban areas.

The study also identified barriers to utilising formal health care facilities for urban and rural areas. The range of barriers identified in the study can be summarised in the following:

Women's own

Hesitation to share symptoms of complications with others

Sense of shame to deliver in unfamiliar environment (Particularly by poor women)

Sense of shame to deliver by male doctors (by both poor and non-poor)

Fear of death

Over-concern for family leaving, behind at home

Fear of surgery or use of equipment such as knife.

Family level

Belief that programmes is normal and not life threatening (on a misconceived notion that 'no one die in childhood')

Indecision and procrastination in seeking emergency care

Low status and value of women

Poverty

Lack of knowledge on where to get the most appropriate services.

Community level

Over dependence on TBAS.

Community not mobilised to provide money to poor women/.....at the time of emergencies

Supply related

Facilities in far away places

Lack or costly transportation

Unfriendly and irresponsible

behaviour of staff in facilities

Unaccustomed practice of delivering babies

Lack or shortage of supplies

The question of equity is important factor in accessing institutional care. As was shown in situation analysis the richest quintile accesses such facilities 15 times higher than the poorest quintile. It has been reported on a number of occasions that the poorest women are disadvantaged in this respect. An important point here in that it is not only the poor who are disadvantaged in safe motherhood. When only 12 percent receive safe care, a vast majority of the well-to-do are also deprived, even though they many have the means to pay for it.

5. Module IV: Quality of clinical care

5.1 Introduction

This part of the report provides information regarding skilled attendance at facility level. The information was extracted from the delivery records in the facility with the aim of establishing a baseline regarding the situation at the facility and track progress towards achieving skilled attendance. The information could be used for monitoring purposes to fulfil all the different components of skilled attendance i.e. equipments, drugs, health professional.

5.2 Methodology

5.2.1 Data Source

Data collection carried out in April 2002. Data were mainly collected from the last 6 month's case reports (October 2001 to March 2002) of District Hospital (DH) and Govt. MCWC of Kurigram district. Thus the study dealt with 300 case reports of the facilities. At DH cases were extracted from case notes of the patients but in Govt. MCWC cases were extracted from the case notes and from the delivery book, admission book and operation book of the facility.

5.2.2 Description of the study facilities

Kurigram DH was a 100 beds hospital. It comprised of Outdoor, Emergency services, ANC services, Immunisation services, Operation Theatre, Department of Medicine, Surgery and Gynae and Obstetrics, Eye, ENT and Paediatrics. The service providers were Specialists, Medical Officers, FWVs, Ayas (attendants), Brothers and Sweepers. Female patients of all departments were found to stay in one room. There was no privacy, for the patients who were in labour. A small space in the ward covered by the curtain, was considered as the labour room. Informal discussion with the staff in DH

revealed that there was shortage of manpower in proportion to number of patients. However, two FWVs were found to look after 60 to 70 patients of all departments. There was no special arrangement for critical patients. The FWVs in DH were found overburdened. Often they had to work more than eight hours in a day. They were found to conduct deliveries and cleaning also as often the Ayas (Attendants) were not available. It was noted that sometimes the FWV who was on duty at night, had to continue their work next morning.

The doctors in DH were found to come to the hospital in the morning and remained in their work up to two pm. Usually they were not found to come for their evening round unless there was any emergency. The FWVs were considered to be skilled enough to take care of the patients. One upon a time there was an ambulance in DH but for many years it was out of order. Therefore the referred patients had to arrange transport on their own.

The situation in Govt. MCWC situation was somewhat different from DH. Govt. MCWC provided only obstetric services and it included out-door, emergency, ANC, immunisation and MR services. Additionally counselling was given to the women about nutrition, family planning, breast-feeding, immunisation, and ANC. In Govt. MCWC the service provides were a medical officer (MO), an anaesthetist and three FWVs. Other service staff were Ayas (Attendants) and guards. However shortage of manpower also existed in this facility. The normal deliveries were mainly conducted by the FWVs. The MO dealt with the complicated deliveries only.

The condition of post-operative room was not satisfactory. As some of the patients, who had undergone C/S, suffered from wound infection, sterilisation was not proper in the facility.

5.2.3 Field operations and lesson learnt

Data collection was started after taking a written permission from the Civil Surgeon (CS) of Kurigram District. The researchers were introduced with the doctors and other

officials in the facilities. While going through the cases considering the reality the patients were categorised into four groups. These were: I. Discharged with advice (D and A), II. Discharged on request (DOR), III. Discharged on request and bond (DORB), and IV. Absconded. In the study it was found that in DH D with A was 65% whereas it was 80% at MCWC. DOR was 4% at DH but in MCWC there was none. In DH DORB was 14% and it was 20% at MCWC. Absconded was 17% at DH on the contrary there was none in MCWC.

During data collection no record of death was found in the last six months case reports. Through informal discussion with the staff members the fact revealed that the both of the facilities usually did not receive severe complicated delivery cases and referred them to Rangpur Medical College Hospital. Sometimes the death cases were recorded as absconded cases as well.

However, the study revealed that recording of information the facilities was poor and most of the relevant information regarding delivery was not recorded at all. In this regard the providers informed that due to shortage of manpower they were not able to record all the measures, which had been taken to deal with the cases.

5.3 Results

5.3.1 Woman's characteristics

Table 22 m presents the characteristics of the women of the case reports. The study revealed that majority of the women (37%) from age group of 20 to 24 years went to the facilities. Number of previous deliveries was not recorded in 87% cases at DH and data showed that 5% of the primi mothers went to DH for delivery whereas 61% of the primi mothers delivered at Govt. MCWC. In both facilities no record was found about maternal complication in previous pregnancy and history of complication prior to admission. However, gestation at admission was 32% recorded at DH on the contrary it was 97% at Govt. MCWC.

Although there was record about presenting complaints in both facilities, but only 7% cases had record regarding presentation of foetus at DH and at Govt. MCWC it was 41%. Actually condition of woman on admission was recorded in both facilities except 2% found unconscious at DH and 1% found good at MCWC. However, admission diagnosis was recorded in both facilities.

Table 22. Characteristics of women in the case notes.

Background characteristics	District Hospital (DH) %	Govt. MCWC %
Age		
15 - 19	19	19
20 - 24	37	37
25 - 29	24	24
30 - 34	13	13
35 - 39	7	7
No. of previous deliveries excluding current delivery		
0	5	61
1 - 3	6	31
4 - 10	3	4
Not recorded	87	4
Maternal complication in previous pregnancies	100% not recorded	100% not recorded
History of complication prior to admission	100% not recorded	100% not recorded
Gestation at admission		
Recorded	32	97
Not recorded	68	3
Presentation of foetus		
Recorded	7	59
Not recorded	93	41
Presenting complaint	100% recorded	100% recorded
Condition of woman on admission		
Good	-	1
Unconscious	2	-
Not recorded	98	99
Admission diagnosis/impression	100% recorded	100% recorded

5.3.2 Information about index delivery

In Govt. MCWC 80% of the patients of term pregnancy were admitted. Data showed that NVD (Normal Vaginal Delivery) was 69% at MCWC and was only 1% at DH. It indicated that DH dealt mainly with the complicated patients.

In terms of attendants at delivery Table 23 showed that most of the deliveries were attended by the FWVs. In most cases they conducted the delivery as well. However, no record was found at DH regarding the issue.

Table 23. Information about index delivery.

Background characteristics	District Hospital (DH) %	Govt. MCWC %
Attendants at delivery		
FWV	-	79
Specialist Obstetrician	1	-
Not recorded	99	21
Person who conducted delivery of baby		
FWV	-	69
Medical Officer	-	7
Specialist Obstetrician	1	-
Not recorded	99	24

5.3.3 Clinical status of woman at start of labour

Table 24 in the following shows that most of the information regarding clinical status of woman at start of labour i.e. pulse, temperature, most recent haemoglobin level was recorded in the case reports at DH. However, MCWC had some records but to some extent it was not compatible with the condition of the women. For e.g. in the case notes temperature was recorded 98°F, which was not consistent with the diagnosis like Puerperal Sepsis or Puerperal Ptrexia.

5.3.4 Information about progress of labour

Per-vaginal examination was recorded only 3% at DH and 36% at MCWC. Cervical dilatation was found to be recorded in fingers. One finger was equal to 1.5 cm.

However, it was 100% recorded at DH and 92% recorded at MCWC. Presenting part was not at all recorded at DH whereas it was recorded 26% at MCWC. Partogram was not available at DH and was available but not filled up at MCWC. Oxytocin was administered when necessary in both facilities.

Table 24. Clinical status of woman at start of labour.

Background characteristics	District Hospital (DH) %	Govt. MCWC %
Temperature		
Recorded	-	79
Not recorded	100	21
Pulse		
Recorded	1	92
Not recorded	99	8
Blood Pressure		
Recorded	96	6
Not recorded	4	95
Most recent haemoglobin level		
Recorded	1	1
Not recorded	99	99
Date most recent haemoglobin level		
Recorded	-	-
Not recorded	100	100

5.3.5 Information about just after delivery

Table 25 presents that most of the essential information about just after delivery was not recorded in DH. For instance, information regarding APGAR score of baby at 1 minute, total estimated blood loss, person who conducted delivery of placenta was 100% not recorded in the case reports of DH. However case reports in MCWC had some information regarding the issues. Nevertheless, time between delivery of baby and Placenta were not recorded in both facilities, which are very important to diagnose Retained Placenta.

5.3.6 Information about immediate postpartum period

Lack of information about immediate postpartum period in DH (Table 26) indicated that either no proper follow up was given or just after delivery patients were absconded

or discharged on request and bond. However some case reports in MCWC contained the information about immediate postpartum period (Table 15).

Table 25. Information about just after delivery.

Background characteristics	District Hospital (DH) %	Govt. MCWC %
APGAR score of baby at 1 minute		
Recorded	-	70
Not recorded	100	30
Time between delivery of baby and Placenta	-	-
Person who conducted delivery of Placenta		
Recorded	-	74
Not recorded	100	26
Total estimated blood loss		
Recorded	-	72
Not recorded	100	28

Table 26. Information about immediate postpartum period.

Background characteristics	District Hospital (DH) %	Govt. MCWC %
Temperature		
Recorded	-	44
Not recorded	100	56
Pulse		
Recorded	-	43
Not recorded	100	57
Blood Pressure		
Recorded	1	43
Not recorded	99	57

5.3.7 Complications and referral

According to the case reports in both facilities documents related to complication and referral status were maintained. Nevertheless, in most cases no order was found for doing investigation during complication. In some cases where investigations were done inconsistency was found in some issues. For instance, in case of Per-vaginal (P/V) bleeding, haemoglobin percentage (Hb%) was done rarely, blood group was done but cross match was not done in some cases. Urine albumin and sugar were not done also in both facilities for the patients of eclampsia and of diabetes respectively.

5.3.8 Information during complication

A) General Intervention:

The case reports revealed that management plan was good in both facilities especially for the patients of eclampsia. Intravenous Fluid (I/V) was infused when needed and blood was transfused in some cases. Urinary catheter, Antihypertensives, Magnesium sulphate were used when needed. Antibiotics were used routinely in both facilities. Other interventions were also given.

B) Operative Intervention:

It was found that MCWC maintained operation notes and an operation register but no operation note was maintained at DH. In cases of removal of placenta, no note was found regarding the place at DH.

C) Monitoring: First two hours

Table 27 shows that case reports in DH did not contained information regarding monitoring first two hours after complication whereas in some cases MCWC has records regarding the issue. However, clearly in the Table tendon reflexes was also not recorded in both facilities, which was very important for the patients of Eclampsia. No urine output chart was maintained. Fluid balance/input-output chart was 100% not recorded at DH and 74% not recorded at MCWC.

Table 27: Monitoring: First two hours.

Background characteristics	District Hospital (DH) %	Govt. MCWC %
Temperature		
Recorded	-	68
Not recorded	100	32
Pulse		
Recorded	4	91
Not recorded	96	9
Blood Pressure		
Recorded	25	97
Not recorded	75	3
Respiratory rate		
Recorded	-	94
Not recorded	100	6
Tendon reflexes		
Recorded	-	-
Not recorded	100	100

5.3.9 Discharge diagnosis

The study found that discharge diagnosis was not recorded at all in both facilities. It was mentioned earlier that no record of death was in both facilities.

5.3.10 Condition of the baby

The study revealed that baby note was well maintained at MCWC, on the contrary DH did not have proper baby note in most of the cases. Condition of baby on discharge of mother was mostly recorded as good (67% at DH and 50% at MCWC). Stillbirth was 7% at DH and was 5% at MCWC. Neonatal death was 1% at DH and was none at MCWC. Abnormal baby was 1% at DH.

5.4 Conclusion

This component of the SDT made an attempt to assess the quality of clinical care at the facilities. Two facilities were selected for this purpose in Kurigram District where the need assessment study was done. In the study information were extracted from 300 case reports of DH and Govt. MCWC. 155 cases were dealt with in DH and 145 cases in MCWC. Among the cases 43% were complicated and 57% were uncomplicated. The delivery records clearly reflected poor record keeping system in the facility. The limited availability of environmental factor like manpower were likely responsible for poor care records in the facility. Nevertheless, situation at Govt. MCWC, the obstetric service focused facility was found as better. The study design did not allow for crosschecking of data for further validation of the actual care provided in the facilities. In the study, the care that was not recorded in the delivery records was considered as not done in case of respective patient. Therefore, skilled attendance at facility level was fully measured on the basis of the information provided by the delivery records of the facilities. Study results indicated that situation regarding skilled attendance was not satisfactory during labour, delivery and postpartum period at the facility level. Nevertheless, it was found that management plan was good in DH in dealing with complicated cases like eclampsia.

6. Module V: Synthesis

6.1 Introduction

In order to synthesise the issues and the problems identified in previous modules a synthesis workshop was done as a final part of the SDT. In this workshop an effort was made to develop different strategy options to improve the proportion of skilled attendance at delivery. Through problem tree exercise the problems were analysed and the fundamental causes were tried to reveal from key players' point of view.

6.2 Methodology

6.2.1 Process of the workshop

With the assistance of the steering group members the participants for the workshop were listed down. Priority was given to the persons who were interviewed in problem identification module. Thus twenty participants from different background i.e. programme planners, managers, researchers, and healthcare providers were invited to attend a half-day workshop. Initially it was planned to organise three working groups to develop strategy options from the identified problem but due to the Ramadan people did not want to stay longer and instead of working in three working group they worked as one working group. However in the workshop after the welcome session the findings from the previous modules were presented. Followed by a discussion was held on the SDT and the study findings. Afterwards the main problems and the possible strategy options were discussed.

6.2.2 Lessons learnt

During the workshop critical attitude of the Government people emerged. They raised the question in course of discussion that why the issue was being discussed several

times as the government had already a strategy in place regarding increasing the proportion deliveries with skilled attendance. However it was confirmed that the purpose of the workshop was not criticise the strategy but to look at how the situation may improve and identify outstanding issues.

However, the discussion was focused mainly on 'skilled attendant' rather than 'skilled attendance'. Key areas of change were focused on the skilled attendant and approached from a providers' perspective.

6.3 Results

6.3.1 Issue raised

The key players opined that similar to other relevant study quality of care is a major issue coming from the safe study in Bangladesh. Women were unwilling to go the facility, as they were not cared for. In fact there was a difference between skilled care and quality of care. There were people in the facility who were skilled enough but did not provide quality care.

They further pointed that poverty and the cost were the key factors here. The BMMS survey referred in the session to look at difference in costs of normal delivery. It was also asked whether SAFE study had explored cost from patients' perspective but the costing element was for the SDT.

It was also discussed that the study highlighted that there was a gap in perception between women and the formal healthcare providers regarding skilled attendant and the study indicated the reason of choosing *dais* (TBA) at delivery. However it was felt that it might be useful to consider when the new cadre in promoting skilled attendants would be introducing in the community.

During discussion the issue regarding the definition of "skilled" was raised. It was agreed upon that WHO definition of skilled attendant would be adopted. This may help

to avoid the situation where the trained TBA could do some of the required function but did not have all required skills.

6.3.2 Problems and strategy options

After discussion of general issues meeting tended to move towards possible strategies by identifying most important factors. The problems were categorised as immediate and underlying. The following problems were identified at the workshop.

Skilled people not available (I)*

Poverty (U)*

Women's status (U)

Quality of care in the facility (I)

Transport (I)

Supplies (I)

Accountability/regulation (I)

Community/ family awareness (I/U)

Affordability (U)

Referral problem (I)

Utilisation of available services (U)

Gap between women's perception and professional perception (U)

*I= Immediate, *U= Underlying.

The possible strategies identified at the workshop are given in the following.

I. Increase pool of SBA (skilled birth attendant)¹¹ and government, non-government and private sector should be included here. The following criteria are required for SBA.

Level of education.

Skilled based training.

Registration.

(Training institutions, training personnel monitoring government training facilities for all including NGO and private sectors and role of nursing institute should be increased.)

¹¹ according to WHO criteria.

II. Professionalisation/ institutionalises midwifery.

Major legislative changes needed.

College of midwifery.

Types of registration.

III. Functioning systems.

Logistics.

Monitoring and supervision.

MIS.

Placement and retention.

Recruitment.

Regulation: institutional fees.

Subsidy/ safety net.

IV. Community education/motivation.

Information.

Community support for women and birth attendants.

Security: status.

Acceptability.

Accountability.

Transport.

Birth planning: motivation.

6.4 Conclusion

The key problems *from the* synthesis denoted some solutions to fulfill certain objectives. These can be stated as follows:

Goal: Reduce maternal mortality and morbidity.

Purpose: Increase appropriate utilisation of skilled attendance.

Objectives: 1. Strengthen motivational activities in the community to use formal delivery care services.

2. Strengthen possibilities of reaching appropriate formal delivery care.

3. Improve quality of clinical care in the facilities.

In order to fulfil the purpose more comprehensively the objectives were combined to develop a strategy option, which included motivational activities in the community to initiatives for improving the quality of care in the facilities. The strategy option addressed the broader context of the Government's national strategy for maternal health in Bangladesh. On the basis of this strategy option a three-year demonstration project was proposed (please see Annex 7 for detail proposal).

7. Module VI: Costing

7.1 Introduction

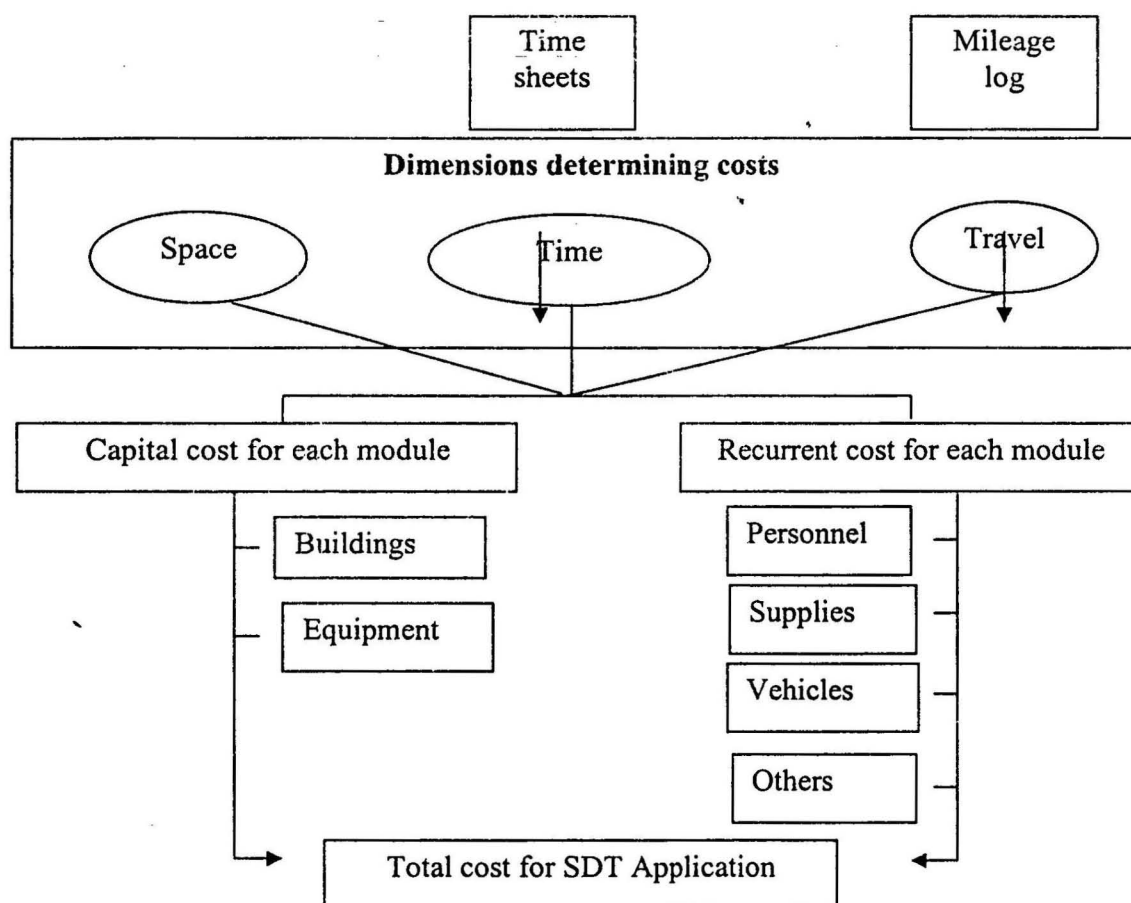
One of the components of the SDT was costing. The aim of the costing component was to establish the research costs of generating evidence based strategies to increase skilled attendance at delivery. The costing exercise was done with the following objectives.

- To identify and record all the resources used in applying each individual component of the SDT. This would enable other organisations to identify the resources required for applying the tool in their local situation in Bangladesh.
- To collect cost data on all the resources used in applying each individual component of the SDT in Bangladesh.
- To record the process of collecting data on resource use and costs.

7.2 Methodology

During data collection data on different resources measures including capital and recurrent inputs required for applying the SDT was collected through several spreadsheets provided by the DBC, University of Aberdeen in Microsoft Excel format. The relationship between the spreadsheets with the costing tool is given in figure 5. In the report it should be noted that cost to the needs assessment component was not included in the main costing exercise. Because in Bangladesh needs assessment was done during the pilot phase and understandably took some extra time than the estimated period of the SDT. Besides it was suggested that retrospective estimates of the cost of the components carries out in the pilot phase needed not to be included. Still as some extra work i.e. printing and circulation report, etc. was done during the application of the SDT the cost to only that part was considered. Similar point is applicable for the situation analysis (a) component as some literature review was done during the needs assessment.

Figure 10: Relationship between spreadsheets and costing tools



7.3 Results

In Bangladesh the required resources (inputs) in applying the SDT were given in Figure 1. These are personnel, building, equipment, vehicles, supplies and others i.e. postage, Internet. In order to allocate costs to different components of the SDT some dimensions were considered as a basis. For example in allocating the cost of personnel, time worked was considered as a factor. The allocated cost of different inputs to the components of the SDT is given in the following.

7.3.1 Personnel

In applying the SDT in Bangladesh five persons were involved. Among them the senior medical officer worked on honorary basis. Table 28 shows time spent for each

person in different components of the SDT. According to the spreadsheet the research fellow was involved almost five months (4.81 months) in the project where as the research assistant was involved about four months (4.17 months). The involvement of the senior medical officer, the coder and the data entry clerk in the project was 1.11, 0.69, 0.83 months respectively. In terms of proportion of time spent in different components of the SDT, the table shows that the research fellow spent more time for problem identification module (0.26) and the research assistant was mainly involved in monitoring system (0.55). The research fellow was also involved in other activities like administrative work for which 0.02 proportion of her time was spent. The senior medical officer spent all of his time for interpretive guideline and the coder and the data entry clerk was involved for monitoring system. Table 29 in the following gives an idea of total estimated staff time allocation to each SDT components including costing.

Table 30 in the following shows the actual and equivalent costs of each person involved in the project. According to the table total cost to SDT for monthly salary was 234531.83 TK. Table 31 gives a scenario of allocation of personnel cost to several components of the SDT.

Table 28. Time spent for each person in different components of the SDT.

SDT component	Total hours worked on SDT					Hours as a proportion of SDT total				
	RF	RA	SMO	CO	DEC	RF	RA	SMO	CO	DEC
Problem Identification	213	129	0	0	0	0.26	0.18	0.00	0.00	0.00
SA- (a)	199	169	0	0	0	0.24	0.23	0.00	0.00	0.00
SA- (b)	54	0	192	0	0	0.06	0.00	1.00	0.00	0.00
Needs assessment	18	0	0	0	0	0.02	0.00	0.00	0.00	0.00
Monitoring System	151	394	0	120	144	0.18	0.55	0.00	1.00	1.00
Synthesis	179	30	0	0	0	0.21	0.04	0.00	0.00	0.00
Other	19	0	0	0	0	0.02	0.00	0.00	0.00	0.00
SDT Costing component	51	0	0	0	0	-	-	-	-	-
SDT Total (excluding costing)	833	722	192	120	144	-	-	-	-	-
Time worked on SDT in months	4.81	4.17	1.11	0.69	0.83	-	-	-	-	-

RF: Research Fellow; RA: Research Assistant; SMO: Senior Medical Officer; CO: Coder; DEC: Data Entry Clerk.

Table 29: Time allocation to each SDT components.

SDT component	Time worked in hours
Problem Identification	342
SA- (a) Review	368
SA- (b) Interpretive Guidelines	246
Needs assessment	18
Monitoring System	809
Synthesis	209
Other	19
SDT Costing component	51
SDT Total (excluding costing)	2011

Table 30: The actual and equivalent costs of each person involved in the project.

Skill level or (salary grade)	Paid by	Gross monthly salary	Monthly allowance	Total monthly cost	Time worked on SDT (months)	Cost to SDT
Research fellow	Organisation	21150	2350	23500	4.81	112944.26
Research assistant	Organisation	17100	1900	19000	4.17	79148.40
Senior medical officer	Organisation	27000	3000	30000	1.11	33300.00
Coder	Organisation	6000		6000	0.69	4154.17
Data entry clerk	Organisation	6000		6000	0.83	4958.00
Total						234531.83

Table 31: Allocation of personnel cost to SDT components.

Position	Cost to SDT	Cost allocation						
		PI	SA (a)	SA (b)	NA	MS	SYN	Others
Research fellow	112944.26	28880.11	26981.88	7321.72	2440.57	20473.69	24270.14	2576.16
Research assistant	79148.40	14141.47	18526.43	0.00	0.00	43191.78	3288.71	0.00
Senior medical officer	33300.00	0.00	0.00	33300.00	0.00	0.00	0.00	0.00
Coder	4154.17	0.00	0.00	0.00	0.00	4154.17	0.00	0.00
Data entry clerk	4958.00	0.00	0.00	0.00	0.00	4985.00	0.00	0.00
Total	234531.83	43021.58	45508.31	40621.72	2440.57	72809.64	27558.85	2576.16

7.3.2 Buildings

In order to calculate the cost for building as capital cost usual market rent was considered. It was suggested that as the Research and Evaluation Division (RED) was located in the BRAC Centre, which was a very luxurious building the rent would be higher than the usual. Therefore to get a general view, here the source of cost estimate was the usual market rent. It was estimated that the monthly cost for a 1400 sq.ft office for the project would be 50000 TK. including utilities, furniture and maintenance. Thus the total cost to the SDT was allocated among the components. In tabulating results time was considered. A month was converted in 720 hours and the total building cost was allocated to each component according to the hours used for that particular component. For example 342 hours were spent for the problem identification component therefore the building cost allocated to that component was 23750 TK. However, Table 32 provides a view of the building cost and the allocation of cost to several components of the SDT. According to the estimate total building cost to the SDT (5 months) was 250000 TK.

Table 32: Building cost and the allocation of cost to several SDT components.

Monthly cost estimate	Time used (months)	Total cost allocated to the SDT	Cost allocation						
			PI	SA (a)	SA (b)	NA	MS	SYN	Others
50000	5	250000	23750	25555.55	17083.33	1250	56180.55	14513.88	1319.44
Total	5	250000	23750	25555.55	17083.33	1250	56180.55	14513.88	1319.44

7.3.3 Equipment

Table 33 shows the cost of capital equipments those were used in application of the SDT. During the period of application of the SDT three computers, three printers were used exclusively for the project. These were owned by the organisation. In calculating the cost of the equipments dealer estimate was considered. The cost of each piece of equipment allocated to the SDT further divided proportionately to the individual components. The photocopy machine was also owned by the organisation and it was

shared with the other projects of RED. In estimating the cost for photocopy the bill provided by the RED management to the project was taken into consideration. However the total annual cost of the equipments was 43560 TK. Thus cost to several equipments was: Computer (3): 11000 TK; Printer (3): 3566.65 TK; and Photocopy: 3583.35 TK. The total costs to the SDT in Bangladesh for equipment purpose was 18150 TK. Similar to building cost the total cost to the SDT (5 months) was proportionately allocated to the components.

Table 33: Equipment cost and the allocation of cost to several SDT components.

Equipment	Cost to SDT	Allocation of costs						
		PI	SA (a)	SA (b)	NA	MS	SYN	Others
Computer	11000	1045	1124.44	751	55	2471.94	638.61	58.05
Printer	3566.65	338.83	364.59	243.72	17.83	801.50	207.06	18.82
Photocopier	3583.35	340.41	366.29	244.86	17.91	805.25	208.03	18.91
Total	18150	1724.24	1855.32	1240.24	90.74	4078.69	1053.70	95.78

7.3.4 Vehicles

During application of the SDT rented vehicles were used. According to the suggestion in the costing manual mileage log sheets were tried to be maintained while travelling for different components of the SDT. Mileage was recorded in kilometres. It should be noted that in applying the SDT mileage may vary in terms of selecting study area. During the application of the SDT data for monitoring system was collected from Kurigram district which is almost 400 km away from Dhaka and some data for problem identification component was also collected from places like extreme north of the country. Therefore the total mileage during the application of the SDT increased which eventually affected the vehicle cost. However the rent value of the vehicle for each trip comprised the cost for fuel, driver and depreciation of the vehicle. Table 34 in the following shows the mileage summary and vehicle cost to the SDT components. According to the table during the application of the SDT 3497 km was travelled in total and the amount of rent was 59493 TK.

Table 34: Mileage summary and vehicle costs to several SDT components

SDT Component	Kilometres	Rent Cost	Total Cost
Problem Identification	1378	32860	32860
SA- (a) Review	87	319	319
Monitoring System	1932	25999	25999
Synthesis	100	315	315
SDT Total (excluding costing)	3497	59493	59493

7.3.5 Supplies and others

The cost of office supplies used during application of the SDT is given in Table 35. The Table shows that the total cost of office supplies to the SDT was 20310 TK. Allocation of costs of office supplies to several components of the SDT is given in Table 36. According to the Table the proportion for the monitoring system was the highest in this regard. The cost to monitoring system component for this purpose was 8176.46 TK.

Table 35 : Cost of office supplies to the SDT

Supplies	Units consumed	Unit cost	Total cost to SDT
Pens	30	5	150
Pencils	15	12	180
Rulers	2	25	50
Markers	4	45	180
Note books	20	10	200
Clip boards	4	20	80
Diskettes	20	50	1000
File bags	4	20	80
Stapler	2	40	80
Paper	1000	0.05	500
Transparencies	30	2	60
Erasers	5	5	25
Printer cartridges	10	1100	11000
Photocopy toner	4	1100	4400
Tape recorder	1	1500	1500
Micro cassette	15	55	825
Total			20310

Table 36: Cost of office supplies to the SDT and the allocation of cost to SDT components

Cost to SDT	Allocation of costs						
	PI	SA (a)	SA (b)	NA	MS.	SYN	Others
20310	3454.01	3716.60	2484.47	181.79	8170.46	2110.79	191.89

Other recurrent costs like Internet, communication, field per diem were also calculated during the application of the SDT. Table 37 provides a view of the total cost to the SDT in this regard and the allocation to the components. The total calculated cost in this regard was 219920 TK. In allocating the cost to the components the actual cost for the particular component was considered.

Table 37: Communications and others cost and the allocation of cost to several SDT components

List	Cost to SDT	Allocation of costs						
		PI	SA (a)	SA (b)	NA	MS	SYN	Others
Meeting venue costs	40000	6000	6000	6000	6000		10000	6000
Refreshments for meetings	20000	-	-	-	-	-	18000	2000
Field visit Per diem	129920	40600	-	-	-	89320	-	-
Phone/fax bills	5000	2000	1000	-	-	500	1500	-
Internet costs	5000	1000	1500	1000	-	-	1000	-
Total	219920	53600	10500	7000	10000	94820	36000	8000

7.4 Summary of the project cost

Table 26 in the following shows the summary of the project cost. The final tabulation revealed that total capital cost of the application of the SDT was 268150 TK. and total recurrent cost was 534188.15 TK. Therefore the overall cost to the SDT was 802338.15 TK. (Approx. 13833 USD). In terms of allocating the total cost to each components, the results was as follows:

Problem identification:	158409.83 TK.
Situation Analysis (a):	87454.78 TK.
Situation Analysis (b):	68363.08 TK.
Needs assessment:	13963.10 TK.
Monitoring system:	262053.34 TK.
Synthesis:	81552.22 TK.
Others:	12183.27 TK.

Table 38: Summary of the project cost.

Cost category	Overall cost to SDT	Problem Identification	Situation Analysis (a)	Situation Analysis (b)	Needs Assessment	Monitoring System	Synthesis	Others
Capital:								
Buildings	250000.00	23750.00	25555.55	17083.33	1250.00	56180.55	14513.88	1319.44
Equipment	18150.00	1724.24	1855.32	1240.24	90.74	4078.69	1053.70	95.78
Total	268150.00	25474.24	27410.87	18323.57	1340.74	60259.24	15567.58	1415.22
Recurrent:								
Supplies	20310.00	3454.01	3716.60	2484.47	181.79	8170.46	2110.79	191.89
Personnel	234465.15	43021.58	45508.31	40555.04	2440.57	72804.64	27558.85	2576.16
Vehicles	59493.00	32860.00	319.00	-	-	25999.00	315.00	-
Others	219920.00	53600.00	10500.00	7000.00	10000.00	94820.00	36000.00	8000.00
Total	534188.15	132935.59	60043.91	50039.51	12622.36	201794.10	65984.64	10768.05
Total cost	802338.15	158409.83	87454.78	68363.08	13963.10	262053.34	81552.22	12183.27

References

- Abouzahr C, Wardlaw T. (2001). Maternal mortality at the end of a decade: sign of progress?, *Bull World Health Organ* 79(6): 561-73.
- Afsana K, Rashid SF. (2001). The challenges of meeting rural Bangladeshi women's needs in delivery care. *Reproductive Health Matters* 9. November 2001.
- Afsana K, Rashid SF. (2000). Discoursing birthing care: experiences from Bangladesh. Dhaka: The University Press Limited. 128p.
- Ahmed SM et al. (1999). Use of a sub-district hospital for management of obstetric complication in rural Bangladesh. Dhaka: ICDDR,B.
- Ahmed SM et al. (2001). Revisiting Health of population: Agenda for the future. Paper presented at Bangladesh Social and Economic Forum 2001, Dhaka, 3-5 May, 2001.
- Akhter HH et al. (1995). Review of performance of trained TBAs. Dhaka: BIRPERHT.
- Aziz KMA, Maloney C. (1985). Life stages, gender and fertility in Bangladesh. Dhaka: ICDDR,B.
- Bangladesh Demographic and Health Survey (BDHS) (1997). Dhaka: NIPORT, Mitra and Associates, and Macro International Inc.
- Bangladesh Demographic and Health Survey (BDHS) (2001). Dhaka: NIPORT, Mitra and Associates, and Macro International Inc.
- Barkat A. et al. (1995). Knowledge, attitude, perceptions and practices relevant to the utilisation of emergency obstetric care services in Bangladesh: a formative study. Dhaka: UNICEF Bangladesh, and University Research. (Bangladesh)
- Barkat A. et al. (1998). Maternal mortality and morbidity in Bangladesh: situation analysis, lessons learned and future strategies. Inter-regional Workshop on South-South Collaboration on the Reduction of Maternal Mortality and Morbidity. Partners in Population and Development and Care International, Harare, Zimbabwe, October 5-9 1998.
- Bhatia S. (1981). Traditional childbirth practices: implications for a rural MCH programme. *Stud Fam Plann* 12;2: 66-75.
- Bhuiya AB, Bullough CHW. (1995). Obstetric skills at district and sub-district hospitals. *Trop Doct* 25: 30-3.
- Blanchet T. (1988). Maternal mortality an Bangladesh: an anthropological assessment. Dhaka: NORAD.
- Blanchet T. (1984). Women, pollution and marginality: meanings and rituals of birth in rural Bangladesh. Dhaka: The University Press Limited.
- Blanchet T. (1999). Women's reproductive health: problems and issues in greater Sylhet.
- BRAC. (2001). Challenging the frontiers of poverty reduction: targeting the ultra poor, targeting social constraints, Dhaka.

- Bulatao RA and Ross JA. (2002). Rating maternal and neonatal health services in developing countries. Bull WHO 80(9): 721-727.
- Caldwell JC, Caldwell P. (1992). What does the Matlab fertility experience really show? Stud Fam Plann 23(5):292-310.
- Chambers R. (1992). Rural appraisal: rapid, relaxed and participatory. (IDS discussion paper 311), IDS,UK.
- Chowdhury AMR, Chowdhury S. (1998). An analysis of pregnancy cards in Bangladesh. In: Cash R, Chowdhury S (Editors). Implementing women's health programs in Bangladesh. Dhaka: BRAC.
- Chowdhury AMR et al. (1999). Hope not complacency: state of primary education in Bangladesh. Dhaka: The University Press Limited.
- Chowdhury AMR et al. (2002). Skilled attendance at delivery in Bangladesh: an ethnographic study. Research Monograph Series No. 22. Dhaka: BRAC Research and Evaluation Division.
- Chowdhury AMR et al. (1998). Effectiveness of antenatal risk screening: a preliminary analysis of pregnancy records from BRAC's Women's Health Program. In: Chowdhury SA, Cash R, editors. Implementing Women's Health Programs in the community: The Bangladesh Experience. Proceedings of the workshop; 1997 December 13-15; Dhaka, Bangladesh.p. 94-101.
- Donnay F. (2000). Maternal survival in developing countries: what has been done, what can be achieve in the next decade. Gynaecol Obstet 70: 89-97.
- Dugald Baird Centre (2002). A manual to cost the application of the strategy development tool. Aberdeen: University of Aberdeen.
- Dugald Baird Centre. (1999). Strategies to improve the proportion of deliveries with skilled attendants in developing countries. Aberdeen: University of Aberdeen.
- Dugald Baird Centre. (2000). Advisory Board Meeting Outputs: International Research Partnership for SAFE. Aberdeen: University of Aberdeen.
- ESCAP/UNDP. (2002). Initiative for the achievement of Millennium Development Goals in Asia and the Pacific. Bangkok: ESCAP.
- Family Health International. (1997). The safe motherhood action agenda, New York, USA.
- Fauveau V et al. (Editor). (1994). Matlab: women, children and health. Dhaka: ICDDR,B.
- Fathallah MF. (1994). Women's health: an overview. Int J Gynaecol Obstet 46: 105-18.
- Gazi R.et al. (1998) Barriers to emergency obstetric care and birth practices in rural Manikganj. Dhaka: BRAC.
- Gill K. (1993). Situation analysis of the safe motherhood initiative in Bangladesh the World Bank Population, Health and Nutrition Department, June 1993 p5.
- Goodburn EA et al. (1994). An investigation into the nature and determinants of maternal morbidity related to delivery and the puerperium in rural Bangladesh, Dhaka: BRAC.

- Goodburn E, Campbell O. (2001). Reducing maternal mortality in the developing world: sector-wide approaches may be the key, *Br Med J* 322: 917-20.
- Goodburn EA et al. (2000). Training traditional birth attendants in clean delivery does not prevent postpartum infection. *Health Policy Plann* 15: 394-9.
- Government of Bangladesh. (1998). Bangladesh maternal health assessment, Dhaka, Ministry of Health.
- Government of Bangladesh. (1998a 22). Health and Population Sector Programme 1998-2003 HPSP Programme Implementation Plan, Part 1 MOHFW GOB, Dhaka, April 1998.
- Government of Bangladesh. (1998). National Health Policy. Dhaka.
- Government of Bangladesh. (1997). Preventing the tragedy of maternal deaths in 21 Bangladesh: a thematic photo exhibition. Bangladesh.
- Government of Bangladesh. (undated). Women's right to life and health. Dhaka, Government of Bangladesh, UNICEF and Columbia University.
- Graham WJ et al. (2001). Can skilled attendance at delivery reduce maternal mortality in developing countries? *Stud Health Services Organ Policy* 17: 97-130.
- Graham W. (1998). The scandal of the century, *Br J Obstet Gynaecol* 105: 375-6.
- Gwatkin D et al. (2000). Socio-economic differences in health, nutrition, and population in Bangladesh. Washington DC, The World Bank.
- Hussein J, Graham W. (2002). Measuring the health of the health system. Aberdeen: Dugald Baird Centre.
- Kay BJ et al. (1991). The Bangladesh Women's Health Coalition, Quality/Calidad/Qualite. New York: Population Council. No. 3.
- Khan SH, Chowdhury AMR, Karim F. (1997). Beneath the shadows of BRAC Centre: slums of Mohakhali. Dhaka: BRAC.
- Khan SH et al. (2000). Review of availability and use of emergency obstetric care services in Bangladesh. Associates for community and Population Research, Dhaka.
- Koblinsky MA et al. (1999). Organising delivery care: what works for safe motherhood?, *Bull World Health Organ* 77(5): 399-406.
- Maine D et al. (1997). The design and evaluation of maternal mortality programs. New York: Centre for Population and Family Health, Columbia University.
- Maine D, Rosenfield A. (1999). The safe motherhood initiative: Why has it stalled? *Am J Public Health* 89(4): 480-2.
- Maine D. (1990). Safe motherhood programmes: issues and options. New York: Centre for Population and Family Health, Columbia University.
- MOHFW. (1998). Health and Population Sector Programme 1998-2003, HPSP Programme Implementation Plan, Part 1. Dhaka: MOHFW, GoB.
- NIPORT. (2000). Bangladesh Demographic and Health Survey 1999-2000: Preliminary Report. Dhaka: NIPORT, Mitra and Associates and ORC-Macro International Inc.

- NIPORT (2002). Bangladesh Maternal Health Services and Maternal Mortality Survey 2001: Preliminary Report. Dhaka: National Institute of Population Research and Training.
- Papiernik E. (1995). The role of emergency obstetric care in preventing maternal deaths: an historical perspective on European figures since 1751. *Int J Obstet Gynaecol* 50 (Suppl. 2): S73-7.
- Quaiyum M. A. et al. (1999). Strategies for ensuring referral and linkage for essential obstetric care: a review. Dhaka: ICDDR,B.
- Quality of care for women in north-east Thailand: intersections of class, gender and ethnicity, *Health care for women International* 17: 435-47.
- Rosenfield A, Maine D. (1985). Maternal mortality- a neglected tragedy: where is the M in MCH? *Lancet* 2: 83-5.
- Sen B. (2000). Bangladesh poverty analysis: trends, policies and institutions. Dhaka: Bangladesh Institute of Development Studies (Unpublished).
- Safe Motherhood Strategies: a Review of the Evidence, Studies in Health Services Organisation and Policy, 17, 2001. Edited by Vincent De Brouwere and Wim Van Lerberghe. p100.
- UNICEF (2002). Women's Right to Life and Health: An update on efforts to reduce maternal deaths and disability in Bangladesh. Dhaka: UNICEF.
- UNICEF (undated). Women's Right to Life and Health: accelerating efforts to reduce maternal deaths and disability in Bangladesh (leaflet). Dhaka: UNICEF.
- UN (1999). Key actions for the further implementation of the programme of Action for the ICPD. New York, United Nations.
- UNICEF (1999). Progotir pathay, achieving the goals for children in Bangladesh, UNICEF Dhaka.
- Vanneste AM et al. (2000). Prenatal screening in Bangladesh: from prediction to care. *Health Policy Plan* 15(1): 1-10.
- Walraven, G. and Weeks, A. (1999). The role of (traditional) birth attendants with midwifery skills in the reduction of maternal mortality, *Trop Med Int Health* 4: 527-9.
- Weil, O and Fernandez, H (1999). Is safe motherhood an orphan initiative?, *Lancet*, 354: 940-3.
- West, K et al. (1999). Double blind, cluster randomised trial of low dose supplementation with vit A or B-carotene on mortality related to pregnancy in Nepal. *Br Med J* 318: 570-5.
- Whittaker A. (1996). Quality of care for women in north-east Thailand: interactions of Class, gender, and ethnicity. *Health Care for Women International*. 17:435-47.
- WHO.(1993). Indicators to monitor maternal health goals. Reports of Technical Working Group WHO/FHE/MSM/94.14. Geneva: World Health Organisation.
- WHO.(1991). Maternal mortality: a global fact book, Geneva, WHO.
- WHO. (1994c). The mother baby package; implementing safe motherhood in developing countries, Document FRH/MSM/94.11. Geneva.

- WHO. (1985). Traditional birth practices:an annnotated bibliography. Document WHO/MCH/85.11. Geneva: WHO.
- WHO. (2000). Making pregnancy safer: Report by the secretariat. Available from: URL: http://www.who.int/gb/EB_WHA/PDF/EB_107/ee26.pdf. (accessed on 16 October 2002).
- Zaman, S. (2001). Life in a health centre: an ethnography from rural Bangladesh, Dhaka, BRAC, Research Monograph Series 19.

Annex 1. Interview schedule used in the field work.

A. Interview/focus group questions for women of reproductive age.

Background information of interviewee

1. How old are you?
2. What is your level of educational attainment? (illiterate/literate/years of schooling)
3. How many deliveries have you had?
4. Can you describe the type of delivery/deliveries you had. Please choose between the categories 'normal', 'a bit complicated' or 'very complicated'.
5. Where have your deliveries taken places? (your own home; health centre; hospital; other)
6. Are you involved in any income generating activities?

Significance of antenatal care, access and quality

1. When you discovered you were pregnant, were there any worries or concerns you had? (prompts: your own health; your baby's health).
2. With whom did you talk about your pregnancy? (prompts: what did you talk about? How did they respond?)
3. Did you try to get any health related help during your pregnancy? (prompts: from whom? What kind of help? Any plan to receive care during pregnancy? Benefiting baby? Mother? Both? Family?)

If help (formal or informal) was sought:

1. What did you have to do to access this [help – use terms used by women in previous answer]?
2. Were you satisfied with the [help]? (prompts: Why (not)? Would you recommend it to your friends? Why (not)?)

If support/care was not sought:

1. Why did you not seek any help?

Normal delivery care, access and quality

1. When were you thinking about the delivery for the first time? (prompts: beginning/middle/end of pregnancy? What aspect/s of the delivery were you thinking about? Health of baby, mother or both? Skills of birth attendant)
2. Did you make any plans for your care at delivery?
3. Did you talk about your delivery with anyone during your pregnancy? (prompts: what aspect/s of the delivery? With whom? What did they say? Were you/they concerned about the health of baby? Mother? Both?)
What happened in the hours before the delivery? (prompts:- was a delivery care service sought? What kind? When was this decided? Who decided? Would there have been other care options for you? Which ones?)

If delivery care service (formal or informal) was sought:

1. Were you satisfied with your delivery care? (prompts: Why (not)? Do you think you suffered unnecessarily? What could be improved? How?)
2. What skills are important for a birth attendant to have?

If delivery care service was not sought:

1. Why not?

Emergency delivery care, access and quality

(Reference here either to participant's own experience if relevant, to a case she knows about, or a theoretical case)

1. When it became clear that the delivery would not be easy, were there any choices discussed of what could be done next? (prompt: people involved in decision-making; preferred type of care by woman/decision-makers)
2. What happened in reality? (prompt: type of service accessed? How was it accessed? Was it a 'good' service? Why (not)?)
3. Do you think you suffered unnecessarily? (prompt: what could have been done to help you better?)
4. If the same happened to you again, what kind of delivery care service would you prefer to have? (prompt: Why? Are there services you would try to avoid? Why?)
5. Could there be difficulties in accessing your preferred service? (prompt: costs; transport; view of service by other community members; can anything be done about these difficulties?)

Post-partum care

1. After a delivery, would you have any health related concerns? (prompt: what kind of concerns? Related to baby's health? Your own health?)
2. Are there any circumstances under which you would seek help [related to concerns mentioned in previous answer] (formal or informal sector)? (prompt: what kind of help? Who would you discuss this with, if anyone? What would they say?)
3. Are there any factors, which may prevent you from getting the help you would prefer? (prompt: can anything be done about this?)

B. Checklist for Focus Groups with WRA

1. What are the associated advantages and disadvantages of the delivery care services?
2. What makes for good quality of care? What could be an 'ideal delivery care service'?
3. What did the decision-making process during pregnancy and delivery look like?
4. What are the barriers to accessing care?
5. Are there any special problems, which mainly poor women have related to seeking help during pregnancy? (prompts: normal/complicated deliveries; poor and poorest groups; could anything be done about the problems?)

C. Interview schedule for hospital doctors

Background characteristics of interviewee

What is your job title?

How many years experience do you have in obstetrics and gynaecology (fulltime)?

For how long have you been working at the hospital?

Where have you worked before, if anywhere?

Background characteristics of hospital

Name of facility

Type of facility

How many deliveries occur here each year? (Source of information?)

Have the following obstetric services been available here during the last three months. If yes, please state whether they were provided as required; often; sometimes; hardly ever or never.

ergometrine or oxytocin

As required	Often	Sometimes	Hardly ever	Never

manual removal of retained placenta

As required	Often	Sometimes	Hardly ever	Never

Intravenous oxytocin for prolonged labour

As required	Often	Sometimes	Hardly ever	Never

forceps/ventouse extraction

As required	Often	Sometimes	Hardly ever	Never

D&C for retained tissue

As required	Often	Sometimes	Hardly ever	Never

Antibiotics

As required	Often	Sometimes	Hardly ever	Never

For Basic EOC only

Transport: How often in the last three months has your unit been able to supply transport to get a patient to a referral unit within a time span which you consider reasonable?

As required	Often	Sometimes	Hardly ever	Never

For Comprehensive EOC only

Blood transfusion

As required	Often	Sometimes	Hardly ever	Never

Caesarean section

As required	Often	Sometimes	Hardly ever	Never

Neonatal care

ix. Do you have and use an Ambu bag (or similar equipment) for resuscitation of the newborn?

Yes	no

x. Do you have the following facilities for pre-term infants:

Some form of incubator?

Yes	no

xi. Oxygen at a controlled rate?

Yes	no

Interview question:

Groups of women attending

Can you describe the groups of women who seek your service?

(prompts: - poorer vs wealthier; normal vs complicated cases;

do you feel that any group is underrepresented? (e.g. socio-economic) Is this a problem?

What are the reasons for this? (e.g. cultural beliefs) What could improve the situation?)

Job satisfaction

How do you like working here?

(prompt for Thana level: do you find the obstetric work here more difficult than other work? For district level: how do you like working in this district?)

Are there any problems you face in your work?

(prompt: -difficulties with patients' attitudes towards your profession? Women's and relatives' cultural beliefs?

-do you feel confident in providing the full range of basic EOC? (for doctors at thana level); comprehensive EOC? (for doctors at district level)

-enabling environment: supplies; equipment; referral system (transport)

-can anything be done about these difficulties?)

Communication with patients

What is it like trying to communicate with your patients?

(prompts: -any groups of women who are more difficult to deal with? (poorer?)

-any problems of communicating with accompanying relatives?

-Can anything be done about this difficulty?)

D. Checklist for Focus Groups with Influential Actors (grandmothers; fathers)

What would you see as the best delivery care service available to your [daughter (in-law)/wife] during childbirth?

(Prompts: -associated advantages and disadvantages of chosen service;

-possible advantages and disadvantages of other services discussants are aware of;

-normal and complicated births)

-Who should take the decision in a family about the delivery care a woman should receive?

If your [daughter (in-law/wife)] was experiencing difficulties during her delivery, what would you do?

-hospital: any difficulties in accessing?

-what would be your expectations of the quality of care she receives there?

Are there any special problems, which mainly poor women and their families have related to seeking help during pregnancy?

(Prompts: -poor and poorest; could anything be done about those problems?)

E. Checklist for FG with TBAs (trained and untrained)

What do you think are the advantages of your service?

(prompts: -why do women come to you? (low costs; accessibility; cultural acceptability; good emotional care)

-who comes? (any particular group of women, e.g. poorer or better off?)

Are there any difficulties which you sometimes find in your job?

(prompts: - expectations of WRA and family; blame;

complications; possibilities of involving other health workers; ability to refer on; transport)

Could anything be done to make your job more successful?

(prompts: -possibilities of involving FWAs and Has;

-referral possibilities to hospital; transport)

Are there any advantages in receiving care in a health facility or hospital?

(prompts: -disadvantages? -for complicated cases?)

F. Checklist for FG with for doctors/healthcare providers in formal level

Are there any problems women may face in accessing your service?

(prompts: -any particular group of women? (poorer?; those living further away?)

-what are the reasons for the problems? Can anything be done about this?)

Are there any difficulties you may face in your job?

(prompts: -do you feel confident in providing the full range of basic EOC?

-enabling environment: supplies; equipment; referral system (transport)

-can anything be done about these difficulties?)

Do you or your colleagues sometimes experience any difficulties in communicating effectively with women?

(prompts: -any groups of women who are more difficult to deal with? (poorer?)

-any problems of communicating with accompanying relatives?

-Can anything be done about this difficulty?)

Annex 2. Report of the pilot of need assessment study.

Introduction

In order to develop a strategy development tool for increasing the proportion of deliveries with skilled attendance, a research will be conducted in SAFE project to identify the type of delivery care utilised by the poorest group of women, their preferences for cares and place, and the barriers they face in accessing skilled attendants. Of interest in this pilot study are attempted to assess the effectiveness of various methods as a means of collecting necessary information.

Methodology

Preliminarily it was decided that the study would be conducted in two villages of Sylhet and Rangpur region, and the pilot study would be conducted in one of these two region. Accordingly, a village in Rajnagar Thana at Moulovi Bazaar District in Sylhet region was selected as study area. The following methodologies were tested with men and women respondents in study area:

Interview with two categories of WRA (women of reproductive age), user and non-user of formal healthcare services.

Focus group discussion with aged women (mother-in-law), men (husband) and WRA.

Interview with service providers (doctor).

Facility mapping regarding formal healthcare during delivery.

Study findings

In the village there was a facility of government satellite for ante natal care (ANC) check up where a family welfare visitor attended. Health workers were responsible to inform the village women, when the satellite was going to be held and asked the pregnant mother to attend the clinic. Although it was well known in the village that pregnant women were encouraged by the government to visit the satellite for their ANC check up but it was

found that women in the village were not that keen or spontaneous about having their antenatal check ups. But they were eager to take the tetanus toxoid injection.

In the village delivery was perceived as natural phenomena and women were very much in accordance with home delivery. It was found that regardless of their socio-economic status villagers/women preferred their own home as their place of delivery. There was a slight change of thoughts in the younger women who did not mind or to some certain extent preferred going to the hospital for delivery. Since they were strongly influenced by their family and their age old practices they hardly raised any voice of their preferences. Here the decision of the women was always influenced by their in-laws and elderly women of the family. The study revealed that the husbands generally supported the idea of normal delivery taking place at home. They mentioned many reasons for home delivery i.e. it was comfortable, it took less time to recover at home and at home they could keep their privacy, less expensive, they could take good care of the baby and above all they could avoid all the trouble of going to the hospital.

It was found in the study that usually the rural women did not have constant contact with a medical person during their delivery so it was unlikely for them to know which delivery was going to be complicated. Therefore, during delivery they usually followed a normal delivery procedure at home. In which they were found to call a traditional birth attendant or someone from the village maybe a relation who were known in the village for facilitating childbirth. When these traditional facilitators failed to bring the child from the womb it was only then they realised that the birth became a complicated one. Hence they were found to decide to seek formal health care. However, men actually intervened in this stage to arrange all the necessities i.e. money, transport to take the women to the hospital. It was reported that although it was difficult for the poor villagers to tackle the unexpected emergency situation (in terms of money and transportation), they somehow seemed to manage by borrowing money from their neighbours/relatives or by selling their assets. It was also found that in case of emergency, villagers co-operate each other in any way they could.

During rainy season it even became more difficult to take a patient to the hospital. The villagers said that in fact they carried the women on a plank when it became difficult to find any transport. However, the common transports in this regard were rickshaw, tempo microbus etc.

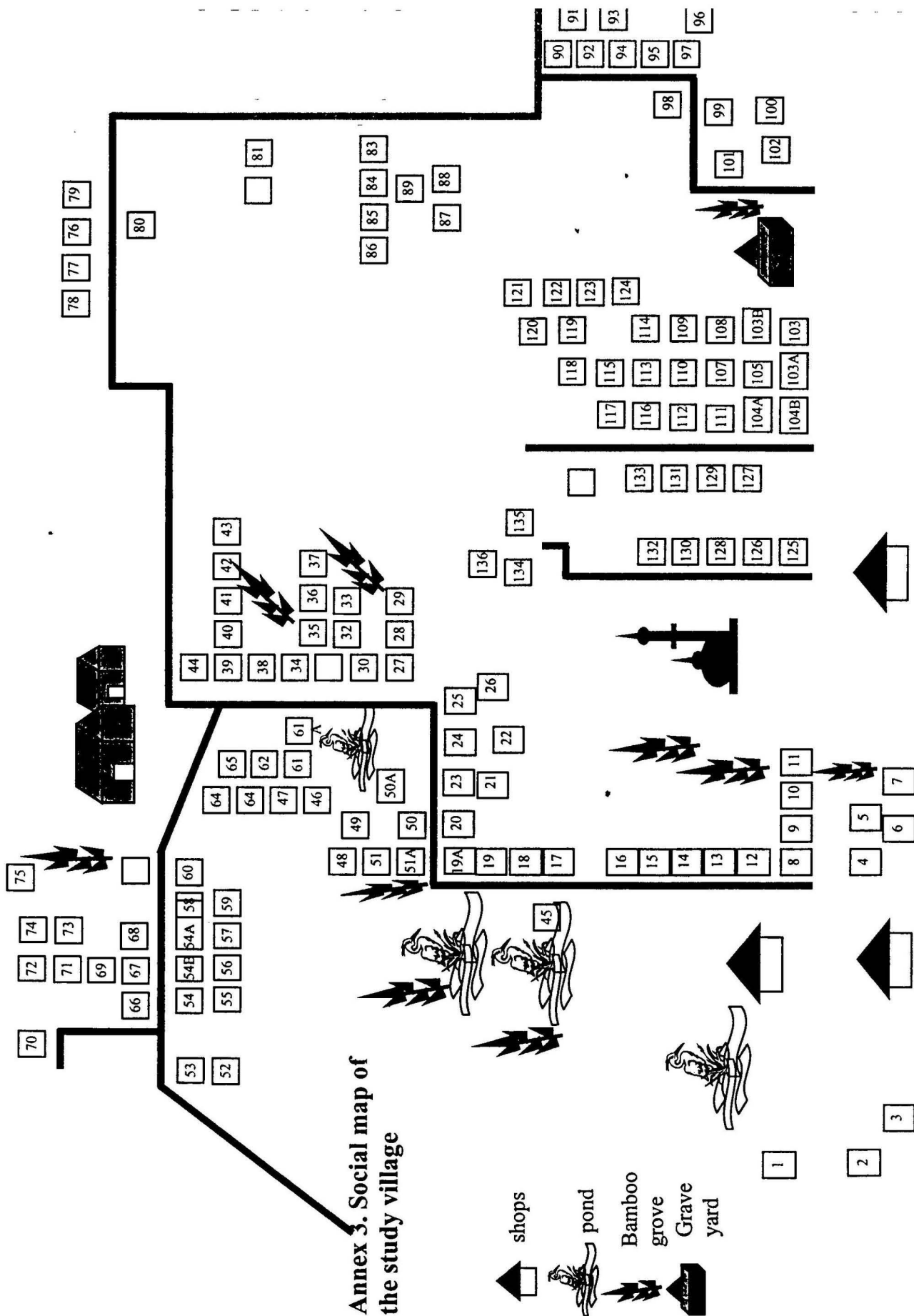
The villagers expressed their dissatisfaction on the services provided by the government facilities. They complained that often they found it difficult to get the prescribed medicine or other necessary things in times of emergency as it was not available in the hospital. They talked about unclean environment and non-availability of bed in times of their need. They also said that they had to meet the unjust demand (cash or kind) of the attendants such as the ayas, cleaners and other such employees of the hospital. They felt that due to their poverty they did not get the proper care from the hospital, where usually people with money had better access to good care. According to them good services were only available when money was offered to the hospital staffs. In fact, villagers perceived hospital as a place where one had to spend lot of money for better service, a place of uncertainty and non co-operation.

The study revealed that the women practised self-care for the newborn like keeping them warm and clean and placing them under the sun with an oil massage. They reported that in case of emergency, they usually took their children to the hospital for medical attention. However, women were completely ignorant and unaware of any postpartum care for themselves.

It is relevant to mention here that during the pilot it was found that CARE took an initiative called “Nirapad Ma Project” which had five main components and whose main objective was to ensure safe motherhood. The project aimed to increase women’s participation in the decision making process and promote improved reproductive health seeking behaviour.

Conclusion

The Pilot helped to reconsider the checklist of all the techniques and improvise the questions making it more relevant to the study objectives. It was reconfirmed in the pilot that one to one interview required more than one day to get in-depth information. On the basis of pilot it was decided that the main study would be conducted in one rural area of Rangpur region among the rich and poor women of reproductive age group (WRA) for ensuring a similar situation regarding comparison of data during analysis. Besides Sylhet region was excluded as there was already some activities going on in the community by CARE regarding safe motherhood.



Annex 4. Criteria of wealth category done by the villagers of Patra khata village.

Rich 4%	Middle 9%	Poor 9%	Poorest 78%
1. Land (eight bigha ¹² to one bigha).	1. Small amount of land (one bigha to 10 katha).	1. No cultivable land.	1. No land at all.
2. Surplus food after the year's consumption.	2. Food security throughout the year but no surplus.	2. Mainly live on sharecropping and occasional mortgaging of land.	2. Live on other's land.
3. Shallow machine for irrigation.	3. Involve in small trading.	3. Living on own crops for six months.	3. Jute-stick fencing house; not in good condition.
4. Livestock.	4. Livestock.	4. Small number of livestock.	4. Live on daily wage earning.
5. Television and tubewells.	5. Tubewells.	5. Straw roofed house.	5. Migrate out to work as rickshaw puller, construction labourer, etc.
6. Involve in government and non-government jobs.	6. Small amount of cash in the house.	6. Seasonally migrate out for work.	6. Three meals a day are insecure
7. Well-built house with tin roof and many rooms.	7. Tin-roof and bamboo fences house.		
8. Have big shop in bazaar.	8. Few involve in government and non-government service.		
9. Have more cash in the house.			

¹² Unit of measuring land.

Annex 5: Description of the facilities used for delivery care by the village women of Patra Khata village.

A. Sadar Hospital Kurigram.

- Type of facility: Comprehensive EOC.
- Delivery occurs in each year: 500-600.

The following obstetric services have been available during the last three months.

- Ergometrine or oxytocin: As required.
- Manual removal of retained placenta: As required.
- Intravenous oxytocin for prolonged labour: As required
- Forceps/ventouse extraction: As required
- D&C for retained tissue: As required
- Antibiotics: As required

For Basic EOC only

Transport to a referral unit: N/A

For Comprehensive EOC only

Blood transfusion: As required

Caesarean section: As required.

Neonatal care

Ambu bag (or similar equipment) for resuscitation of the newborn: Yes.

Some form of incubator: No.

Oxygen at a controlled rate: Yes.

B. Matri Mongol in Ulipur Upazila.

Type of facility: Normal delivery.

Delivery occurs in each year: 1600.

The following obstetric services have been available during the last three months.

Ergometrine or oxytocin: As required.

Manual removal of retained placenta: Sometimes.

Intravenous oxytocin for prolonged labour: Never.

Forceps/ventouse extraction: Never.

D&C for retained tissue: Never.

Antibiotics: As required

For Basic EOC only

Transport to a referral unit: Never.

For Comprehensive EOC only

Blood transfusion: N/A

Caesarean section: N/A

Neonatal care

Ambu bag (or similar equipment) for resuscitation of the newborn: No.

Some form of incubator: No.

Oxygen at a controlled rate: Yes.

C. Upazila Health Complex (UHC) in Chilmari.

Type of facility: Basic and comprehensive EOC.

Delivery occurs in each year: 44.

The following obstetric services have been available during the last three months.

Ergometrine or oxytocin: As required.

Manual removal of retained placenta: As required.

Intravenous oxytocin for prolonged labour: Never.

Forceps/ventouse extraction: Never.

D&C for retained tissue: As required.

Antibiotics: often.

For Basic EOC only

Transport to a referral unit: As required.

For Comprehensive EOC only

Blood transfusion: N/A

Caesarean section: N/A

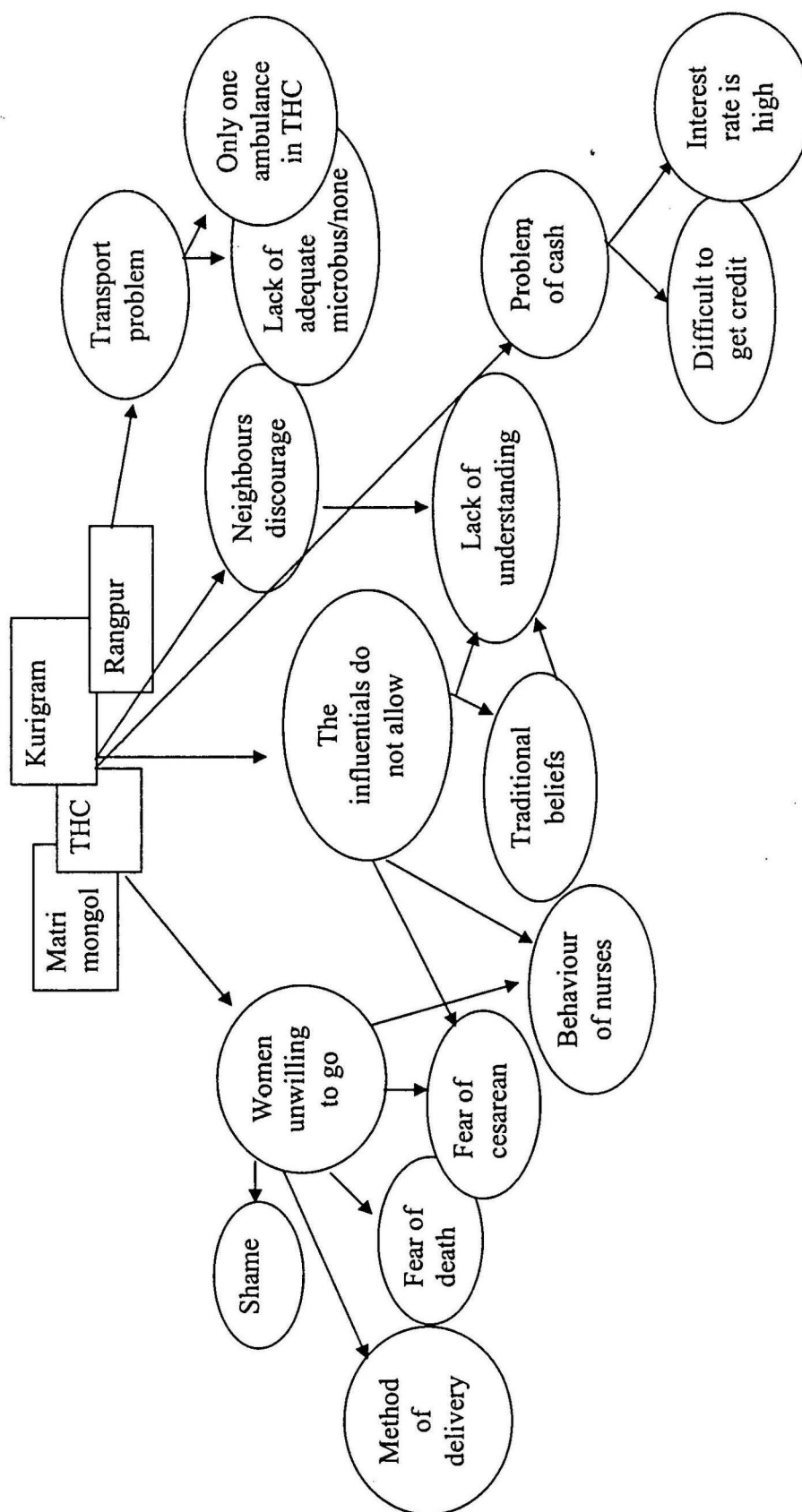
Neonatal care

Ambu bag (or similar equipment) for resuscitation of the newborn: No.

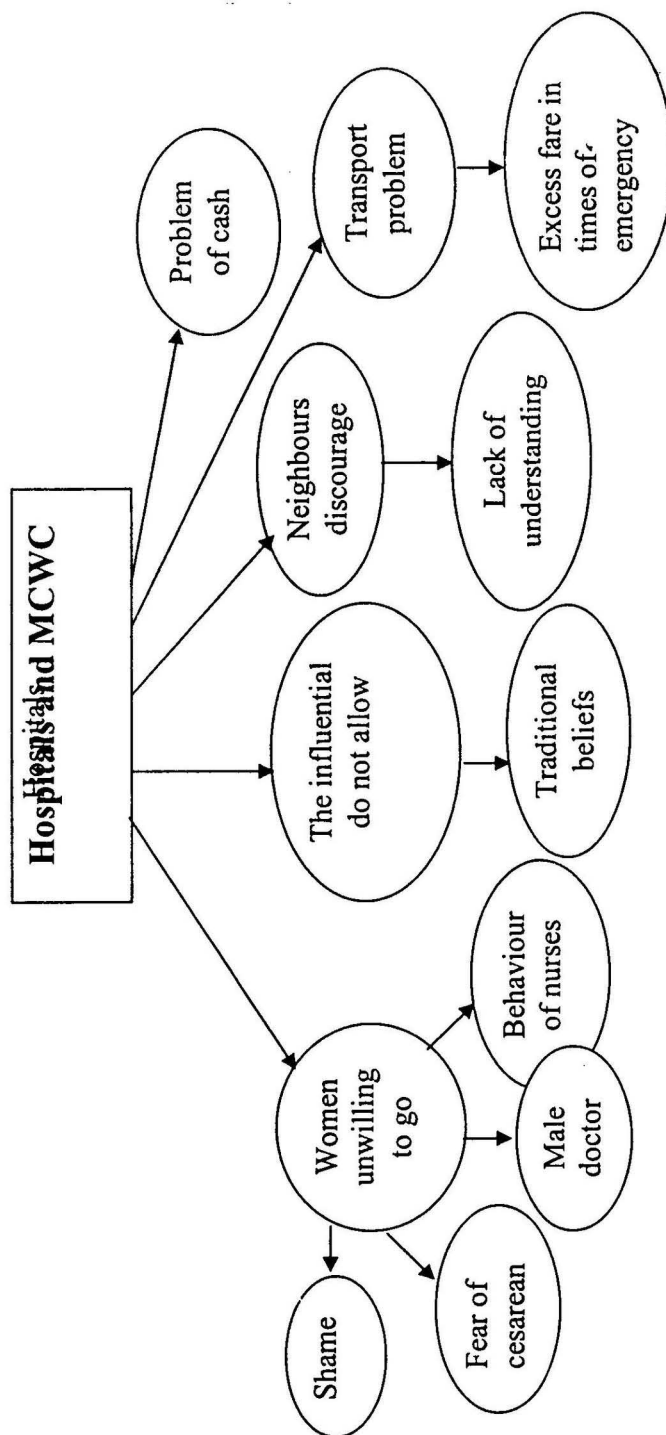
Some form of incubator: No.

Oxygen at a controlled rate: Yes.

Annex 6: Barriers in Accessing to Formal health care in rural area



Annex 7: Barriers in Accessing to Formal health care in urban area



Annex 8. Concept paper developed from the strategy option.

Developing a model of skilled attendance at delivery in Bangladesh: A concept paper

Background

Increasing the proportion of deliveries with skilled attendance is an important strategy in the international Safe Motherhood movement to reduce maternal mortality (AbouZahr and Wardlaw 2000; Safe Motherhood Inter-Agency Group 2000a; WHO 1999). The SAFE (Skilled Attendance For Everyone) study conducted in five developing countries including Bangladesh was coordinated by the Dugald Baird Centre for Research on Women's Health, University of Aberdeen with an aim to develop Strategy Development Tool (SDT) for improving the proportion of deliveries with skilled attendance. The SDT comprised five modules for identifying problems related to skilled attendance, for generating primary and secondary data and for the synthesis of this information to formulate strategies (University of Aberdeen 2003). Using the SDT, certain strategy options to promote skilled attendance at delivery were developed under SAFE study in Bangladesh. On the basis of the strategy option a demonstration project is proposed here. To begin with we will present the key findings from the SAFE study in Bangladesh.

Key findings from the Bangladesh SAFE study

Community

A review of existing literature showed that in Bangladesh only 7% of deliveries were assisted by qualified medical practitioners, while 22% by relatives and almost half by traditional birth attendants (TBAs). At community level where home delivery was almost universal certain factors were related to skilled attendance at delivery: mother's age and education, religion, residence poverty status and child's birth order. It was found that proportion of deliveries done at health facilities were highly inequitable.

Whereas the proportion of well-to-do women delivering in a facility was 17.3 percent, it was less than one percent for the poorest women. DHS¹³ data (1999-'00) revealed that women who had used health facilities for other health services like immunisation, contraception, and antenatal care (ANC) in the past used health facilities for deliveries more frequently compared to others. DHS data also showed that the proportion delivered at a Govt. Hospital increased by four times who had 4+ ANC visits, but the need assessment study revealed that ANC during pregnancy was not that considered important by the women for the purpose of delivery.

The need assessment study also identified a number of barriers at different levels which hindered women's access to formal delivery care. At individual level women were not willing to deliver in the hospital due to shame, fear of caesarean and death. At family level it was noted that the major decision makers i.e. mothers-in-law, husbands were the least knowledgeable about different level of obstetric services, which eventually increased the expenditure of delivery care. In the need assessment study, the villagers pointed out that in emergencies the neighbours extended their cooperation. However, as most of them were poor, often it was difficult for them to provide financial support or loans. Thus, economic constraints were noted as one of the major hindrances in accessing formal delivery care services. At community level it was found that neighbours discouraged to go to the health facilities for delivery care and over dependence on TBAs was also noted. The key informants pointed out that although many NGOs in Bangladesh had motivational activities at community level, but those were not adequate for promoting skilled attendance. The study revealed that at facility level unfriendly behaviour of the healthcare providers, lack of female doctors and problems in the system of referral prevented people's access to formal delivery care.

Health professionals

The study indicated that doctors at Upazila (sub district) level mostly did not have specialised obs & gynae training, which limited service provision. The qualified health care providers were found to be concentrated in the urban areas and few female doctors

¹³ Demographic and Health Survey.

could be found in rural areas. Most of the key informants opined that lack of professional commitment was a major problem in promoting skilled attendance in Bangladesh. The doctors posted at the Upazilas were mostly found not to reside in the campus and were more interested in private practice.

The quality of clinical care component of the SDT revealed *that at the facility level most of the information was not recorded. At district hospital and Mother and Child Welfare Centre (MCWC) it was found that key information like discharge diagnosis, duration of gestation at admission, presentation of foetus, time between delivery of baby and placenta, urine albumin and sugar were not recorded. It was also found that in some cases MCWC had some records but the district hospital did not have any. For instance according to the record postpartum follow-up was not given at district hospital level but at MCWC there was some recording.*

Enabling environment

Regarding enabling environment the study found that the government facilities were distributed in a way that made comprehensive facility available only at the divisional and district levels. Therefore, to provide minimum acceptable level of Emergency Obstetric Care (EmOC) services at periphery level there was a greater need for expansion of the government services at Upazila level. With the assistance of UNICEF some of the Upazila Health Complexes (UHCs) were presently found to be upgraded to provide EmOC services. The study also revealed that the existing healthcare system was not user friendly and there were many informal costs imposed by the hospital personnel. The healthcare providers pointed that there was shortage of supplies such as drugs and equipments in the facilities, which prevent them from performing their duties.

In analysing the policies and initiatives of the government as an enabling factor the study found that the approach to train TBAs had failed due to lack of establishment of proper referral system and follow-up. Nevertheless in the current health and population sector programme (HPSP) the government was found to implement an essential service

package, which includes maternal and child health. The initiative of establishing EmOC in all 64 districts, 358 UHCs and 13 MCWCs was likely to be a major step to reduce maternal deaths. Along with the Women Friendly Hospital Initiatives, Bangladesh national strategy for maternal health was found to be developed where training to Family Welfare Assistants (FWAs) was mentioned for clean and normal delivery at community level.

Referral

In terms of referral the needs assessment study revealed that transportation from community to delivery facility during obstetric emergencies was not well organised. Transportation was often costly and travelling at night was hazardous. The secondary sources revealed that at the facilities there were lack of standardised practice of decision making for referral and follow up systems. According to the key informants, there was no value of the referral slip from the Family Welfare Visitors (FWVs) at Upazila level to the district hospital. Since referral chain does not function well, district hospitals were overcrowded.

Strategy options

The synthesis of the findings from the SDT indicated some key problems regarding skilled attendance in Bangladesh. These were:

Inadequate motivational activities in the community.

Financial constraints.

Lack of professional commitment of the healthcare providers.

Lack of enabling environment.

Poor recording of information in the facilities.

Poor referral linkages.

The key problems denoted some solutions to fulfill certain objectives. These can be stated as follows:

Goal: Reduce maternal mortality and morbidity.

Purpose: Increase appropriate utilisation of skilled attendance.

Objectives:

1. Strengthen motivational activities in the community to use formal delivery care services.
2. Strengthen possibilities of reaching appropriate formal delivery care.
3. Improve quality of clinical care in the facilities.

In order to fulfil the purpose more comprehensively the objectives were combined to develop a strategy option, which included motivational activities in the community to initiatives for improving the quality of care in the facilities. The strategy option addressed the broader context of the Government's national strategy for maternal health in Bangladesh. On the basis of this strategy option a three-year demonstration project is proposed. Through operational research it will try to develop a model for improving skilled attendance. After three years, taking lessons from the success and failure of the project, attempt will be taken to scaled it up nationally.

Project design

In order to make a comparison between the area with Government facility and area with non-Government facility the demonstration project will be conducted in two different Thanas. In both areas, BRAC will be involved in facilitation at community level. In the community the following activities will be conducted.

Identification of the pregnant women by the BRAC Shastho Shebika (SS)¹⁴.

The BRAC school graduate girls (who have appeared at Secondary School Certificate exam and wish to continue study) will be encouraged to get involved in the motivational activities covering the identified pregnant women and their families. They will also establish a linkage between the identified pregnant women and the local FWV/FWA (both government and non government).

Establishing a stakeholder group in the community to develop a supporting network in the community. The stakeholder group will be formed by the village elites, the government and non-government (BRAC staff members) representatives.

The SS and the BRAC School graduate girls will receive some remuneration for their activities. The BRAC School graduate girls will be encouraged to receive training in midwifery after completing their HSC exam. This will ultimately help to increase the pool of skilled birth attendants (SBA) in the community.

¹⁴ Female community health volunteers.

The deliveries in the community will be performed by the local FWV/FWA with the assistance of BRAC School graduate girls. In necessary cases, the women will be referred to appropriate facilities. In conducting deliveries, the FWV/FWA will be provided further training and refreshers.

Case tracking of some identified pregnant women will be done to understand of the mechanism of changing situation.

In addition to above the following activities will be done in area with BRAC facilities. Health insurance in delivery care services will be introduced to encourage the villagers to use formal delivery care services.

Medical audit will be introduced through case extraction to improve the clinical quality of care in the facilities.

In the following a logical framework for the proposed demonstration project is given in the following.

Budget (Three years)

Operational research	
Salary	
One Researcher (full time)	846000 Tk.
One Co-Researcher (Full time)	684000 Tk.
Two Programme Organisers (Full time)	504000 Tk.
Sub Total	2034000Tk.
Operational Cost	
Travelling	609300 Tk.
Staff development	200000 Tk.
Stakeholders meeting and workshop	60000 Tk.
Stationeries	108000 Tk.
Computer and printer	150000 Tk.
Photocopy and printing	100000 Tk.
Communication and postage	50000 Tk.
Remuneration of SSs	22752 Tk.
Remuneration of Community Volunteer girls	2275200 Tk.
Active case findings	170640 Tk.
Sub Total	3745892 Tk.

Narrative summary of objectives	Objectively verifiable indicator			Means of verification	Assumption
	1 st year of the project	2 nd year of the project	3 rd year of the project		
Outputs:	1. Strengthen motivations in the community to use formal delivery care services.	1.1 20% of the families among the identified pregnant women have delivery plan. 1.2 20% of the villagers have knowledge about five danger sign.	1.1 40% of the families among the identified pregnant women have delivery plan. 1.2 35% of the villagers have knowledge about five danger sign.	1.1 60% of the families among the identified pregnant women have delivery plan. 1.2 50% of the villagers have knowledge about five danger sign.	Monitoring and evaluation report of the project.
	2. Strengthen possibilities of reaching appropriate formal delivery care.	2.1 20% of the villagers have knowledge about availability of different level of obstetric care services. 2.2 20% of the families among the identified cases arrange transport for emergencies. 2.3 10% delivery care insurance among the identified cases.	2.1 35% of the villagers have knowledge about availability of different level of obstetric care services. 2.2 40% of the families among the identified cases arrange transport for emergencies. 2.3 25% delivery care insurance among the identified cases.	2.1 50% of the villagers have knowledge about availability of different level of obstetric care services. 2.2 60% of the families among the identified cases arrange transport for emergencies. 2.3 40% delivery care insurance among the identified cases.	Monitoring and evaluation report of the project.
	3. Improve quality of clinical care in the facilities.	3.1 25% of complete delivery care record in the facility.	3.1 50% of complete delivery care record in the facility.	3.1 75% of complete delivery care record in the facility.	Skilled attendance index (SAI) survey reports.
	4. Increase the pool of SBA in the community.	4.1 5% increase of the SBA in the community from the baseline situation.	4.1 10% increase of the SBA in the community from the baseline situation.	4.1 15% increase of the SBA in the community from the baseline situation.	Monitoring and evaluation report of the project.

Narrative summary of objectives		Objectively verifiable indicator			Means of verification	Assumption
		1 st year of the project	2 nd year of the project	3 rd year of the project		
Activities:	1. Identification of all pregnant women in Two Upazilas by BRAC SS through active case findings.	Identification of 30% of all pregnant women in two Upazilas.	Identification of 60% of all pregnant women in two Upazilas.	Identification of 80% of all pregnant women in two Upazilas.	Programme register. Monitoring report.	
	2. Every month BRAC School graduate girls will conduct at least 3 motivational meetings with 3 groups (WRA ¹⁵ , mother-in-law and husband) in a village.	240 Meetings will be held by the end of the 1 st year.	480 Meetings will be held by the end of the 2 nd year.	720 Meetings will be held by the end of the 3 rd year.	Programme register. Meeting minutes. Monitoring report.	
	3. Established linkages between the identified pregnant women and local FWW/FWA.	40% of the identified pregnant women in two Upazilas.	60% of the identified pregnant women in two Upazilas.	80% of the identified pregnant women in two Upazilas.	Programme register. Monitoring report.	
	4. Established a stakeholder group to develop a supporting network in the community and watch quality of clinical care at the facility.	72 meetings and minutes show discussed.	144 meetings and minutes show discussed.	216 meetings and minutes show discussed.	Programme register. Meeting minutes. Monitoring report.	
	5. Introducing health insurance in delivery care services.	3 workshops with stakeholders in one Upazilas.	6 workshops with stakeholders in one Upazilas.	9 workshops with stakeholders in one Upazilas.	Workshop report. Monitoring report.	
	6. Introducing medical audit in the delivery care facilities.	2 SAI survey in two Upazilas.	4 SAI survey in two Upazilas.	6 SAI survey in two Upazilas.	SAI Survey report. Monitoring report.	
	7. Encouraging BRAC School graduate girls to receive training in midwifery after completing their HSC exam.	20% BRAC School graduate girls involved with the project receive training.	40% BRAC School graduate girls involved with the project receive training.	60% BRAC School graduate girls involved with the project receive training.	Monitoring report.	
	8. Case tracking of identified pregnant women.	30 cases	60 cases	90 cases	Case study reports.	

¹⁵ Women of Reproductive Age.

<u>Delivery care insurance</u>	
<u>Salary</u>	
One Training and communication organiser (Full time)	451980 Tk.
One Programme Organisers (Full time)	252000Tk.
<u>Operational Cost</u>	
Revolving fund	3412800 Tk.
Travelling	316791 Tk.
Orientation workshop and meeting	10000 Tk.
Stationeries	72000 Tk.
Photocopy and printing	18000 Tk.
Communication and postage	18000 Tk.
Sub Total	4551571 Tk.
Grand Total cost	10331463 Tk.
10% overhead of the total cost	1033146 Tk.

Total cost: 11364609 Tk. Or \$ 189410

BRAC's contribution: 1138771 Tk. Or \$ 18980.

10225838 Tk. Or \$ 170430 is required.

Logical framework for strategy option.

Narrative summary of objectives		Objectively verifiable indicator			Means of verification	Assumption
		1 st year of the project	2 nd year of the project	3 rd year of the project		
Goal:	Reduce maternal mortality	MMR (not measured as part of the project).				
Purpose:	Increase appropriate utilisation of skilled attendance	In the study area: 1. 10% deliveries by health professionals. 2. Deliveries in the facilities increase 10% from the present situation. 3. 25% of the criteria of skilled attendance will be met by the end of the first year of the project.	1. 25% deliveries by health professionals. 2. Deliveries in the facilities increase 20% from the present situation. 3. 45% of the criteria of skilled attendance will be met by the end of the second year of the project.	1. 50% deliveries by health professionals. 2. Deliveries in the facilities increase 30% from the present situation. 3. 70% of the criteria of skilled attendance will be met by the end of the third year of the project.	Monitoring and evaluation report of the project.	Coordination between the government and BRAC continue to provide adequate support to the project