Policies and Programs: A case study on the factors that increased institutional deliveries in Bangladesh

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Thank you God for being so generous to me.

Abstract

Background: Bangladesh is among the countries that have had a significant decline in maternal mortality. One important measure taken to reduce maternal mortality is to ensure that more women give birth in hospitals, where competent professional staffs are available in the event of complications. Bangladesh has experienced a significant increase in the proportion of women who give birth in hospitals while other countries struggle to achieve this goal. It is critical for these countries to draw lessons from Bangladesh's success. However, the factors contributing to the success (i.e. increase in hospital births) are not obvious. The purpose of this study is to reach an understanding of why so many more women have chosen to give births in hospitals.

Objectives: To identify the potential explanations for the observed increase in institutional deliveries in Bangladesh.

Methods: This study is based on a qualitative research approach. Policy makers, service providers from Upazila health complexes, and women who delivered a child in a hospital were interviewed. A total of 12 samples of different groups (Policy maker-2, service provider-6 and mothers-4) were included in this study.

Results: The Study found that emergency obstetric care (EmOC); strengthening health facilities; skilled birth attendance at community level; increasing ANC coverage; increasing demand side financing (DSF) for the poor women; and community awareness programs were contributing factors for increasing institutional delivery. Economic improvement, education, and social awareness also contributed to the increase in institutional deliveries in Bangladesh.

Conclusion: No single policy or program is responsible, but that there are several that complement each other and work in concert to increase institutional deliveries, and thereby potentially reducing maternal and infant mortality, or put another way, increasing maternal and infant survival in Bangladesh.

Keywords: EmOC, DSF, CSBA, ANC, and PNC

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Abbreviations and Acronym

ANC	Antenatal care
BCC	Behavior Change Communication
BDHS	Bangladesh Demographic and Health Survey
CEmOC	Comprehensive Emergency Obstetric care
CIOMS	Council for International Organizations of Medical Sciences
CS	Caesarian Section
CSBA	Community Based Skilled Birth Attendants
DSF	Demand Side Financing
EmOC	Emergency Obstetric care
EOC	Essential Obstetric care
FGD	Focus Group discussion
FWA	Family Welfare Assistant
FWC	Family Welfare Clinics
FWV	Family Welfare Visitors
GDP	Gross domestic product
HPSS	Health Population Service Sector
HNPSP	Health Nutrition and Population Sector Program
HPNSDP	Health Population and Nutrition Sector Development Program
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
INGO	International Non-Government Organization

MCH	Maternal and Child Health
MCWC	Maternal and Child Welfare Clinic
MDG	Millennium Development Goals
mHealth	Mobile Health
MNH	Maternal and Newborn Health
MO	Medical Officer
MR	Menstrual Regulation
NGO	Non-Government Organization
NVD	Normal Vaginal Delivery
PM	Policy Makers
PNC	Postnatal Care
SBA	Skilled Births Attendants
SP	Service Providers
UFPO	Upazila family planning Officer
UHC	Upazila Health Complex
UHFPO	Upazila Health and Family Planning Officer
UHFWC	Upazila Health and Family Welfare Clinic
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
WHO	World health Organization

Definition

Essential obstetric care (EOC): Services includes but is not limited to: intravenous and intra-muscular administration of drugs such as antibiotics, oxytocin and anticonvulsants; assisted vaginal delivery; manual removal of placenta; manual removal of retained products of an abortion or miscarriage; and stabilization and referral of obstetric emergencies not managed at the basic level[1].

Emergency obstetric care (EmOC): All services include in essential obstetric care plus inclusion of surgery, anesthesia, and blood transfusion[2].

Demand side financing (DSF): This entitles women at least two antenatal check-ups, one hospital admittance during their pregnancy, a hospital delivery (either normal delivery and caesarean section) and any medicine or treatment they need, and one post-natal check-up. Women are also given vouchers for travel to and from the clinic[3].

Skilled births attendants: According to WHO skilled birth attendants, **"**a health provider who has at least the minimum knowledge and skills to manage normal childbirth and provide basic (first line) emergency obstetric care[4]".

Institutionalized delivery: Mothers deliver their babies in an appropriate setting, where life-saving equipment and hygienic conditions can also help reduce the risk of complications that may cause death or illness to mother and child. Delivery in a Government health Centre such as sub-Centre, community health delivery Centre, first referral unit, district or divisional hospitals and private hospitals[5].

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[1] World Health Organization. Essential elements of obstetric care at first referral level. Geneva, 1991.

[2] World Health Organization. Essential elements of obstetric care at first referral level. Geneva, 1991.

[3] DSF instruments are unconditional cash transfer through cash subsidy and tax redistribution, health cards, social health insurance, and conditional cash transfers.

[4] World Health Organization. Making pregnancy safer (MPR): skilled attendants. WHO website. www.who.int/reproductive-health/mpr/attendants.html

[5] Campbell OM, Graham WJ. Strategies for reducing maternal mortality: getting on with what works. Lancet (London, England). 2006;368(9543):1284-99.

Antenatal Care: A series of planned examinations during pregnancy, where women are observed, examined and offered guidance.

Postnatal Care: Appropriate care in the first hours and days after childbirth.

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CHAPTER ONE: INTRODUCTION

Introduction of the first chapter

This study is divided into six different chapters. The first chapter presents the introduction of the study, which includes backgrounds, country profile and maternal health in relation to institutional delivery in Bangladesh. The second chapter presents the rationale of the study. Third chapter presents the methodology of the study. The fourth chapter presents the findings of the study. Chapter five presents the discussion of the study, and the final chapter presents the conclusion and recommendation of the study.

1. Introduction

Globally, there has been a significant reduction of maternal mortality from 1990 to 2013 overall, a 45% reduction in maternal mortality in 13 years. In southern Asia, there has been 64% reduction in maternal mortality, which is higher than the global percentage (1). Bangladesh is among the countries that have had a significant decline in maternal mortality by this time period. There has been a 70% reduction in the maternal mortality in last 23 years in Bangladesh, alone (1).

Many countries have implemented strategies, policies and programs to reduce the maternal mortality. One significant measure to reduce maternal mortality is to ensure that more women give birth in hospitals. Bangladesh has experienced a significant increase in the proportion of women who give birth in hospitals while other countries struggle to achieve this goal (2). It is critical for these countries to try to draw lessons from Bangladesh's success.

There has been an increase in the rate of institutional deliveries especially caesarian section deliveries, globally (3). This increase has been observed in many regions of the world (3, 4). In Bangladesh, from 2004 to 2014, the percentage of deliveries taking place in hospitals increased 12% to 37%(5) . The majority of those who come to hospital for delivery do so due to complications arising during home delivery, e.g. hemorrhage, prolonged and obstructed labor (6).

There are many reasons for the increase in hospital deliveries in Bangladesh. Contributing factors may be related to the increase in education levels, residence patterns, wealth, age of the mother at first delivery, skilled care during childbirth, antenatal care visits, and birth orders (2). The improvements in these factors were

based on the direct and indirect effects of the policy and programs aimed at increasing the institutional delivery and decreasing maternal mortality. However, the factors contributing to the success (i.e. increase in hospital births) are not obvious. The purpose of this study is to reach an understanding of why so many women have elected to give birth in hospitals.

1.1 Bangladesh Country profile

1.1.1 Background of the country

Bangladesh has a total of 147,570 square kilometers land area. It has the longest bordering area with India and in the southern part is connected with Myanmar (Figure 1). The climate of the country is tropical and it is also known as the land of Rivers. Bangladesh is administratively divided into 7 divisions, 64 districts, and 545 upazilas/thanas (2). Bangla is the first language of the country. Religiously, the country is dominated by a Muslim population that consists of 90%; 9% of the population is Hindu, and rest remaining percent practice other religion.

The main source of the economy is the manufacturing and the construction sub-sectors. Agriculture is the second largest sector of the economy. The per capita income of the country is US$1,115 (7).

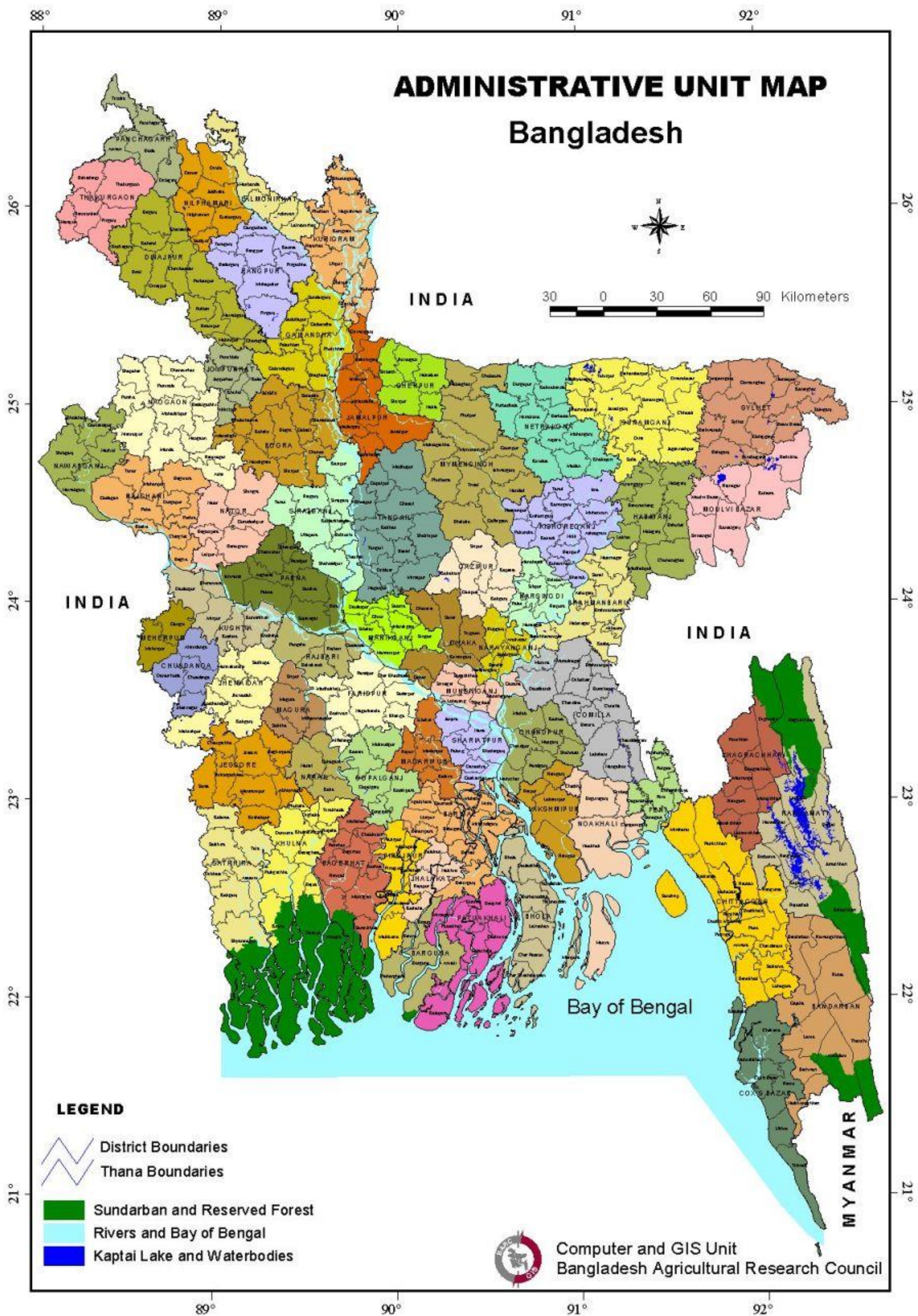

Figure 1: Administrative map of Bangladesh

1.1.2 Demographic characteristic

Bangladesh is a country of 159.6 million inhabitants. Dhaka is the capital of the country. Demographically, Bangladesh is a young country, with 53.5% of the population 15 to 49 years of age. Approximately, 74% of the population lives in the rural areas. The remaining 26% make their home in urban areas. On average, life expectancy of the country is 69 years for both sexes (2). Maternal mortality ratio is 170 per 100,000 live births and infant mortality rate is 43 per 1000 live births (2). This is set in counterpoint by the total fertility rate, which is 2.3 births per woman in across all demographics (5).

1.2 Health structure of the country

The healthcare structure of the country is based on a top to bottom facility approach. A Directorate General of the Health Services (DGHS) is in the top position, and a ward is in the bottom position. In total, the healthcare infrastructure has six tiers under the DGHS. They are termed as follows: National, Divisional, District, Upazila (sub-district), Union, and Ward level. The public health institute and postgraduate medical college is under the National level. Medical colleges and general hospitals are under the Divisional level, which is governed by Divisional Director. District hospitals fall under the District level facility, which is controlled by the Civil Surgeon. The upazila health and family planning officer is responsible for the Upazila health complex. Doctors, and field welfare visitors, and filed welfare assistants are responsible for the Union and Ward level health clinics.

1.2.1 Delivery of health care services in Bangladesh

Health care services are delivered in the label-based approaches (Figure 2). The country's health care delivery services are divided into three different levels: primary, secondary, and tertiary. Basic health care services are provided through the community clinics at the primary level health care facilities. Community clinics provide maternal and child health care, family planning services, immunization, nutrition education, micronutrient supplementation, health education and counseling, communicable disease control, treatment for minor aliments and first –aid, and referral to the higher levels health care facility (7).

District level health care facilities are known as the secondary level health care. Specialized services are available at these secondary level health care facilities. Other services such as: emergency obstetric care; blood transfusion; surgery; diagnosis; and services for non-communicable diseases are also available at the secondary level health care facilities.

Divisional, national, medical colleges, specialized health research institutes, and medical universities are known as tertiary level health care facilities. All services included in the secondary level health care facility, plus high-end medical services within a specific range are available in the tertiary level hospital. A referral system is maintained in case of emergency or resource limitation at the lower level health care facility. At the secondary and tertiary level are specialized health hospitals and medical colleges with more resources is establishing for handling critical cases.

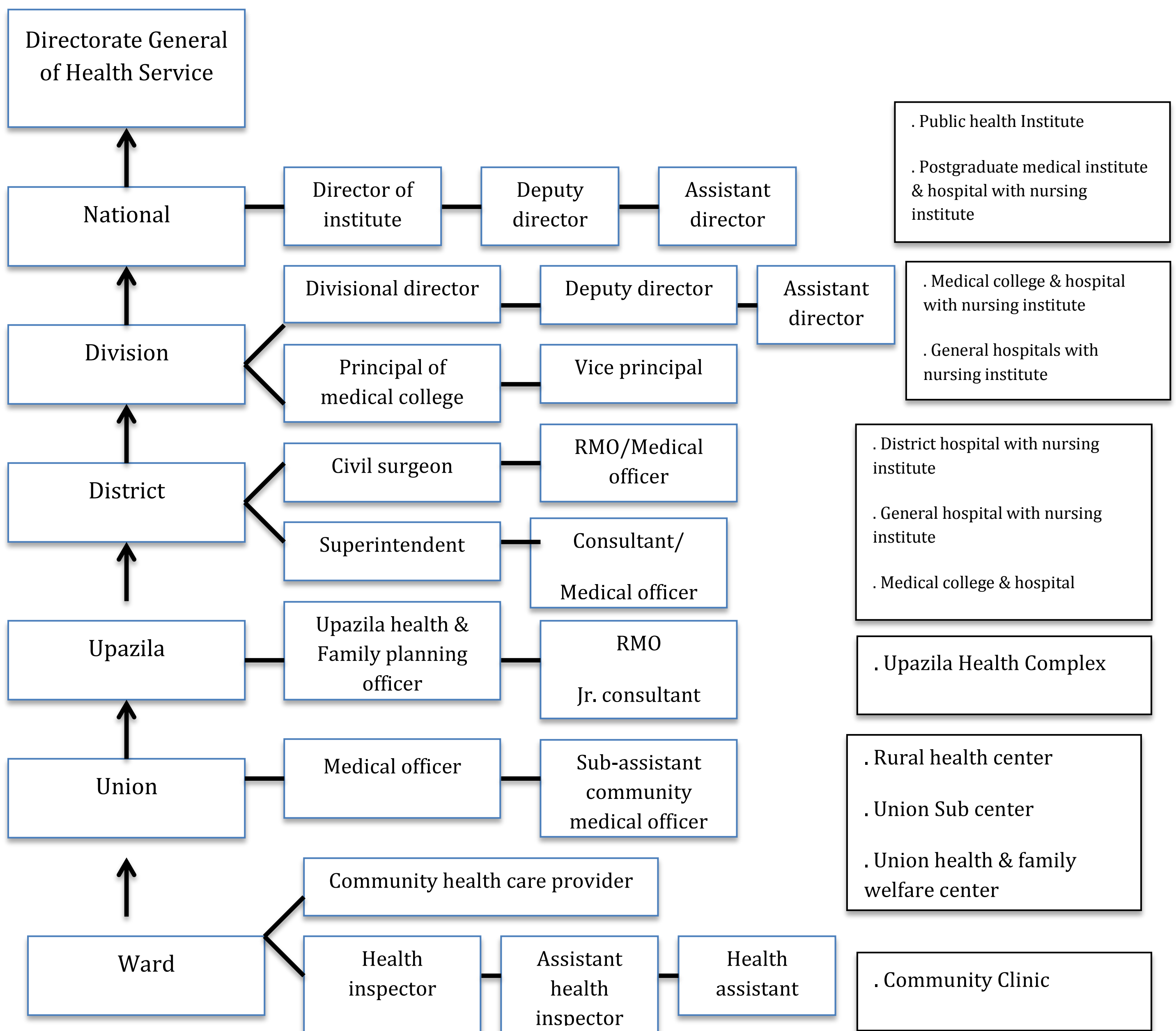

Figure 2: Health care facility structure of Bangladesh from national to ward level, with managerial hierarchy (source: ministry of health and family welfare Bangladesh.

1.2.2 Health policy of Bangladesh

Bangladesh did not have any established health policy since the independence of the country. The short history of health policy of Bangladesh is shown in the figure 3. The focuses were on prioritized issues such as family planning, fertility reduction, and population control (8). The first population policy of Bangladesh was focused on family planning in the period of 1971 to 1977 (8). Then national drug policy was introduced in 1977-1988. The focus of the drug policy was to reduce the cost of essential drugs and make them available to the poor population. Then, in the period of 1988-1998, vertical approaches of health service delivery packages were launched. The focus of the policy was to remove the user fee with the introduction of a community health insurance scheme. The government launched its first sector-wide approach (SWAp) in the 1998 to 2005 time period, through the health and population sector program (HPSP) program (8, 9). This created the shift from door-to-door services to a one-stop delivery approach of health services. The main focus of this program was to provide health service to disadvantaged people. This program delivered maternal health related services under the essential service package, which included fertility reduction, maternal mortality reduction, and increase the utilization of antenatal and postnatal care services (9). In the 2005 to 2010 time period, a second phase of SWAp was implemented through the HNPSP program (10). This time nutrition was included in the program. The focus of the program was to increase the utilization of the essential service package by the rural poor people. The HNPSP program mainly focused on rural areas and upazila and provided lower level health care centers (8). The program had many operational plans. Under the maternal health section the program delivered antenatal care, delivery, C-section, and postnatal care. The third phase of SWAp was the HPNSDP and it was implemented in 2011 to 2016 time period (11). The focus of this program is to improve the quality of health care services and strengthening the health system. This program has the same features like the HNPSP program with a special focus on quality care and strengthening health facility.

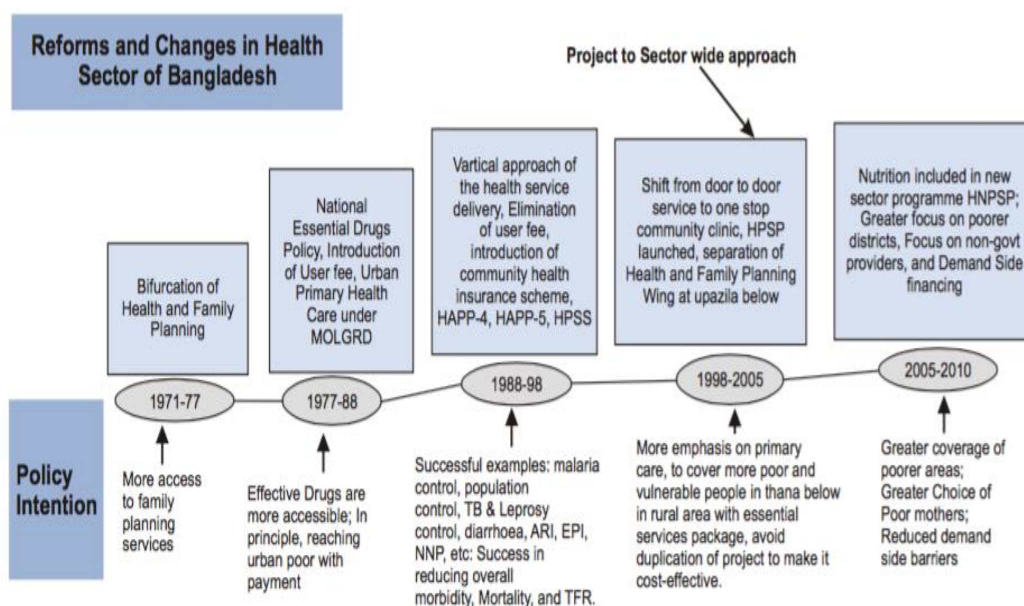

Figure 3: Health sector reforms, changes and policies in Bangladesh: 1971-2010

1.2.2 Resources in health care facilities

Resources in health care facilities comprise in two categories material and human resources. In material resources includes number of hospitals, specialized institute, beds, and other materials. There are 592 government hospitals, 2983 registered private hospitals, and 5220 diagnostic centers in the country (7). The total number of health care institutes and the total number of health care personnel are presented in the Tables 1 and 2.

Table 1: Health care institutes in Bangladesh

Health institutes	Total number
Postgraduate medical institutes	33
Medical colleges	90
Dental colleges	27
Medical diploma colleges	64
Nursing institutes	131

Midwifery institutes	12
Institutes for community skilled births attendants	47
Medical assistance training schools	111
Health technology institutes	112

Source: Bangladesh health bulletin 2014 Bangladesh

Table 2: Showing number of health personnel in Bangladesh

Health personnel	**Total number**
Number of personnel under DGHS	103,840
Registered physicians	67,767
Registered dental surgeon	6,034
Number of doctors under DGHS	23,066
Doctors under DGFP	586
Estimated number of available in the country	53,929
Registered diploma nurses	33,183
No. Of nurse-midwife in public sector	596
No. Of skilled birth attendants	7265
No. Of family planning officer	356
No. Of assistant family planning officer	280
No. Of community health care providers	13,240
No. Of domiciliary workers under	22,045

DGHS	
No. Of domiciliary worker under DGFP	24,662
No. Of family welfare visitors	211
No. Of family welfare assistant	21,113
Total number of community health workers under DGHS	69,947

Source: Health bulletin 2014

1.2.3 Finance

Health financing in Bangladesh largely depends on out of pocket payments. Government and external funds contribute only 37% of total expenditure (12). In one study found that out of pocket expenditure pushes 3.4% of households into poverty in Bangladesh (13). The source of healthcare financing is presented in the following diagram (Figure 4).

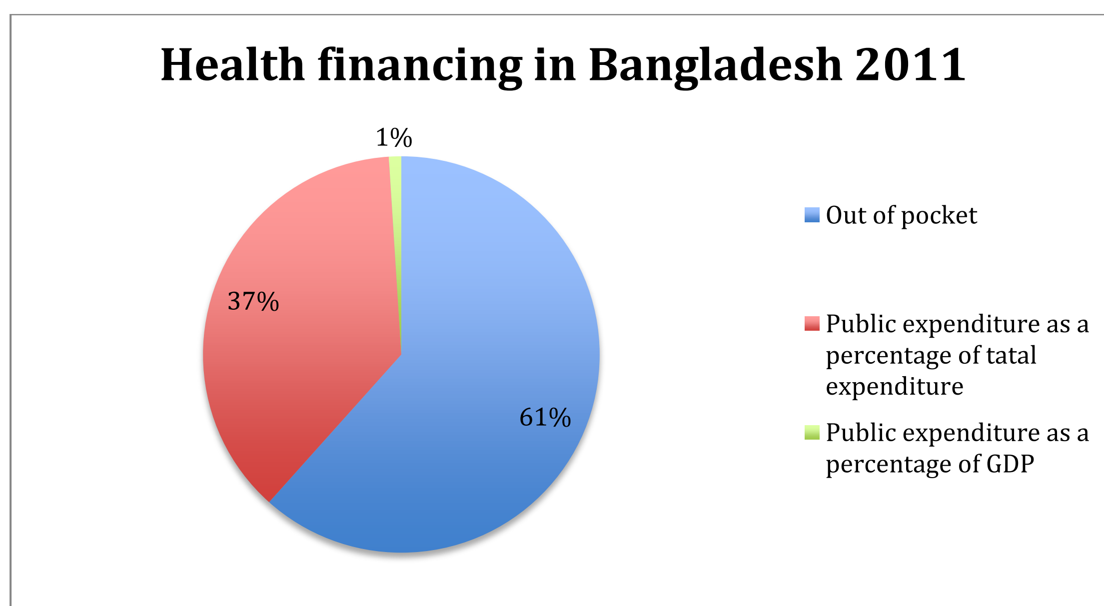

Figure 4: Health care expenditure in Bangladesh 2011

1.3 Literature review

1.3.1 Background of the study

Reducing maternal mortality is one of the important goals of millennium development (14). Globally, approximately 800 women die each day from pregnancy and childbirth related complicacy that could have been prevented by implementing low cost-solutions (15). Among all maternal deaths, 99% of them occur in the developing countries. Half of these deaths occur in sub-Saharan Africa, and one third occurs in the South Asia (15).

Five major pregnancy-related complications are responsible for nearly 75% of maternal deaths in the world (16). These complications are: hemorrhage; infections after childbirth; and high blood pressure during pregnancy; complications from delivery; and unsafe abortion.

Promoting interventions, strengthening health system, and implementing policies and strategies are the main working areas for reducing maternal deaths in developing countries (17). Studies suggests that some essential health care packages can save maternal and neonatal lives (18). These packages include reproductive health package, antenatal care packages, postnatal care packages, and family and community packages.

Taking some essential measures could prevent these deaths. Antenatal care during pregnancy, skilled care during delivery, and care after delivery can save women's lives (16). Evidence suggests that ANC visits have some beneficial effects on maternal mortality (19). It is demonstrated that successful completion of three or more ANC visits can reduce the proportion of low birth weight, thus reducing maternal mortality 17 fold, and increasing institutional deliveries by 3.25 times (19-22). However, in most cases, these services are not available in many developing countries (23).

This is another nation wide program in all health care facilities specifically focused on community clinics. ANC visits in Bangladesh have increased dramatically compared to numbers from 1990. The recent demographic and health surveys also support this argument (7). Surveys show 64% of women received at least one ANC visit from

medically trained provider (5). In 2004, this percentage was 55%, which is a substantial improvement.

Like other developing countries, a larger part of the population lives in rural areas of Bangladesh. Data shows that in 1990, 80% of population lived in such conditions (24). This percentage has dropped; according to a recent database, only 64% of the population lives in a rural area. All the district hospitals, MCWCs, and referral hospitals are situated in the urban areas of Bangladesh (7).There has been a great need of skilled care during childbirth in the rural area because of socioeconomic and geographical distribution of rural population (25).

Doctors and nurses are mainly concentrated at the urban secondary and tertiary hospitals in Bangladesh. They are reluctant to work in the rural areas because of poor working conditions and lack of advancement in career (26). This situation is much worse for the female medical officers. It was a great concern, both for Government and partner organizations, to provide skilled care during childbirth in rural areas. The training of health workers at the community level to assist in home-based delivery was one applied approach (27).

Interventions such as skilled care during childbirth, were found promising in reduction of maternal mortality in many developing countries (28). The proportion of skilled birth attendance increases in the most of the WHO regions. In answer to the question, “Does skilled birth attendance reduce the maternal mortality?” The study suggests that the proportion of deliveries attended by health professionals can reduce the maternal mortality ratio (29). The proportion of deliveries attended by doctors and midwives shows different pattern in reduction of maternal mortality ration. In such cases doctor attendance reduction is much higher than of midwives.

In Bangladesh, community skilled birth attendants (CSBA) are recognized as medically trained personnel like other medically trained personnel; qualified doctors; nurses or midwives; or family welfare visitors (FWV) (30). Women who are giving birth with the help of skilled birth attendance at home are technically considered as having an institutionalized delivery (6). There has been a substantial improvement in the use of skilled birth attendants in recent decades. It is estimated that between 2004 and 2014, the number of skilled birth attendants increased by 42% (7). This report shows a marked improvement of maternal health in Bangladesh.

Among all health care interventions and policies, emergency obstetric care was found to be one of the important strategies for reducing maternal mortality in many parts of the world (31, 32). Two different studies in Bangladesh and India that are based on a quasi experiment and cohort study, support that EmOC care is effective in preventing maternal mortality (33, 34). EmOC is a critical component for reducing maternal mortality and it can increase the utilization of maternal health services by 2 fold (31, 35).

Essential obstetric care is one of the important policies implemented by the Bangladesh government for increasing institutional deliveries and reducing maternal mortality in recent years. In 1993, this program was first initiated in Bangladesh with the help of United Nations Population Fund (36). According to WHO, this is the most important program to reduce maternal and child mortality. After the success of first step this program was expanded to all 64 districts of Bangladesh. EmOC is a critical component for any program to reduce maternal mortality (31). Since then, strengthening the facilities with EmOC component is one of the key policies of Bangladesh government (7).

1.3.2Maternal health in Bangladesh

Between 1990 and 2013, maternal mortality decreased by 70% in Bangladesh (2). In 1990, maternal mortality ratio per 100,000 live births was 550;in 2013 the ratio was 170 (15). These numbers indicate that Bangladesh is making progress on reducing maternal mortality in the recent decades. The target goal is to reduce MMR to 143 per 100,000 live births.

In Bangladesh, the main causes of maternal deaths are excessive blood loss (31%), eclampsia (20%), obstructed or prolonged labor (6.5%) (37).

The Bangladesh government puts emphasis on many efforts to reduce the maternal mortality. Their main efforts include: EmOC facility; demand side financing; and community based skilled birth attendant programs (37). The focus of all these efforts was to increase institutional deliveries. According to the recent findings of Bangladesh demographic and health survey shows that institutional deliveries has been increased from 29% in 2011 to 37% in 2014 (5). On the other hand caesarian

section delivery also increased rapidly 4% in 2004 to 23% in 2014 (5), which is higher than the WHO recommended 15% of caesarian delivery.

1.3.3 Bangladesh's progress on MDG 5

Bangladesh is on the right track to achieve its MDG goal of 75% reduction of maternal mortality by 2015. In 2013, the country has already managed to achieve a 70% reduction (2). Antenatal care coverage has increased substantially in the country. In 2011, 68% of women took at least one antenatal care session during the pregnancy period (2). A demographic survey shows an increasing trend in ANC visits in the country.

The contraceptive prevalence rate has also increased to 61% between the years 2004 and 2011. The total change in percentage change is 5% (2). The most popular choices of contraception among women are oral contraception or pills.

Facility delivery has also increased in the country. A total of 37% increase in facility delivery occurred in 2014 (5). The majority of the births took place in private facilities. Another notable fact is that caesarian section deliveries also increased from 9% in 2007 to 17% in 2011 (2).

Assistance during childbirth is important for maternal survival. To assist childbirth in the rural area, the government implemented a community-based skilled birth attendants program (38). The proportion of deliveries attended by the skilled birth assistance has also increased in the recent years. In 2011, 32% of births were attendant by medically trained personnel (38).

Utilization of postnatal care showed an increasing pattern in the 2011 health survey results. A total of 27% increase occurred in postnatal care by mothers, and 30% increase in utilization of newborn care (2). To increase the utilization of maternal health services available to the poor women, the government introduced demand side financing in 2007 (39). The government is expanding this program to all Upazila health complexes.

1.3.4 Importance and challenges with going to the facility delivery

The importance of getting the women to the hospital for delivery is greater during the crisis moment. There exist many factors that lead to home delivery in poor and low-income countries. Some of the contributing factors are: transportation; cost of delivery; distance; time; perceived negative impression; cultural barrier; stigma; fear; travel alone; and the likelihood of being seen by male doctors (25, 40-42). The decision to seek emergency obstetric care is another important factor of the three-delay model in Bangladesh. The study shows that economic status, education, and religious affiliation influence women to seek emergency obstetric care service (43). In one comparative study in Uganda and Bangladesh, it was found that the decision to use delivery care services was determined by husbands in Uganda(41) and mothers in- laws in Bangladesh (28). The study also found that delivery complications were the most significant factor determining the use of obstetric care services (28). Cost involved in hospital delivery is another key issue. Studies suggest that the initial cost of hospital delivery process was managed by husband, father in-laws, and other members of the family (25).

Transportation service during a crisis moment is another determining factor when electing whether to use emergency obstetric care service in Bangladesh (43). The main mood of transportation in the rural area of Bangladesh is rickshaw and van-a three-wheeled, paddle driven vehicle .In case of an emergency delivery, the only transportation available is the rickshaw (44). Based on three-delayed model, delay to travel to the hospital is a key problem. Arranging transportation at the onset of the emergency is not a problem. The true issue is the slow mode of available transportation. It takes a long time to reach the hospital with the rickshaw (44). One study in Sierra Leone found that after the introduction of transportation for emergency obstetric care patients, the utilization of emergency obstetric care doubled in that area (45). To increase the utilization of emergency obstetric care in rural parts of Bangladesh, transportation allowance is given to the women through a voucher program (46).

1.4 Conceptual framework for the study

It was from the previous study that successful program implementation could increase institutional delivery and reduce maternal mortality (25, 47). The following framework was developed to understand the mechanism of policy and program from different health facilities (Figure 5). This framework has four stages: 1) policy and program, 2) health facility 3) process, and 4) outcome.

The first stage explains what policies and programs were implemented from 1990 to 2014. In the second stage, the health facility was targeted to implement policies through programs at different levels. Policies were designed based on the available levels of the health care facility. Community based skilled births attendants programs, ANC, and community mobilization programs are mainly implemented at the lower level health care facilities. Emergency obstetric care service, and demand side financing are implemented at the Upazila level health facilities. Though EmOC, care is also available at the secondary and tertiary level health facilities. Establishing new medical colleges, training institutes, nursing institutes, health technology institutes, strengthening health facilities with resources are the main policies implemented at the district and divisional level. Establishing specialized medical institutes, public health institutes, and medical universities are the main policies at the national level. There exists a referral process in the health facility system from bottom to top level.

The third stage of the framework explains the process of implementing policies through programs and interventions. In this process, from the beginning to the termination of the policy and/ or program is monitored and evaluated by the monitoring and the evaluation committee.

In the final stage of the framework, the outcome is observed, which shows the reduction of maternal and child mortality and morbidity, an increase of survival rates, and the increase of institutional delivery in Bangladesh.

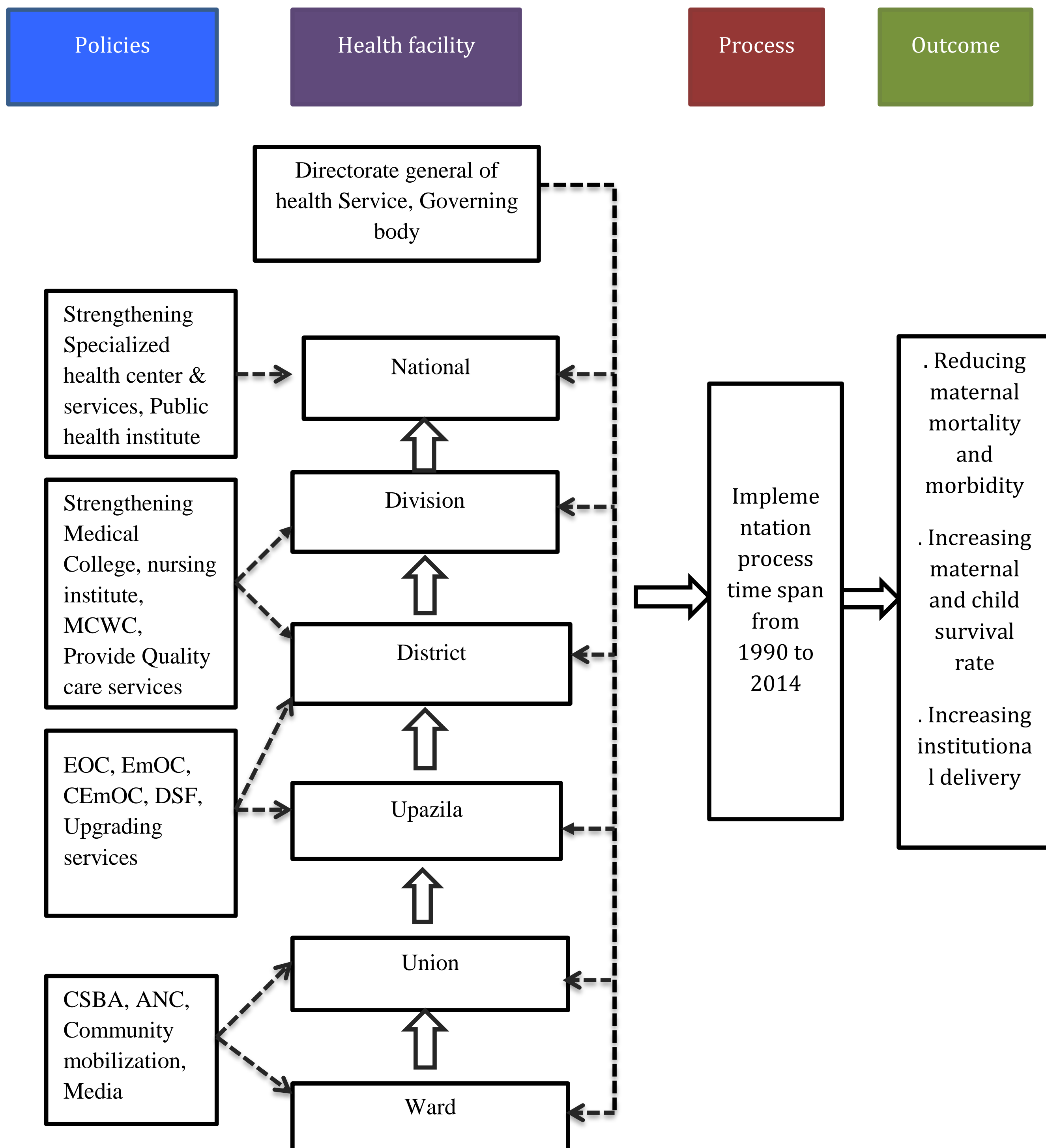

Figure 5: Framework for increasing institutional delivery in Bangladesh.

CHAPTER TWO: RATIONALITY OF THE STUDY

2.1 Introduction

To increase institutional delivery and reduce maternal mortality in Bangladesh, many policies, programs and interventions were introduced after 1990. The end focus of all interventions was to reduce maternal mortality, increasing utilization of maternal health services (6).Some of the studies were focusing on community based maternity care interventions for reducing maternal mortality in Bangladesh (34, 48-50). In one comparative study in Uganda and Bangladesh, researchers focused on overcoming access barriers for facility-based delivery, and found factors enabling or preventing the use of professional delivery services (25). That study indicated that some factors are enabling the use of professional delivery services while other factors are preventing use.

Most of these studies are based on quantitative analysis of measuring maternal mortality reduction in Bangladesh, particularly focusing on single intervention effect on maternal morality (48). Other vertical programs, like the effects of EmOC facility, sought to reduce maternal mortality and increase utilization of maternal health care services in Bangladesh (31, 35, 36). For increasing the utilization of maternal health care facilities, a voucher program was launched in 2007 in Bangladesh (46). Some other studies were focusing on ANC coverage and its effect on maternal mortality and institutional deliveries (19, 21, 22). Some of the studies focused on the women's perception of accessing barriers to professional delivery care options, but did not included any policymaker or service providers (25).

However, none of the studies focused on combined policymakers, service providers and women's perceptions on how institutional deliveries are increasing in Bangladesh. For example, none investigated what they thought about this rate of increasing institutional delivery. Which policy and interventions play a big role in this process? What are the influencing factors involved in this process? What are the existing barriers to institutional deliveries? This study sought to answer these questions in a qualitative way. The findings of the study will help researcher to understand the course of institutional delivery in Bangladesh. Findings will also help to understand the existing policy in a greater extent. The research will also help the countries struggling to reduce maternal mortality and seeking to increase institutional delivery by adopting right policies. Lastly, the research will also help the policy

makers and the training institutions improve existing policies and curricula with regards to reducing maternal mortality and increasing institutional delivery.

2.2 Objective of the study

Main objective:

The main objective of this study is to identify the possible explanations for the observed increase in institutional deliveries in Bangladesh from 1990 to 2014.

Specific objectives of this study:

(i) To identify policies that were implemented since 1990 that aimed at increasing the proportion of deliveries taking place in the institutions,

(ii) To investigate the policymaker's perceptions of which policies have been the most instrumental in increasing the rate of institutional deliveries

(iii) To investigate the service provider's perceptions of which policies have been the most instrumental in increasing the rate of institutional deliveries and

(iv) To understand the women's perception and experience with institutional delivery

CHAPTER THREE: METHODS AND MATERIALS

3.1 Study design

Descriptive case study design was used in this study, which had both an exploratory and an explanatory nature. This study is based on exploratory qualitative ways of identifying implemented policies aimed at increasing the institutional deliveries in Bangladesh.

Yin provided many considerable reasons for using case-study design (51). According to him, the best possible reasons are (a) in the emphasis on examining to resolution "how" and "why " questions; (b) one cannot employ the behavior of those involved in the study; (c) one needs to shield contextual conditions because one considers they are relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context.

Descriptive case study design is used for describing an intervention or phenomenon and the real life context in which it occurred (51). In this study descriptive case study design was used to describe the underlying reasons for the observed increase in institutional deliveries in Bangladesh. Due to the exploratory nature of the study qualitative methods were a better fit with the purpose of the study than the quantitative study.

3.2 Study Setting

Organizational structure of the ministry of health and family welfare was a key element in this study. Facilities from the national to the ward level were directly and indirectly involved in this study. In the structure of health Organogram National, Upazila, Union and Ward level were mainly involved in this study. Meanwhile, the Population Council was implementing a 24-hour delivery service at the community level facility, which was relevant to this study.

3.2.1 Study area

The study was carried out in three different parts of Bangladesh: Mohakhali upazila from Dhaka (Figure 6), Daoudkandhi upazila (Figure 7) from comilla and sreenagar upazila (Figure 8) from Munshigonj. These are three different districts of Bangladesh where the study was conducted. Dhaka is the capital city of Bangladesh, where the ministry of health and family welfare is situated. Daoudkandhi and Munshigonj are

two districts of Bangladesh, where Upazila Health Clinics are situated. There are 464 upazila health complexes in Bangladesh.

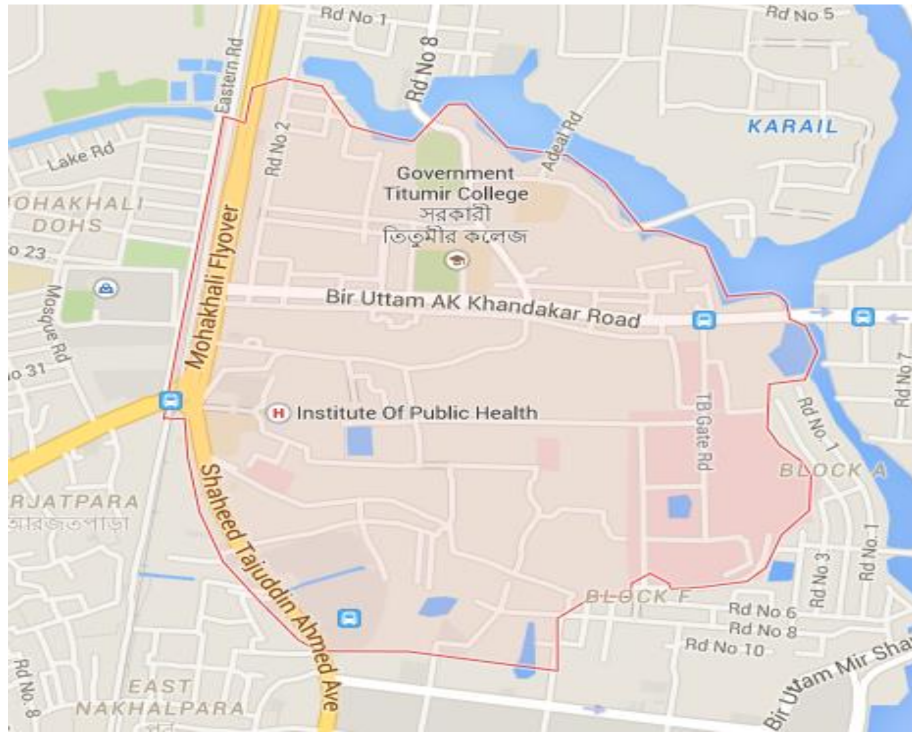

Figure 6: Map of Mahakhali Upazila.

Figure 7: Map of Daudkandi Upazila

Figure 8: map of Sreenagar upazila

3.3 Sampling

After the identification of study population the next step was to find the appropriate methods of selecting the cases from the study population. This process was done through the sampling method. There are wide ranges of sampling approaches for selecting cases. According to Sandelowski "*Determining adequate sample size in qualitative research is ultimately a matter of judgment and experience.*" Careful selection of cases and number of cases is very important when selecting cases (52). Improved understanding of study background can help the researcher to choose the appropriate sampling method.

Convenience, judgmental, and snowball sampling are three different approaches of selecting a sample for a qualitative study. Snowball or chain sampling involves utilizing well-informed people to identify critical cases or informants who have a great deal of information about a phenomenon. Researcher follows this chain of contacts to identify and gather critical cases.

Snowballing technique was used to select participants in this study. As Lee, R. M. described, "*Snowball samples are particularly popular among researchers interested in studying various classes of deviance, sensitive topics, or difficult to reach participants*" (53). Considering the study objectives, snowballing was the best fit in this case. The reason behind choosing this technique was that the study required some well-informed people to identify the critical cases. It was not an easy matter to gather them together under the same umbrella.

3.3.1 Sample size

According to Sandelowski M., numbers are unimportant in qualitative research. He mentioned that "*Determining adequate sample size in qualitative research is ultimately a matter of judgment and experience in evaluating the quality of the information collected against the uses to which it will be put, the particular research method and purposeful sampling strategy employed, and the research product indented" (52).*

In this study, the desired sample size was chosen on the basis of study objectives and availability of participants. Sample size was optimized to fulfill the study objective. The study included three different groups of participants: policy makers, service providers, and women. Twelve in-depth interviews were conducted in this study (Figure 9). From the national level two participants were included; one was the deputy director of health and another was the WHO representative of the demand side financing (DSF) cell. Six in-depth interviews were conducted with the service providers, including one upazila health and family planning officer (UHFPO), one upazila family planning officer (UFPO), two doctors (gynecologist and MNH), one family welfare visitors (FWV), and one family welfare assistant (FWA). Four in-depth interviews were conducted with women; two of them were participated in a DSF voucher scheme and two of them from non-voucher group.

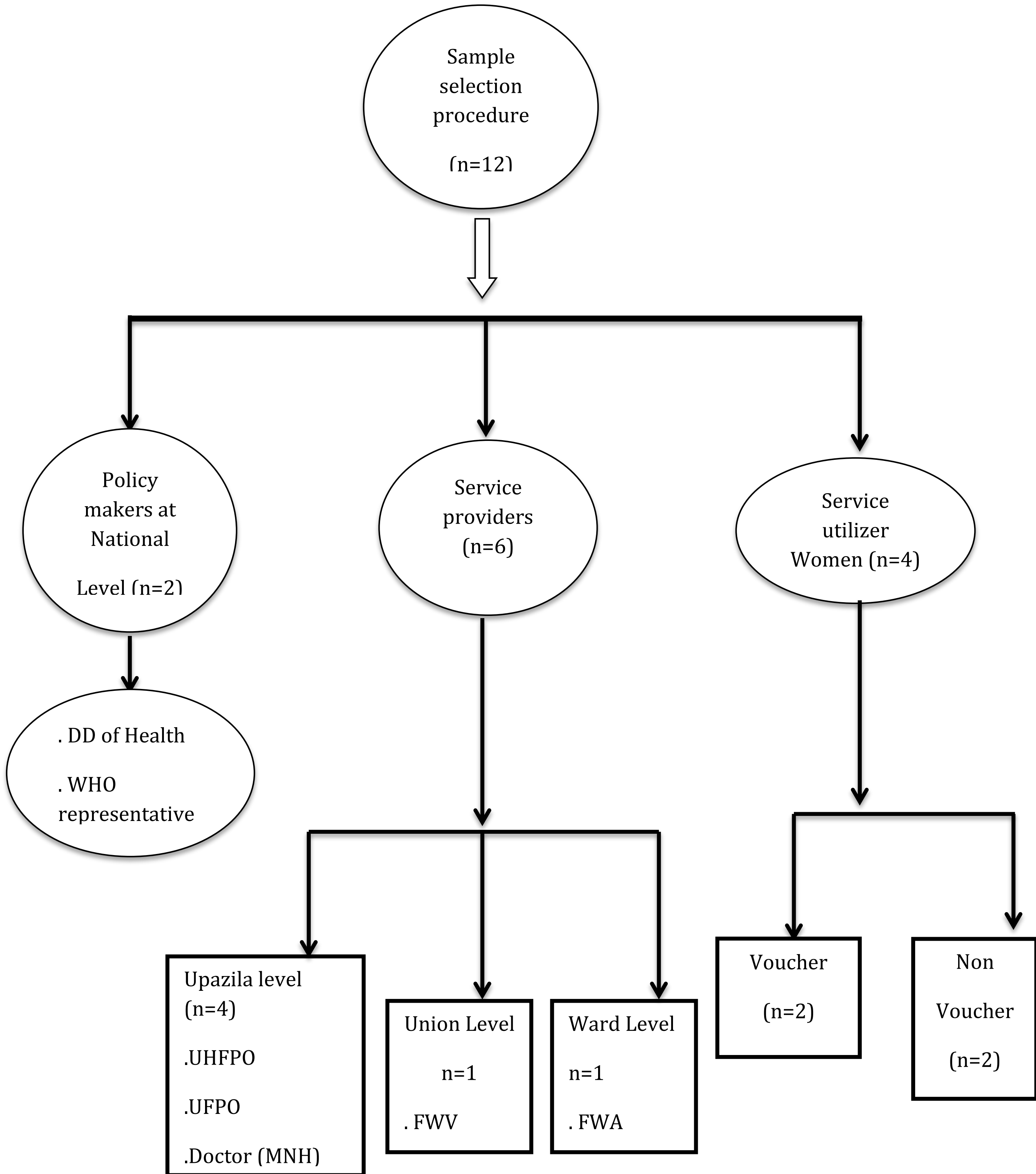

Figure 9: Sample selection procedure in a complete diagram.

3.4 Study Participants

The participants were very diverse in this study. Two Policy makers, six Service providers, and four women were voluntarily recruited as study participants. The Population Council of Bangladesh helped to recruit participants in the study. Policy makers were recruited from the national level. The Deputy Director of Health and Family Welfare at the national level was a key informant. Service providers were recruited from the upazila, union and ward level. The Upazila Health and Family Planning Officer, Medical officer at the Upazila level were involved in this study as a key informants. From the union and ward level FWV and FWA were recruited. Field Welfare Visitors and the Field Welfare Assistant at union and community level were also involved in this study as key informants. Participants were recruited to fulfill the main study objectives with three different characteristics. Women were recruited from the community level.

Firstly, policy makers were asked to share policy information related to the institutional delivery. Secondly, service providers were asked to share information related to the health service they provide to the mothers. Finally, women were asked to share their experience with utilizing health service before delivery, during delivery, and after delivery in the hospitals.

3.4.1 Inclusion criteria

For policy maker

- The health personnel, who have more than 8 to 10 years of work experience of making health policy at the national level.
- Those who have experience in maternal health policy especially in Institutional delivery.
- Those who have the experience with safe motherhood-related policies, programs and interventions.

For Service provider

- Those who have the experienced with service delivery at Upazila Health Complex, and Community health clinic.
- Those who have provided health care service to the women.

- Those who have provided ANC, Delivery facility, and PNC to women at hospitals and community clinics.

For Women

- Those who delivered at least one child at hospital.
- Those who received services related to institutional delivery, i.e. ANC visits, Delivery, and PNC visits.

3.4.2 Exclusion criteria

There are many exclusionary criteria pertaining to interviews.

- Those who do not have any experience in maternal health policy-making.
- Those who do not have enough experience in service delivery.
- Women who did not deliver at hospitals.
- Those who refused to take part in the interview

3.5 Data collection

This study used two different methods of data collection process such as in-depth interviews and document reviews. In-depth interviews were conducted for the data collection process with all participants. The project started at the beginning of the third semester August 2014. First, the researcher established the field site in Bangladesh, and then contacted the local supervisor. A fieldwork schedule was made after meeting with the local supervisor, beginning on 10th of August 2014 and ending on 28th of December 2014.

3.5.1 In-depth interview process

To meet the study objectives, in-depth interview guidelines were used in this study. Participants were interviewed face to face. The experiences of policy maker, service provider and service utilization of women were highlighted in this study. Three different sets of in-depth interview guidelines were provided to all three groups of participants. These three guidelines are included in the appendix (Appendix A & Appendix D).

3.5.2 Permission and invitation

The local supervisor and the Country Director of Population Council, Bangladesh helped to find the appropriate participants and link them to the study. Detailed lists of participants were made with the help of local supervisor. The list included the policy makers, service providers, and women from the study areas. First researcher approached to the participants and then invited them to take part in the study. The detail of the approaching process is given in the Appendix A & Appendix D. The first participant of the study was the deputy program officer of the ministry of Health. The second participant was the country representative of WHO, DSF cell. Information about the service providers and women were found with the help of the WHO representative. The service providers were from the Upazila Health Complex. They helped to find the women who delivered in the hospitals.

Approaching the participants was not an easy matter in this study. To get an appointment was a challenging matter in most cases. Some of the participants did not welcome this. Many of them were reluctant to take part in the interview.

3.5.3 Organizing the interview

Interviews occurred in different places. The office of the respondent was the main place of interview with the policy makers. The healthcare facility was another place of interview for the service providers. Finally, a private residence was the place of interview with each of the women. The place of interview was very convenient. There was no interruption. The noise level was low, lighting conditions were perfect, and better seating arrangements ensured more focus on the participants.

Before each interview, a convenient time for the respondent was considered. The policy maker and service provider were free after the break of their working hours between 2pm and 3pm. Women were more comfortable with an evening time. The duration of the interview with policy makers ranged from 50 to 60 minutes. The duration with service providers ranged from 40 to 50 minutes. The duration with each woman ranged from 30 to 40 minutes.

All participants who took part in this study spoke the native language Bangla. Bangla was chosen as the interview language, because the participants were more

comfortable with their native language. As well, some of the participants did not speak in English.

Conducting the interview in a reserved room ensured confidentiality and privacy of the participants. This allowed the participants maximum comfort during the interview. Recommendation letters from the university of Oslo, an identification card, a prepared information sheet, and a complete consent sheet, digital voice recorder, spare batteries, notepad, pens, and clip board for the interview were always carried during the fieldwork.

3.5.4 Introduction to the interview

Information about the main aim and objectives of the study were provided prior to interview session. All technical terms were fully explained before the interview began. Confidentiality matter was fully explained. Each participant was provided informed consent form (Appendix B & E). Participants were also informed that no incentive would be provided.

3.5.5 Recording interviews

All in-depth interviews were recorded using a digital recording device, which was tested several times before actual recording took place. Notes of non-verbal behavior were also taken at the same time as were observations about the environment and settings of the interview were also taken.

3.5.6 Document Review Process

Documents were reviewed from the publication of the following sources, such as: National Health Report; national demographic and health survey; maternal mortality survey; health watch report and health bulletin. Documents were also reviewed from the open publication of the national health institutes such as: ministry of Health and Family Welfare; Directorate General of Health Services; and Health population and Nutrition Sector Development program's website. Some of the documents were reviewed from the publication of the following internal organizations website: WHO, UNICEF, UNFPA, and WORLD BANK. All health policies, and programs

information were reviewed from the Directorate General of Health Services; and Health population and Nutrition Sector Development program's publications. Maternal health related policy and program information was reviewed from the Health population and Nutrition Sector Development program's website. The following table 3 illustrates the source of policy review.

Table 3: Source of reviewing the policies.

Policy	Review Source
Expansion of the Emergency Obstetric Care	UNFPA Bangladesh publication and the publication of Gill, Z., & Ahmed, J. U. (2004). Experience from Bangladesh: implementing emergency obstetric care as part of the reproductive health agenda.*International Journal of Gynecology & Obstetrics*, *85*(2), 213-220.
Community Based Skilled Birth Attendants program	HPNSDP website. http://hpnconsortium.org/hpnsdp/annual-program-review
ANC, Safe delivery and PNC program	HPNSDP website. http://hpnconsortium.org/hpnsdp/annual-program-review
Demand Side Financing (Voucher Scheme)	HPNSDP website. http://hpnconsortium.org/hpnsdp/annual-program-review
Strengthening and Upgrading facility with resources	HPNSDP website. http://hpnconsortium.org/hpnsdp/annual-program-review
Training Health personnel	HPNSDP website. http://hpnconsortium.org/hpnsdp/annual-

	program-review
Health education and promotion by DGHS	HPNSDP website. http://hpnconsortium.org/hpnsdp/annual-program-review
Information, Education and Promotion (IEP) by DGHS	HPNSDP website. http://hpnconsortium.org/hpnsdp/annual-program-review
Private and NGO sector involvement	1998-2003, Health and Population Sector Development Service.
Policies to increase social awareness and to improve the economy	Evidence from the Demographic and Health Survey, Bangladesh from 1993 to 2014.

3.6 Data Management and analysis

According to Huberman & Miles, a well-balanced data management process is the key to successful orientation of a research project (54). How successful the project would be depends on the careful data management procedure. In this study, said data management procedure was carefully handled.

3.6.1 Data handling

A unique identifying number used with each interview. This number was also written on interview form, and appears in the notes, audio files and transcript documents. The aim of assigning a file name was to have better tracking, so that no data become mixed or confused with other interviews. Details of this are shown in the appendix section.

During the fieldwork, all interview forms, informed consent, notes and audio files were kept with the researcher at all times, or otherwise locked in a secured room. Participants, non-participants, and third-party individuals were not allowed to look at

the notes or listen to the audio recordings at any time during the field interviews. Informed consent and the discussion of the interview were not revealed to anyone outside the undertaking.

During each interview, the name and any directly or indirectly identifiable information of the respondent were not used for the purpose of data collection. A pre-assigned number was used instead of a personal name or professional identification; audio recording was not started prior to obtaining formal consent from the respondent.

After the interview, short summaries of the fieldwork observation were typed in Word format and saved in researcher's personal computer. All notes and observation were typed in English. All soft copies of notes, audio files, and consent form were kept securely; a digital format of all fieldwork information was password protected and backed up regularly.

3.6.2 Transcription

Audio recordings were transcribed into English by the researcher. Audio recordings and transcriptions were then stored on researcher's personal computer. This was connected to the Internet that used cloud storage and was protected by two-stage password security. Only the four members of the research team had any access to the recordings, interviews, transcriptions and note files. During coding, any points of reference present in the text of the transcription and notes that might identify the subject were removed, and replaced with terms and identifiers that preserved the anonymity of the subject.

3.6.3 Data analysis

Making reasonable interpretations from the field data generated by interviews, observations, and documents and then presenting what the data reveled is called qualitative data analysis. As Patton, M. Q. noted, "*Analysis finally makes clear what would have been most important to study, if only we had known beforehand*" (55).

As this study used qualitative methods, exploratory techniques were highlighted here, with little emphasis on statistical considerations. The Hyper RESEARCH software program was used to manage the transcribed text. This software is able to do many things that were previously done by manual approach. It can transcribe audio and

video files, edit notes, code notes, search and retrieve notes, data, display linked data, map graphics, and assist in report composition (56). The text was openly coded, "breaking down, examining, comparing, conceptualizing, and categorizing data" (57).

The main analysis of this study is based on the conceptual framework (Figure 5), which was developed to understand the policy implementation at different levels of health facility. The detail information and the mechanism of the conceptual framework already described in the previous section.

Determination of themes was done by the researcher, supervisors and another student researcher of the same program to compare and merge the main issues in order to come as close as possible to interpretations of participants' views and experiences on the basis of the conceptual framework. To control the recall bias, many participants from the same professional background were also recruited.

3.7 Reflexivity

Reflexivity is the careful consideration of the researcher's position in the exercise of research, and how researcher impacts the object of the research (58). Clegg at al described:

> "*Ways of seeing which act back on and reflect existing ways of seeing*"(59). According to Malterud, K., "*A researcher's background and position will affect what he/she chooses to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions*" (60).

One thing that is clear from the definition of the reflexivity is that the researcher plays a key role in qualitative research and his role influences the research in many ways. Therefore, it is very important to clear the researcher's role in the qualitative research. The researcher undertook this study because of his interest in reproductive health in Bangladesh. The researcher has experience in maternal health related studies especially stillbirth, menstrual regulation (MR), and institutional deliveries in Bangladesh.

As a statistician, the researcher always tries to find out the underlying factors of a related phenomenon. In this study, the researcher looked at himself as an underlying learner and insider. The desired outcome is to know the policies and the experiences of the policy makers, service providers, and women to increase institutional deliveries in Bangladesh. As a native Bangladeshi the researcher did not face any substantial problem in communicating with policy makers and service providers. It was a challenge to face the women, and question them about their experience in institutional deliveries, because a male researcher challenges a socio-cultural barrier. A local facilitator offered assistance by conducting introductions. They assured the women that this researcher would avoid asking embarrassing questions of the participants. Further, the position of a researcher in this study and not a health worker was clarified to each respondent. During the first meeting with participants, the researcher introduced himself to them as a graduate student from the University of Oslo, Norway, who would be conducting research as a part of a master's thesis. Participants in this study made no negative comments, and all respondent feedback was positive.

Previous experience as a research statistician with Johns Hopkins Bloomberg School of public health project in Bangladesh gave the researcher an insight into the policies, which he imported into the study. For example, how to approach to the policy makers, how to deal with the participants, how to manage the interviews, and how to manage data were some of the main insights. For this, the researcher relied upon broad knowledge about the policy matter, policy makers, and women's perception in this study.

A good relationship was built between the policy makers, service providers and this researcher. All respondents showed respect, which was reciprocated by the researcher as a young person-pursuing master a master's degree. The researcher to ask questions about respondent experiences with institutional birth utilized this opportunity.

Before the start of the study, the researcher supposed that certain factors could have influenced the increase in the institutional deliveries such as, income, education, women's decision-making, women's education etc. To avoid assumption, intensive focus was placed on what respondents think in their own way. Otherwise, such presumption might lead to unexpected bias in this study.

3.7 Trustworthiness

Research findings in qualitative research should be trustworthy in every aspect. Trustworthiness confirms the increased confidence of the study findings in a meaningful way (61). Credibility, transformability, dependability and conformability together ensure the trustworthiness of the qualitative research (62).

3.7.1 Credibility

As Polit and Hungler described, credibility deals with how well the data and the process of analysis tackle the intended focus (63). Lincoln & Guba described a number of methods for establishing the credibility process (62). According to them, prolonged engagement, persistent observation, triangulation, peer debriefing, negative case analysis, referential adequacy, and member checking are the techniques of establishing the credibility in a qualitative study (62). Here, in this study, triangulation and peer debriefing were used as the measures of credibility.

According to Breitmayer et al, triangulation is used in research methods for fulfilling two different purposes confirmation and competence (64). Confirmation means, when strength and weakness of data collection techniques are known. Competence entails multiple dimensions of an area of interest (64). Creswell JW, Miller DL and Patton, MQ identify four distinctive types of triangulations: methods triangulation, triangulation of sources, analyst triangulation, and theory or perspective triangulation (65, 66). In this study, in-depth interview was utilized as the main source of data collection. A secondary source of data was also used for this study, which included published reports and documents from national and international sources.

To increase the honesty of the study, participants were voluntarily recruited and the freedom to leave or withdraw from the study at any time was emphasized. Participants were not requested to share or provide any information they felt uncomfortable, divulging, and this guaranteed the freedom of participants to express opinions.

3.7.2 Dependability

Dependability in qualitative research means taking account of all the changing conditions in whatever is being studied, for the interactions with study participants, as well as any changes in the design of the study that were needed to gain a better

understanding of the context (67). The methods that were used to establish credibility in this study as described above also helped to improve and strengthen the study's dependability.

3.7.3 Conformability

Conformability means, "the degree of neutrality or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest" (62). There are many techniques to establish the conformability of qualitative research, such as a conformability audit, audit trail, triangulation, and reflexivity (62). According to Lincoln and Guba, "External audits involve having a researcher not involved in the research process examine both the process and product of the research study" (62). The purpose of doing this is to assess the accuracy and evaluate whether or not the findings, interpretations and conditions are supported by the data. By audit trail this means, " A transparent description of the research steps from the start of a research project to the development and reporting findings"(62). This study discussed all the steps of research from the development to the findings of the research. In the previous section triangulation and reflexivity were discussed, which would help to enhance the conformability of the study.

3.7.4 Transferability

Transferability means, "The findings have applicability in other contexts" (62). According to Lincoln and Guba, the technique of using thick descriptions is the way to determine transferability. They denoted thick description as a way of achieving a type of external validity (62). According to Holloway, "Thick description refers to the detailed account of field experiences in which the researcher makes explicit patterns of cultural and social relationships and puts them in context" (68). The topic and the context in which this study was conducted were described in a great detail. All the data tools are appended (Appendix C & F) and transcripts are available upon the request of interested researchers, who may want to repeat the procedures, which were carried out in this study.

3.8 Dissemination of the findings

Following the analysis of the results, the findings will be reported at both a national and international level. The report will be written in English but will also be translated into Bangla for the benefit of Bangladeshi readers. The findings will make up the content of the Master's Thesis of the Researcher as a partial requirement for his MPhil in International Community Health at the University of Oslo. In addition, the findings will be submitted for publication in a peer-reviewed journal. A short policy brief, or "actionable message", summarizing the research findings and their implications will also be prepared for those involved in the study (69).

3.9 Ethical considerations

According to Quinn et al, research involving human subjects may employ either observation or physical, chemical or psychological intervention; it may also either generate records or make use of existing records containing biomedical or other information about individuals who may or may not be identifiable from the records or information (70). The Helsinki declaration states that considerations related to interests and well being of the human subjects should take precedence over the interests of science and society (71). It is a great necessity that every researcher should protect his or her participants from all source of threat and guard them against all misconduct (71).

Application for ethical approval was approved from the Regional Research Ethics Committee in Oslo, Norway (Appendix G) and from the Ethics Committee of Population Council, Bangladesh (Appendix H). Permission to interview the Ministry of Health Staff and others NGOs and INGOs staff were also obtained from appropriate sources.

Individuals requested for in-depth interviews were given an information sheet with a consent form (Appendices B, C, E & F respectively). They were informed of the main purpose of the study and any requirements if they choose to participate. They were also informed that any information they provide will remain anonymous and confidential and they may withdraw at any time without penalty.

Interview transcripts, audio recordings and interview notes remained with the researcher until his return to Norway, where they are kept in locked location only

accessible to the research team. Audio recordings and written transcripts were stored in principal investigator's personal computer, which is password protected. Audio recordings will be destroyed upon completion of the research, keeping only anonymized transcripts that will remain in a secure location. Any computer files will remain on the principle investigator's computer, which is password protected and will be connected to the Internet in cloud storage.

3.9.1 Informed Consent process

Getting informed consent from the study participants before they take part in any research is an essential constraint in research ethics. In the very first Nuremberg Code, it is clearly stated that, "*The voluntary consent of the human subject is absolutely essential"(72)* .We can understand, how important it is to have informed consent from the potentials respondents of the study.

According to CIOMS, informed consent is defined as,

> "*A decision to participate in research, taken by a component individual who has received the necessary information; who has adequately understood the information; and who, after consideration the information, has arrived at a decision without having been subjected to coercion, undue influence or inducement, or intimidation*" (73).

By keeping in mind participant's vulnerability and all research ethics, the researcher obtained informed consent from all study participants in the in-depth interviews. The informed consent discussion was held before each interview at the respective office, health care center, or residence of the participants. The importance of the study, risks, benefits, confidentiality, possible threat, and disclosure of the participants all were clearly discussed in understandable language. The participants were not asked any sensitive questions in this study.

The study was carried out the participants' local language in our conversation, which found to be the most convenient option for the interview. A witness signed the consent from when a woman was illiterate. After providing all information and answering any further queries, respondents were provided with the informed consent form (Appendices B and E). During the interview with illiterate women the researcher

read all consent papers in front of nurses and midwives, and also showed them the same consent paper for their consideration.

3.10 Utilization of study findings

According to Fisher and Stoeckel, “Utilization simply refers to making use of something. The “something” is either study results or study process”. The study results could be used in many different ways (74). Government officials can use the results to change the existing policy. Directors can use in strategic planning. The results can also be used to identify the key problem area in maternal health delivery. The main results of this study will provide some key information that could be considered in the policymaking process.

CHAPTER FOUR: FINDINGS OF THE STUDY

4.1 Introduction

As discussed in the methods section data were collected through in-depth interviews and secondary sources such as document review. The main objective of this study was to identify the possible explanation for the observed increase in institutional deliveries from 1990 to 2014 in Bangladesh. Specific objectives of this study were: (I) to identify policies that were implemented since 1990 that aimed at increasing the proportion of deliveries taking place in the institutions, (II) to investigate the policymaker's perceptions of which policies have been the most instrumental in increasing the rate of institutional deliveries (III) to investigate the service provider's perceptions of which policies have been the most instrumental in increasing the rate of institutional deliveries and (IV) To understand the women's perception and experience with institutional delivery.

This chapter starts with the demographic information of the participants and is followed by the identification of relevant policies. Then, perceptions of policy makers, service providers, and women are provided to help interested parties understand the scenario much better. Findings of the study are presented under the following headings from the interviews.

4.2 Demographic information of the participants

There were 12 participants included in this study. Two policy makers, six service providers, and four women were interviewed in this study. Background information of participants is summarized in Table 4. Two policy makers were from the national level. Six service providers were from two different Upazila health complexes- Daudkandhi and Sreenagar. Finally, among all the women, three of them were delivered at the Daudkandhi UHC and one is going to deliver at the hospital.

The participants were diverse in characteristics. The highest numbers of service providers are female. Many of them have more than thirty years of working experience in different levels of Government hospitals.

Table 4: Characteristics and background information of policymakers and service providers

Age groups		No. Of participants
Ranges between 35 to 60		
35-40		1
41-45		3
46-50		1
51-55		2
56-60		1
Total		8
Gender		
Male		3
Female		5
Profession		
National level	National DSF Coordinator	1
	WHO representative	1
Upazila level	Maternal & Newborn health (Doctor)	1
	Gynecologist & obstetric care (Doctor)	1
	Upazila health and family planning officer (UHFPO) (Doctor)	1
	Upazila family planning officer (UFPO)	1

Community level	Family welfare visitors (FWV)	1
	Family welfare assistant (FWA)	1
Years of experience		
10 to 20		3
21 to 30		**1**
31 to 35		4
Religion		
Muslim		7
Hindu		1

4.2.1 Characteristics of women group

In the women participants' group individuals were age-ranged from 20 to 28 years. Three of them were Muslim and one was Hindu. Three participants had five to ten years of schooling, and one participant had 15 years of schooling experience. All of them were housewives. One of them read the newspaper once a week. The rest of them did not read newspaper at all. All four watched a television program once a week. Two of them listened to radio once a week, and rest of the two did not listen to radio at all. Their husbands made the health expenditure decisions of three women. The father-in-law made the choice for one.   In a total of four women, two of them had normal deliveries one had a caesarian delivery, and last one was expecting. The birth outcomes of all three women already delivered were live babies.

4.2.2 Reproductive history of the respondent

The reproductive histories of the women were very informative for this study. Among four women, only one was pregnant at the time of the interview. All of the women have live children. None of them had miscarriage, stillbirth, or

abortion history. Two of the women had more than two pregnancies in their respective histories, and rest has only one pregnancy to date, respectively.

4.2.3 Birth history and utilization of health services

Birth history and utilization of health services are highlighted in table 5. After the childbirth women utilized the health service from the health care center. They sought healthcare service from the trained health care professional. In the following table, all information related to birth history and utilization of health services are depicted.

Table 5: Birth history and utilization of health services by the participants (Women)

How many ANC visits are for pregnant women?	No. Of participants
1	0
2	1
3	1
4	1
Don't know	1
How many time did you go for ANC visits	
1	1
2	1
3	0
4	0
Place of receiving ANC care	
UHC	1

UHFWC	2
Who provide the ANC care	
MBBS doctors	3
Delivery place of last baby	
UHC	3
Who delivered the baby	
MBBS doctor	3
Complicacy during delivery	
Yes	1
No	3
Complicacy after delivery	
Yes	
No	3
PNC checkup	
Yes	1
No	3

4.3 Policy identification for Institutional deliveries

Maternal mortality reduction was a great challenge for Bangladesh. Since 1990, maternal mortality is decreasing in the country. The health sector was one of the top priorities of the Bangladesh government. This needed a combined effort from both national and international bodies. Many policies, programs, and interventions were promoted in the last few decades for the reduction of maternal mortality. According to WHO, the most critical period of a woman's life is the pregnancy period. As (Say et.al. (2014)), found in the systematic analysis of maternal deaths, 75% of all maternal

deaths occurred due to pregnancy-related complicacy. This includes before and following pregnancy and the childbirth period.

Enacting appropriate policies and some simple solutions could avert this huge number of deaths. To avoid maternal deaths in Bangladesh, the government adopted many policies beginning in1990 (Table 6). In this section, policies related to avoiding maternal mortality and increasing institutional deliveries are discussed in detail.

According to Health, Population, and Nutrition Sector Development (HPNSPD) in Bangladesh, the following policies were found improving the maternal health and increasing institutional deliveries in Bangladesh.

Directly contributing in improving maternal health related program

1. Expansion of Essential Obstetric Care (EOC) program
2. Community Based Skilled Birth Attendants (CSBA) program
3. ANC, PNC and Safe delivery program
4. Demand Side Financing (DSF) (Voucher scheme)
5. Strengthening and upgrading facilities with resources
6. Training health personnel (Doctors, nurses, technicians, FWVs, SBAs, midwifery, and paramedics)

Indirectly contributing to improving maternal health related program

7. Health education and promotion by DGHS
8. Information, Education, and Promotion (IEP) by DGHS
9. Private sector & NGO involvement (BRAC Manshi program urban delivery program, ICDDR,B)
10. Policies to increase social awareness and to improve the economy

Table 6: List of implemented policies with time period and focusing area.

Policy	Time period of Implementation	Focus area
Expansion of Emergency Obstetric Care	1992-1993 with the help of UNFPA[6]	Strengthening all national, district and upazila hospitals of Bangladesh
Community Based Skilled Birth Attendants (CSBA) program	First initiated in 2003[7]	Training family welfare assistants and female health assistants
Antenatal care **Postnatal care** **Safe delivery**	1998-2003 with the introduction of essential service package through HPSS program[8]	1. Ensuring 4 ANC visits to all women during pregnancy. 2. Ensuring checkup & management of complications including caesarian section within 6 weeks after delivery 3. Make sure safe delivery to every women provided by health personnel.
Demand side financing (DSF) (Voucher scheme)	Pilot project in 2004 and inaugurated nationally in 2007	Provide maternal health services to the poor women
Strengthening and	In 2003 with the introduction of essential	Strengthening & upgrading facilities with

[6] Gill, Z., & Ahmed, J. U. (2004). Experience from Bangladesh: implementing emergency obstetric care as part of the reproductive health agenda.*International Journal of Gynecology & Obstetrics*, *85*(2), 213-220.
[7] http://hpnconsortium.org/hpnsdp/annual-program-review
[8] http://hpnconsortium.org/hpnsdp/annual-program-review

<table>
<tr><td colspan="2">upgrading health facility</td><td>service package through HPSS program[9]</td><td>high quality services, beds, and regular supply of drugs and equipment.</td></tr>
<tr><td colspan="2">Training health personnel</td><td>In 2003 with the introduction of essential service package through HPSS program[10]</td><td>Training of doctors, nurses, SBAs, FWVs, technicians, and paramedics for providing essential and emergency obstetric care services.</td></tr>
<tr><td colspan="2">Health education and promotion by DGHS</td><td>In 2009 this program was introduced with HNPSP interventions[11]</td><td>Improve awareness among people, especially poor and vulnerable, through increasing knowledge, changing attitude of people.</td></tr>
<tr><td colspan="2">Information, Education and Promotion (IEC) by DGFP</td><td>In 2009 this program was introduced with HNPSP interventions[12]</td><td>Bringing behavioral change by increasing awareness to the mass population.</td></tr>
<tr><td rowspan="2">Private and NGO involvement</td><td>BRAC Manoshi program</td><td>First initiated in 2007[13]</td><td rowspan="2">• Conducting studies related to maternal mortality
• Provide clean and safe delivery services for the slum dwellers in Dhaka city.</td></tr>
<tr><td>ICDDR,B study area in Matlab</td><td>Program was initiated in 1976</td></tr>
<tr><td colspan="2">Policies to increase social awareness and to improve the economy</td><td>Evidence from BDHS report 1993 to 2014</td><td>Improving socioeconomic condition and raising public awareness on institutional delivery</td></tr>
</table>

[9] http://hpnconsortium.org/hpnsdp/annual-program-review
[10] http://hpnconsortium.org/hpnsdp/annual-program-review
[11] http://hpnconsortium.org/hpnsdp/annual-program-review
[12] http://hpnconsortium.org/hpnsdp/annual-program-review
[13] Ahmed, S.et al. (2010). Using formative research to develop MNCH programme in urban slums in Bangladesh: experiences from MANOSHI, BRAC.*BMC public health*, *10*(1), 663.

4.3 Perceptions of policy makers, service providers and women

Perception of policy makers, service providers and women is presented under the following headings.

4.3.1 Perception of policy makers and service providers on program and policy related to Institutional deliveries

The second objective of this study is to investigate the policymaker's perceptions of which policies have been the most instrumental in increasing the rate of institutional deliveries. Third objective of the study is to investigate the service provider's perceptions of which policies have been the most instrumental in increasing the rate of institutional deliveries. Findings are presented with the following headings that emerged during analysis: understanding of program and policy by the policy makers and service providers; experience of policy makers on policy; experience of service providers on policy; differences in the opinions of policy makers and service providers

4.3.2 Understanding of program and policy by the policy makers and service providers

This study included two policy makers and six service providers. Questions were asked to gain an idea of their understanding where different policies related to the institutional delivery were concerned. This was determined through their aptitude to describe the policy matters, as well as their perception on those policy matters. The results exhibited that there was a good understanding of policy matters among policy makers and service providers.

All seven participants were agreed on EmOC and ANC. Some of the participants even referenced the voucher, SBA, and community awareness programs. Others mentioned noticeable economic improvement, female education, and both private and NGO activity. Some of them expressed their understanding as a combined effect of all programs and policy.

All participants shared the general understanding of policy from their own background. However prioritizing of those policies was not same for all participants. Some emphasized EmOC program as a key program element. Others believed that voucher availability and ANC visits are the key program elements in these regards.

Urgency of EmOC program was pointed out by most of the respondents. When asked about what they believed the most important policy is, this service provider replied:

> "*People are smarter now. They know if there is no caesarian section at UHC then this could be a problem for them, so the best option is district or tertiary hospitals. I think EmOC facility is the main reason why they do not come here. If we cannot provide the EmOC facility here then we would not be able to deliver more babies in this hospital. Now at present our institutional delivery rate is only 29% and our government is trying to increase this rate to bridge the 71% gaps, which is a big challenge for the government, for this EmOC facility is very important."* **Medical officer (MNH) SP2**

Another finding emerged from the participant's viewpoint, which is "*public awareness.*" Most of the participants mentioned that public awareness through education, media exposure, and health promotion campaigns has been raised much more than the past. It has an effect on decision making in institutional delivery.

Demand-side financing was one of the successful policies stated by both policy makers and service providers. When asked about the influence of voucher program is, they responded:

> "*Only those who gets voucher we have seen lots of encouragement to them. In past those who did not come to the hospitals especially rich and middle class families, they are also coming to the hospitals by seeing them. They realize poor mothers go to the hospitals for seeking service, if they can go to the hospital than why should not we. We will also go there. We have better opportunity and our economic conditions are better than theirs. We should go to the hospitals. They are also coming to the upazila hospitals. We noticed this changes in the voucher distributed areas that they are coming to the hospitals more than before."* **Policy maker 1**

> *"In my own experience if there is no encouragement/hope shown to the mothers then they do not want to come here. In the past there was some sort of incentive facility for the women for adopting family planning methods. FWV and FWA had a target to fulfill and they worked hard to*

achieve that target for the sake of incentive. It really worked well. Now many mothers come here by the result of those initiatives whether they get money or not. You have to start with something at least. It would be better to start DSF program in this hospital. From the field level viewpoint at least you have to lure them with something". **Medical officer (MNH) SP2**

4.3.3 Experience of policy makers on policy and program

Both policy makers have more experience with policy implementation. One has more than 32 years of experience and other has more than 8 years of working experience. They share a similar understanding but hold different opinions and varieties of experience with regard to policy and program issues. They shared their experience with policy and program differently. When it was about maternal health-related program and policy, they shared their experience in the following way.

> *"We delivered many programs related to maternal health. At the union level executed yard meeting with mothers. In the hospital we have health education session with mothers taken by nurses. Main intention of those meeting and session were about to take the service of antenatal care (ANC), Institutional delivery, postnatal (PNC), breastfeeding and family planning measures. All were done with the help of Family welfare visitors (FWV) at community level and nurses at the hospital level. BCC campaign was also done from national to community level with the help of TV, Radio, newspaper, open concert and other social media. Idea was to beware mothers about ANC, Institutional delivery, PNC, breastfeeding through the yard meeting. Training of birth attendance and voucher scheme was also initiated."* **National DSF Coordinator PM 1**

As per second the policy maker's experience with voucher scheme, it was successful in many aspects.

> "*From grass root level to the tertiary level health facility every service provider gets the voucher incentive against each service delivery. For this reason service delivery has increased. What complication could arise during pregnancy, when they need to go to hospitals all are informed to the*

mothers? They also suggest mothers to the safest place for delivering their child. For this mothers can decide place of delivery, Upazila health complex or private clinic where they can feel safe and secure. For this institutional delivery is increasing. As service provider also gets incentive they also pay special attention and care to the mothers. For this I will say areas where voucher exist institutional deliveries is increasing more compared to non-voucher areas. Institutional delivery encouragement is not only for voucher area, same encouragement shown in non-voucher area too. They do this in every area but in voucher area they do have an extra effort as incentive is related. So there will be a special impact in those areas". **WHO representative PM2**

The overall impact of the voucher scheme at national level was not so significant, as explained by the first policy maker.

"*You have to notice one thing that there are 427 upazila health complexes (UHC) in Bangladesh among those only 53 UHC is in voucher-enlisted package. Fifty-three facilities have a little impact at the national level. In this case if institutional deliveries increase in 427 UHC facilities then national level will also increase. So you can understand how national level figure have increased. Fifty three facilities represent only 1/8th of national figure.*"

National DSF Coordinator PM 1

There was a difference of perception between the two policy makers about the involvement of the private sector in reproductive health care, especially institutional deliveries. Their experience with private sector was like as follows.

"*Private sector is contributing a lot in the institutional deliveries. This progress was not possible without the help of private sector involvement. Many private clinics were designated for delivering maternal health care services. They have good arrangement of doctors, Operation Theater, blood transfusion system in case of emergency. Whereas, these facilities are not available in all government hospitals*". **National DSF Coordinator PM 1**

"*Private sector contributes a lot which is true, but they do not always follow the rules and regulations. Caesarian delivery is higher in private hospitals compared to government clinic. Caesarian cost more than normal delivery. Because of money they do lot of caesarian delivery*".

WHO representative PM2

4.3.4 Experience of service providers on policy and program

Service providers have a direct connection to the people at ground level. They have to interact with the patients and pregnant women in the hospitals. They have more experience in a field-level situation. Their experience in this study was found important and instructive. Their feedback from the ground level was considered for the policy implementation. Different insights came from their experience with both policies and programs.

In this study, six service providers from the Upazila health complex level to the community level were included. They shared their experience from various points of reference. All of them have more than 15 years of working experience, respectively.

All the service providers shared their experience that EmOC program was the most important program in their field. When asked about their experience, they replied:

"*Now a day women are more concern about their child delivery. They think in case of emergency situation, caesarian delivery would be required, so they go to the hospitals where this facility is available*".

Medical officer (MNH) SP2

"EmOC facility is not just like luxury thing, but I will say it is the necessary facility that should have in every hospital. If you want increase the institutional delivery then EmOC facility is must. Situation gets worse in emergency situation". **Field Welfare Visitor FWV SP5**

Some of the service providers mentioned the voucher scheme experience and related a positive impression.

"*DSF voucher scheme program produces better results to the poor communities. People are more aware then past. Encouragement was*

shown to the mothers. In this program mothers do not need to pay anything. They get money and gifts under this scheme. They get easy access if they have voucher card. This is a very good initiative". **Medical officer (Gyne & Obs.) SP1**

"DSF is for motivating the people to come in the hospital and EmOC facility is mandatory to increase the institutional deliveries. If incentive is included in the EmOC program both for service providers and mothers then result would be impressive". **Medical officer (MNH) SP2**

The service providers viewed private sector involvement in the health sector differently. They shared their experience with private sector involvement in institutional delivery under the following statements.

"*Private clinic also contribute beside government hospitals. Sometimes it is not possible to arrange an emergency delivery at the middle of the night in government hospitals especially at UHC. For this reason they go to the private clinic for delivery and they can do this at any time. Private clinic can arrange doctors for delivery. Doctor comes anytime with a phone call. I think easily availability of private clinic facility is one of the reasons. Whether there is only one government hospital in an Upazila in contrast there exist 4 to 5 private clinics. They have this facility next to their door so they go there*". **Medical officer (Gyne & Obs.) SP1**

"*Private hospitals play a big role in institutional delivery. They bring gynecologist consultant, anesthesiologist consultant to their hospital. People think if they get better opportunity to the next-door then why they should go to the district hospital. We try to convince the mothers to deliver child in the government hospital but they don't want to come here because of no EmOC facility. So they go to the private clinics*". **Medical officer (MNH) SP2**

4.3.5 Differences in the opinions of policy makers and service providers

The policy makers and the service providers shared many important ideas about policy related to institutional deliveries. However they differed in their own experience in some policy. They expressed their views differently with the same program and policy.

The situation at ground level and at the policy formation level is quite different. On the policy formation level, there was an indication of availability of doctors in upazila health complex to support delivery. However, in practical application, doctors are not available round the clock. So, the patients have to wait for the doctors or be moved to a private hospital.

This is the problem of delivering a child at the government hospitals, especially at the upazila and community clinics. Though facility-based delivery increased in the voucher distribution area, still now women have to bear the initial cost of child delivery.

There are also contrasting opinions of private sector involvement in institutional delivery among policy makers and service providers. They mentioned that the caesarian section delivery has much increased in the private hospitals compared to the government hospitals. On the policy creation level, there is an indication of what percentage of caesarian delivery is normal for a country. However, not all private hospitals follow this rule.

4.3.6 To understand women's perception and experiences with the institutional deliveries

In this study, women were asked about their perception and experience with institutional deliveries. The main parts of this section were divided into reproductive history of the respondent, birth history, utilization of health services, decision making during delivery, and experiences with voucher scheme.

There were four women included in this study. Three of them participated in the voucher scheme and only one woman did not belong to this scheme. The women were delivered in the hospitals, and they had the experience of utilizing the health services.

4.3.7 Experiences with voucher scheme

Some of the participating women had an experience with the voucher scheme. They were asked to share their experience, which was explained in the following way:

> “ *We decided to deliver at home with the help of a SBA. As complicacy raised and we also have the voucher card then my husband decided to move hospital for safe delivery. We got immediate access to the hospital because of this voucher card. We did not have to wait for long time. I will say to have this voucher card at the delivery moment is blessing.* ”
> **Mother 3 is she the pregnant one?**

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.1 Introduction

This chapter is divided into two main sections discussion of the findings and the discussion of the methodology. The discussion of the findings is based on the policy and program implemented from national to community level health facilities. A four-phase framework is used to discuss the findings of the study (Figure 4). The first stage explains what are the policies and programs were implemented from 1990 to 2014. In the second stage health facility was targeted to implement policy through program at different levels. The third stage of the framework explains the process of implementing policies through programs and interventions. In this process from the beginning to the termination of the policy and program is monitored and evaluated by the monitoring and the evaluation committee.

In the final stage of the framework outcome is observed, which shows the reduction of maternal and child mortality and morbidity, increase of survival rate, and increase of institutional delivery in Bangladesh.

The first section discusses the findings in relation to policy and program aimed at increasing the institutional delivery at the community level. This is followed by discussing the findings in relation to policy and program aimed at increasing the institutional delivery at the district, upazila and divisional level. The final section of the chapter discusses the findings in relation to policy and program aimed at increasing the institutional delivery at the national level.

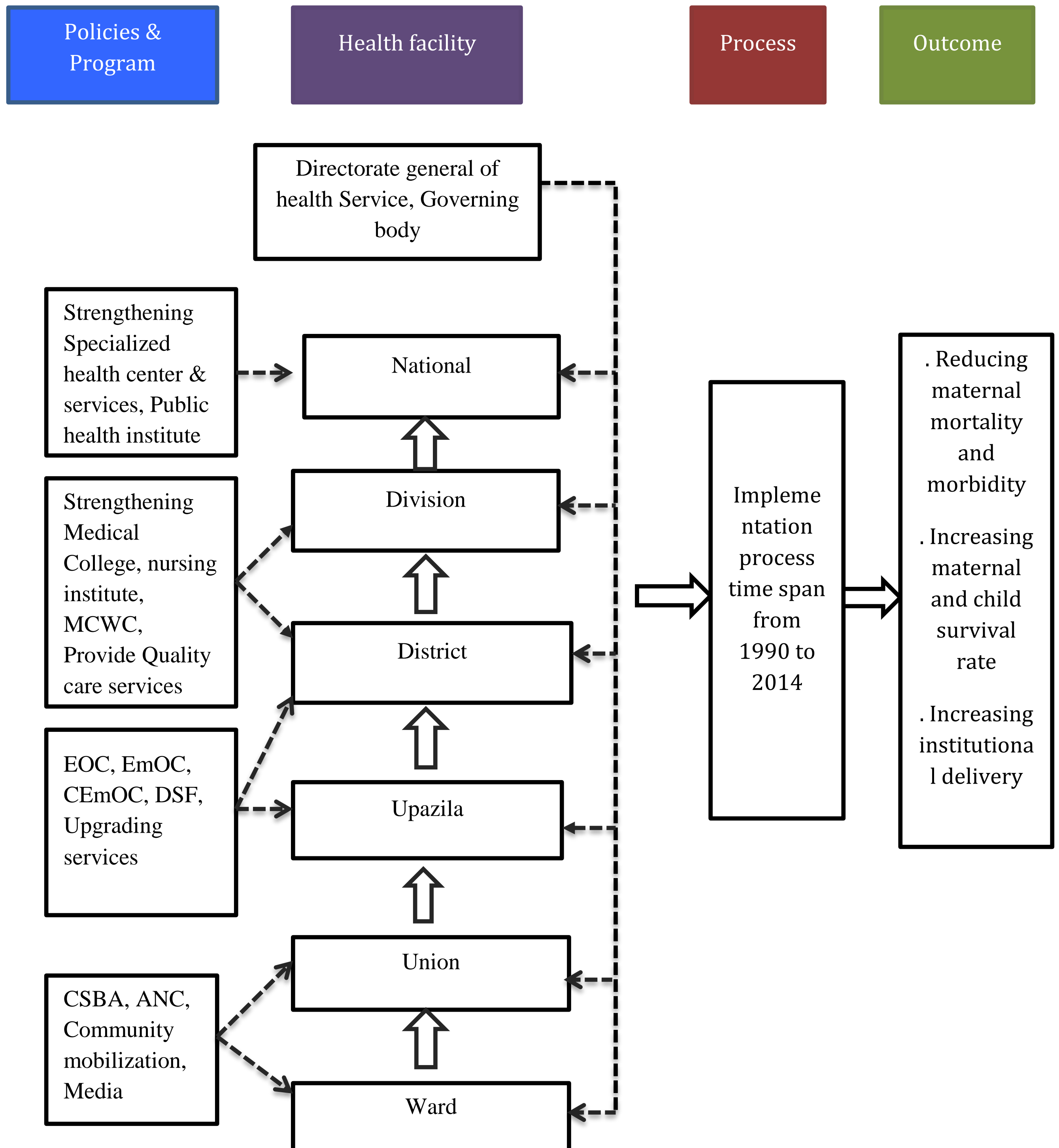

Figure 10: Framework for increasing institutional delivery in Bangladesh.

5.1.1 Summary of the findings

EmOC, CSBA, and demand side financing were found the most important policies in the study that has directly contributed to an increase in institutional deliveries. Some other policies were also found to contribute indirectly by improving maternal health and increasing institutional delivery. Education, promotion, and policies to increase social awareness and improve the economy were indirect factors that contributed to an increase in institutional deliveries.

The main findings of the study are discussed in this section. Findings are discussed with the help of the four-phase framework.

5.2 Policy and program aimed at increasing the institutional delivery at the community level

The policies that aimed at increasing institutional deliveries at the community levels were: Community based skilled birth attendance; antenatal care; community mobilization through motivation and health education & promotion; and policy to increase social awareness and to improve the economy. The two policy makers and seven service providers reported that these are the key policies and programs implemented at the community-level health care facilities. Successful implementation of these policies and programs at the community level was perceived as increasing the institutional deliveries.

5.2.1 Impact of Community based skilled birth attendance program

The Community-based Skilled Birth Attendants (CSBA) program was found to be one of the important policies for increasing institutional deliveries. Policy makers reported that this program is very successful at the community level. Even though this program had shown a good progress at the community level, the service providers are of different opinions. Working with limited resources at the community level presents several challenges, the most important of which is an inability to provide adequate care to their patients.

In 2001 Skilled Birth Attendants (SBA) training program was first initiated in Bangladesh (6, 27). The foci were on the family welfare assistants and female health assistants in that study rather than traditional birth attendants. After the success of the

pilot project, the ministry decided to expand this program nationally. At present, 342 Upazilas of 60 districts have the Community-based Skilled Birth Attendants program in Bangladesh (7). In a study in Bangladesh found that women who are educated using skilled birth attendants more than the illiterate women (75). Study suggest that there exist a strong association between the number of health care workers and the proportion of birth at the institutions (76). One systematic review study based on Meta analysis found that skilled birth attendants substantially reduce stillbirth(77).

Despite a limitation of geographical coverage, the progress of the CSBA program is impressive and increasing. The trend of assisting home-based delivery with the skilled birth attendance is increasing.

5.2.3 Influence of ANC program

The study indicated that women were given a health education sessions during routine visits of the ANC. In that session, women were informed about basic health, pregnancy care, dangerous signs of delivery, and place of delivery. If any complications arise at the time of delivery, then they were advised to contact the community health worker.

Some studies asserted that ANC visits have positive effects on birth weight of babies. Three ANC visits appeared to be effective in reducing the proportion of low birth weight (19), one of the beneficial effects of the ANC program. The most important issue is reducing maternal mortality. One study found the positive association between ANC visits and reduction of maternal mortality (20). The study based on evidence based health research from many countries. Their final argument was that improving the socioeconomic condition and promoting female education could reduce maternal mortality (20). In India, a study based on the/a national family health survey, showed that three antennal visits are associated with greater odds of delivering child in the public health facility (78).

One particular study in Bangladesh, found that ANC visits lead to an increase in institutional deliveries. Women who had completed three or more ANC visits, are 3.25 times more likely to deliver in the facility (22). In another cluster randomized trail study in Bangladesh, it was found that women who took ANC care decreased the

maternal mortality hazard (79) .Antenatal care visits have some very important benefits to women during pregnancy. Successful completion of all ANC visits could increase institutional delivery and reduce maternal mortality rates.

5.2.4 Effect of Community mobilization and motivation through health education and promotion

Community mobilization and motivation program could be a contributing factor for increasing institutional delivery and reducing maternal mortality in Bangladesh. To access the impact of community mobilization program many research project is implementing some developing countries (80).

5.2.5 Media influence

At present in Bangladesh, 43.5 percent of households have a television set and 3.5 percent of them have a radio set (5). Hence, media coverage is much improved in Bangladesh, which also indicates the economic improvement of Bangladesh. Many health promotion activities are telecast via the national TV program. They mainly focus on maternal health, especially delivery care for women, family planning methods, and emergency transportation to facilities during delivery and child health care activities.

Studies show that mass media has a moderate effect on the reduction of birthrate (81). In one special study in Bangladesh, it was found that the people, who were exposed to the Smiling Sun program via TV, radio, billboards, and pamphlets, were more likely to use health care services. It also revealed a higher utilization of ANC among the group of women exposed. (82). Other studies suggest that access to mass media increases the utilization of maternal health care services 1.5 times. (83). Women who received the microcredit paid more attention to the health promotion activities than other women (84). TV is not more frequent in the rural household. BRAC was the first to introduce this innovative health promotion activity in Bangladesh (84).

However, there is a difference in media exposure in both urban and rural areas of Bangladesh. In urban areas, women are more exposed to TV programs compared to rural women—indicating a gap between coverage of the demographics.

5.3 Policy and program aimed at increasing the institutional delivery at the upazila and district level

Emergency obstetrics care (EmOC), demand side financing (DSF), strengthening and upgrading facilities with resources, and training health personnel were found to be important policies for increasing institutional delivery in Bangladesh. These policies have some significant effects on institutional delivery, such as reducing maternal mortality.

5.3.1 Essential and Emergency obstetric care (EOC, EmOC) on service delivery

All service providers emphasized an emergency obstetric care program. They found this was the most influential program to motivate women to deliver in the hospital. To have this service in any facility was a great resource for institutional delivery. However,, not all facilities have this service.

Evidence suggests that of the availability of EmOC services reduced the maternal mortality in many parts of the world (31, 85-87). In a study based that examined data fromon 42 sub-Saharan countries, it was projected that if deliveries occurred in the facilities that had an access to the CEmOC services, then 13,000 more mothers could be saved in each year (88). In Nepal, government agencies found that by strengthening emergency obstetric care programs, the proportion of births attended in hospitals increased from 3.8% in 2000 to 8.3% in 2004 (89).

Another study in Mali found that, during the study period, there was a sharp increase in the rate of institutional deliveries in the EmOC facility (90). In rural Uttar Pradesh, India researchers found that facility delivery is increasing with the introduction of the EmOC program (91). After the implementation of EmOC services at four facilities in Mozambique, the proportion of births attended in EmOC facility increased from 12.6% in 1999/2000 to 36.1% in 2005 (92).

In Matlab, Bangladesh, from 1987 to 1989, a community-based maternity care project was conducted to assess the impact of EmOC (48). This study suggests that the rate of maternal mortality was reduced by 50% in the intervention area with availability of EmOC service (34). According to Health Bulletin 2014, 20.3% of all births took place at the EmOC facilities and 66.5% of EmOC need was met at that time (7).

It is clear that an EmOC facility is a critical component for reducing maternal mortality (31). The most significant feature of this service is that it can increase the delivery three fold more by strengthening health service delivery and infrastructure (36). A 30-year cohort study in Matlab, Bangladesh, confirms that EmOC was very important for increasing institutional delivery (49). Some of the main intervention of ICDDR,B program was access to emergency obstetric care, training of traditional birth attendants, and antenatal care seeking. Women were also provided with special transportation to seek obstetric care and emergency delivery in the hospitals. Another study in Dinajpur, Bangladesh, found the effect of emergency obstetric care service produced a significant increase in institutional deliveries (93).

However, this service is not available in all Upazila hospital that is a limitation of existing policy. Improvement of service delivery, availability of EmOC service, 24-hour service delivery, and frequent monitoring could be a better option for the rural women.

5.3.2 Demand side financing or voucher program for poor women

This voucher initiative is provided to impoverished women, who may then receive skilled cared at home or in a facility for delivery support, as well as transportation cost to the hospital. One study suggests that facility delivery has increased more substantially in the voucher receiving area than the non-voucher receiving area (46).

The voucher program is not new to the world. It was implemented in many countries for increasing the utilization of the health services (39). In India, it was found that voucher program was an option for increasing the utilization of reproductive health services (94). Taiwan and Korea used this program for increasing the utilization of family planning services (95). The right policy and successful implementation of this program could lead to an increase the utilization of health service(96).

In Bangladesh, the voucher program creates significant purchasing power among poor women in rural areas (97). Pilot voucher programs indicated a positive effect on the utilization of maternal health services among this demographic (98). This program creates a platform for the poor women for seeking basic and emergency maternal health care.

However, there is some over emphasis on caesarian section delivery for those who participate in this program. In the voucher-enlisted area, a trend of caesarian delivery shows an increasing pattern (98). This could be due to the emphasized incentive of caesarian section over normal delivery. If unnecessary, caesarian delivery can avoid then this will produce much better result. This program is not available in all upazila hospitals. Rapid expansion of this program could lead to increased utilization of maternal health care to the poor women.

5.4 Strengthening and upgrading facility with resources through Public Private Partnership approach for increasing the utilization of maternal services at national level

Private and NGO sectors play a big role in increasing the maternal health utilization in Bangladesh. According to the 2011 BDHS analysis, private and NGO sectors contributed 15% and 2% of total institutional delivery, respectively (2). This is a significant increase of private sector contribution in delivery support at the national level.

Some studies argue that failure to provide quality care at the public health centers encourages the private sector to contribute in health sector (99). Strengthening the health facility was a key policy element for improving maternal health in rural part of the country. One study shows that strengthening the public health facility was a key policy, following the independence of Bangladesh (100).

In a study in Uganda, researchers found that a 30% increase in facility delivery occurred within two years, following the introduction of a program strengthening health facilities (101). In Nepal, a free-of-cost delivery policy, and the resultant effects on health facilities, shows that the proportion of deliveries that take place in the health facility increases (102).

In another study in Rwanda, which was based on strengthening the district health system, the proportion of facility-based delivery increased from 25% to 60% from 2003 to 2005 (103). A population-based study in rural Tanzania showed that if the availability of drugs and the quality of medical equipment were improved in the hospitals, then facility delivery would increase from 43% to 88%(104). Another study in northern Uganda found that after the strengthening of health facilities increases, so do the facility deliveries (105). Socioeconomic improvement and strengthening health facilities in Cambodia contributed to the increase in the facility delivery (106).

Private and NGO engagement was a part of the strengthening health sector in the country (99). The most common maternal health service provided in the private hospitals is caesarian delivery Citation? Data? . In many countries, caesarian delivery has increased more than double, especially in rich countries (107). Easily accessible facilities, available doctors, and flexible choice are the main reasons for booming the private hospitals' contribution in maternal health service.

However, increasing rates of unnecessary caesarian delivery in private hospitals is a great concern for the policy makers and the governing body. This involves large sums of money and health hazards for women in rural areas. Regular monitoring in the private hospitals is required to manage this situation.

5.5 Discussion of the methodology

5.5.1 Strength of the study

The study was able to get in touch with highly relevant informants, due to local knowledge and contacts. Triangulation process of data collection methods was also used to make the study trustworthy.

5.5.2 Limitations of the study

The study has some limitations. In this study, small numbers of respondents were included. Because of small number of respondents, the study may have missed some important aspects. On the other hand, reviewing documents and speaking to the policymakers probably picked up important policies. It is less likely that the study has picked up all-important perceptions about these policies, due to the low number of participants.

CHAPTER SIX: CONCLUSION

6.1 Introduction

In this chapter recommendations, conclusions and areas of future research are discussed on the basis of findings of the study.

6.2 Recommendation

Based on the study findings the following recommendations could be considered for the future policy and program modifications:

- Skilled birth attendants program was found an important policy at the community level. To ensure more births with skilled birth care, it is recommended that agencies promote and expand this program.
- Policies such as ANC and PNC visits encourage women to utilize maternal health services and deliver child in the hospitals. It is also recommended that organizations maintain good progress on this policy in order to facilitate the provision of these services in lower level institutions.

6.3 Areas of future research

This study focuses on key policies and programs for increasing institutional deliveries in Bangladesh. Many important policies and programs were discussed in depth in the findings section of the study. However, it was not possible to look all relevant contributing factors that influence institutional delivery. Further research in this direction is strongly recommended.

- This study includes a small number of participants. It could be done with more participants, ranging from policymakers and service providers to the women most impacted.
- This study is a qualitative study. It could be done in mixed method approach, incorporating both qualitative and quantitative methodological analyses. In the quantitative part, demographics could be used to predict who actually delivers at the hospitals and the perceptions derived from the qualitative parts could be further explored to cast light on the quantitative data. Such a mixed method study could prove an interesting future research project.

- This study did not focus on family members' views related to institutional delivery. The husband and head of the family plays an important role for deciding the delivery place. Their perceptions were NOT included in this study. What they think about institutional delivery could stand as a contributing factor in future research.
- This study did not focus on the influence of quality care experienced in hospital deliveries. This could be an additional focus on future research.
- Caesarian section delivery is increasing in correlation to a rise in the rate of institutional delivery. Other factors determining institutional delivery in Bangladesh could be one focus of any future research project.
- Cost is associated with the institutional delivery. Cost analysis of institutional delivery in both the public and private sectors could form part of a future research proposal. How any cost involved in institutional delivery affects the poor community for determining place of delivery is yet another aspect of the consideration.
- How EmOC, and transportation service influencing institutional delivery at the rural area could be a future research project.

6.4 Conclusion

In conclusion, this study sheds light on women's health policies. We gain an appreciation that it is not just one policy or program, but several that complement each other in the ultimate goal to increase institutional deliveries and thereby potentially reduce maternal and infant mortality rates. Another way to view the objectives of these policies and programs is that their ultimate goal is to increase maternal and infant survival. Important policies like emergency obstetric care, skilled birth attendants, and voucher schemes found in this study could lead to an increase in institutional deliveries nationwide. Continuation of all policies at every level of the national health structure would have a salutary effect on institutional deliveries.

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APENDICES

Appendix A: In-depth interview guideline for policy maker and service provider consist informed consent, cover sheet and question section.

Guideline for In-depth interview with key informants

2014

Master of Philosophy (MPhil) program in International Community Health

University of Oslo

UiO: Universitetet i Oslo

Appendix B: Informed consent for the policy maker and service provider.

Informed Consent Form

I want to thank you for taking the time to meet with me today. My name is Sabuj Chandra Bhowmick and I would like to talk about the observed increase in hospital deliveries in Bangladesh.

Specifically, as one of the components of my study I am looking for programs and policy options are likely to result in meaningful increase in hospital deliveries in order to capture lessons that can be used in future interventions.

The purpose of this study is to identify possible explanations for the observed increase in hospital deliveries in Bangladesh. If you participate in the study you will be involved in an in-depth interview, lasting no more than an hour. I will ask you questions concerning the observed increase in hospital deliveries in Bangladesh.

Your participation in this study is completely voluntary. Choosing to participate or not participate in the study will not have any negative repercussions. You are completely free to decline any part of the research, to choose not to answer any questions posed by me, to ask to have the audio recording turned off, or to withdraw from the study at any time without penalty. Both the audio recording used in the interview and the information obtained from the interview in the form of transcribed texts or notes will remain completely confidential. Names and/or any other identifiers that arise from the research interview will be altered in order to preserve your anonymity.

If you have any questions, please do not hesitate to ask me. You may also contact my supervisors, Viva Combs Thorsen, Department of Community Medicine, University of Oslo, Tel.: +4722850587, Email: v.c.thorsen@medisin.uio.no, Dr.Atle Fretheim of the Norwegian Knowledge Centre for Health at (+47) 24 16 3296 or at atle.fretheim@nokc.no before or after participating in the study.

Interviewee Signature: _____________________________ Date: ____________________

Witness (Signature)…………………………………………….

Appendix C: Question sections for policy maker and service provider

Cover sheet for policy maker and service provider

<table>
<tr><td>Name of the District</td><td>Name of Upazila</td></tr>
<tr><td colspan="2">Sex of the informants: 1. Male 2. Female
Code:</td></tr>
<tr><td colspan="2">Position of Informants

Director, PHC=01, Deputy program manager, DSF=02, Representative of WHO=03, Representative of UNFPA=04, Representative of WB= 05, National DSF coordinator=06, UHFPO=07, RMO=08, Medical officer MNH=09, Field Welfare Visitor (FWV)=10, Field Welfare Assistant (FWA)=11

Code:</td></tr>
<tr><td colspan="2">Committee of Informants

National DSF committee=01, DSF Program implementation committee=02,

DSF technical subcommittee=03, Upazila DSF committee=04

Code:</td></tr>
<tr><td colspan="2"></td></tr>
</table>

Interviewer's name: ____
Interview Date: ____
Time started: ________________
Time finished: _________________
Result 1. Complete 2. Not complete 3. Refused 4. Other ______________ Code: [ ]

Section 1: Background information

No.	Questions	Categories	Codes
1	Committee of Informants	DSF program implementation committee=01, DSF technical subcommittee=02	

2	What are the policies/Programs were implemented to increase the hospital deliveries?	Facility strengthening Training of facility supervisors Training of outreach staff Service providers community and stakeholder mobilization BCC campaign Financial package programs/DSF/Voucher scheme Training of TBA/BA Promotion of ANC Skilled Birth attendance (SBA), nurses or doctors Others………………………..	1 2 3 4 5 6 7 8 9 11
3	What are the tools used?	District planning tool Facility assessment tools Others………………………….	1 2 4

Questions during in-depth interview

- Which of these strategies, interventions and tools would you consider to be key program elements? Please explain.
  …………………………………………………………………………………
  …………………………………………………………………………………
  ……………......................
- What worked well? Please elaborate.

………………………………………………………………………………

………………………………………………………………………………

………………………....

………………………………………………………………………………

……………

Role of Policy/Program (i.e. Voucher/DSF) in improving quality care, access to services

Section: 01- Primary information

1.1 How long you are working with DSF program?

1.2 Could you please describe your main responsibility in this program?

Section: 02- Issues on Voucher program design.

2.1 What are the strategies/knowledge building capacity used to inform local people and the service receivers about Voucher/DSF program? Do you think existing strategies are sufficient? If no, then did you make any changes in this case?

____

____

2.2 Do you think conditions applied to the selection of appropriate women in voucher program are sufficient? Are those followed during the selection period?

____

____

____

2.3 Did you get any complain against the appropriate voucher receiver from the community level? If yes then what measures did you consider at that time?

2.4 Did you face any other problem at that time (i.e. voucher distribution, manpower shortage, technical assistance)? If yes, then how did you overcome those barriers?

Section 3: Monitoring system

3.1 Is there any reporting system involved in voucher program from union health complex to the national level? If yes, then what are they?

3.2 What types of monitoring system are working in DSF program?

3.3 Did you get any fraud incident in DSF program? If yes, what are they and did you take any action?

Section 4: Perception on DSF Voucher Scheme

4.1 Do you think this program contribute in increasing the institutional deliveries? If yes how?

4.2 Did you find any changes in the quality care of maternal health after the introduction of this program?

4.3 Did you find any difference in service delivery between Voucher and non-voucher receiving groups? If yes, how did you overcome this problem?

4.4 Did you get any discrimination with other service receiver, those who do not get any voucher incentives?

4.5 Do you think private and NGO organizations should also participate in this kind of program?

Appendix D: In-depth interview guideline for women contains informed consent form, cover sheet, and question sections in Bangla.

Guideline for In-depth interview with Women

2014

Master of Philosophy (MPhil) program in International Community Health

University of Oslo

UiO: Universitetet i Oslo

Appendix E: Informed consent for women in Bangla

বিবাহিত মহিলাদের নিবিড় সাক্ষাৎকারের জন্য অবহিত সম্মতি পত্র

সাক্ষাৎকারের

আসসালামু আলাইকুম/আদাব। আমার নাম সবুজ চন্দ্র ভৌমিক, আমি ওসলো ইউনিভার্সিটি নরওয়ে থেকে এসেছি। আমি বর্তমানে পপুলেশন কাউন্সিল এর সহযোগিতায় বাংলাদেশের গর্ভবতী মায়েদের হাসপাতালে প্রসব ও স্বাস্থ্য সেবা নিয়ে মায়েদের কাছ হতে নিবিড় সাক্ষাৎকার গ্রহন করছি।

সাক্ষাৎকারে উদ্দেশ্য : গর্ভবতী মায়েরা কোন কোন কারনে হাসপাতালে প্রসব ও স্বাস্থ্য সেবা গ্রহনের জন্য আসে এই সব জানাই এই গবেষনার মূল উদ্দেশ্য । আপনাদের দেওয়া তথ্য সমূহ স্বাস্থ্য সেবার উন্নয়নের জন্য ব্যবহৃত হবে।

সম্ভাব্য ঝুঁকি : আপনি স্বাস্থ্যগত বিভিন্ন সমস্যা ও চিকিৎসার বিষয়ে কথা বলতে অস্বস্থিবোধ করতে পারেন। তবে চাইলে সাক্ষাৎকার দেওয়া বন্ধ ও করে দিতে পারেন বা কোন প্রশ্নের উত্তর নাও দিতে পারেন।

সুবিধা : এই সাক্ষাৎকারে অংশগ্রহন সম্পূর্ণ স্বেচ্ছামূলক । সাক্ষাৎকারে অংশ নেয়ার জন্য আপনাকে কোন টাকা বা সুবিধা দেয়া হবে না । এই গবেষণাটি ফলপ্রসু হলে তা বাংলাদেশের একটি স্বাস্থ্যসেবা মডেল হতে পারে। এভাবে আপনার অংশ গ্রহন সমাজের উপকারে আসবে।

গোপনীয়তা ও নাম প্রকাশ না করা : আপনার নাম গবেষণার কোন প্রতিবেদন প্রকাশ করা হবে না । আপনার দেয়া তথ্যসমূহ কঠোর গোপনীয়তার সাথে রাখা হবে এবং শুধুমাত্র গবেষণার উদ্দেশ্যে ব্যবহার করা হবে।

গবেষণার নিয়মাবলী এবং সময় : আমি আপনার কথাগুলো রেকর্ড করবো কারণ আপনার দেয়া প্রতিটি তথ্যই গবেষণার জন্য গুরুত্বপূর্ণ। সাক্ষাৎকার চলাকালীন সময় আমি কিছু কিছু তথ্য লিখেও নিব। এই সাক্ষাৎকারের জন্য আনুমানিক ২৫-৩০ মিনিট সময় প্রয়োজন হবে।

সাক্ষাৎকারে অংশগ্রহণ না করার অধিকার : আপনি সাক্ষাৎকারের যে কোন সময় অংশগ্রহণ করা থেকে বিরত থাকতে পারেন অথবা যে কোন প্রশ্নের উত্তর দেয়া থেকে বিরত থাকতে পারেন। আপনি গবেষণায় অংশগ্রহণ না করলেও সরকারী স্বাস্থ্য সেবা পেতে কোন সমস্যা হবে না।

প্রশ্নঃ সাক্ষাৎকার সম্পর্কে আপনার কি কোন প্রশ্ন আছে ? হ্যাঁ ☐ না ☐

(প্রশ্ন থাকলে প্রশ্নটি লিখুন এবং উত্তর দিন)

সম্মতিঃ আপনি কি এই সাক্ষাৎকারে অংশগ্রহণ করতে রাজী আছেন? হ্যাঁ ☐ না ☐

এরপরও যদি আপনার কোন প্রশ্ন বা দ্বিধা থাকে, তবে দয়া করে আমার সাথে যোগাযোগ করতে পারেন- ঠিকানাঃ ঠিকানাঃ ১৭১,পশ্চিম আগারগাঁও,মিরপুর, ঢাকা-১২১৬ টেলিফোন : ০১৮১৮৬৮৯৮০০, ০১৬৭৬১৬০৩০৩ ইমেইলঃ sabujcb@student.matnat.uio.no

সাক্ষাৎকার গ্রহণকারীর বিবরণী ঃ

"আমি নিম্ন স্বাক্ষরকারী, পর্যবেক্ষণমূলক সাক্ষাৎকার প্রদানকারীকে তার পক্ষে বোঝা সম্ভব হয় এমন ভাষায় সাক্ষাৎকারে অংশগ্রহণের উদ্দেশ্য ও কার্যপ্রণালী এবং গবেষণার সাথে সম্পর্কিত ঝুঁকি ও সুবিধা সম্পর্কে বুঝিয়েছি। তাছাড়া তার আরও কোন প্রশ্ন থাকলে তা জানার জন্য আমি তাকে আমার সাথে যোগাযোগের ঠিকানা দিয়েছি। আমি এই মর্মে ঘোষণা করছি যে, উত্তরদাতা স্বেচ্ছায় পর্যবেক্ষণমূলক সাক্ষাৎকার প্রদানের অনুমতি দিয়েছেন।"

সাক্ষাৎকার গ্রহণকারীর নাম ও স্বাক্ষর ....

তারিখ..

প্রত্যক্ষদর্শীর নাম ও স্বাক্ষর..

তারিখ..

Cover sheet for women

District: ______________________	Upazila: ______________________
Respondent's ID:	Household Head:
Interviewer Name:	
Types of respondent: [ ]	1. Voucher receiver 2. Non voucher receiver
Time started	[ ] : [ ]
Time Finished	[ ] : [ ]
Interview date	[ ] : [ ] : [ ]
Result Code: [ ] 1. Complete 2. Not complete 3. Refused 4. Other: ____________	

Appendix F: question sections for women.

Section 1: Background information

No.	Questions	Categories	Codes
1	What is your Age?	in years	…… …… ….
2	What is your Religion?	Islam Hindu Christian Buddhist Others………..	1 2 3 4 99
3	What is your highest class of education?	Class	…… ……..
4	What is your main occupation?	Professional/ technical Business Factory worker, blue collar service Semi- skilled labor/ service Unskilled labor Farmer/ agricultural worker Poultry, cattle raising Home based manufacturing Domestic servant Other	1 2 3 4 5 6 7 8 9 10

			99
5	Age of your husband?	in years	…… …… ….
6	What is the highest class of your husband?	Class	…… ……..
7	What is the main occupation of your husband?	Professional/ technical Business Factory worker, blue collar service Semi- skilled labor/ service Unskilled labor Farmer/ agricultural worker Poultry, cattle raising Home based manufacturing Domestic servant Other	1 2 3 4 5 6 7 8 9 10

			99
8	Do you read newspaper/magazine?	Yes No	1 2
9	Do you listen to the Radio?	Yes No	1 2
10	Do you watch television?	Yes No	1 2
11	Who decide the health expenditure in your family?	Yourself Husband Both of you Parents/In-laws Other……………………	1 2 3 4 99

Section 2: Reproductive history of the respondent

No.	Questions and filters	Responses	Code
201	Are you pregnant at present?	Yes no	1 2
202	How many children do you have?	Boy Girl	
203	How many of your children died?	Boy died Girl died	
204	Did you have any history of miscarriage/MR/Stillbirth?	Yes No	1 2
205	If you have miscarriage/MR/still birth, then how many times?	Miscarriage	

		MR Stillbirth	
206	How many times have you become pregnant?		

Section 3: Birth history and Utilization of Health services

Now I will ask some questions about your birth experience in the last five years?

No.	Questions and filters	Responses	Code
301	In the last five years how many times have you become pregnant?		
302	Do you know how many times a pregnant women should go for ANC visits?	Number Don't know	 98
303	Did you go for ANC visits?	Yes No	
304	How many times did you go for ANC visits?	Numbers	
305	Where did you receive The ANC care?	Own residence/Parental residence/in-laws residence Others residence (CSBA/TTBA/RMP) Medical college/District sadar Hospital	1 2 3 4

		UHC	5
		MCWC	6
		UHFWC	7
		Community clinic	8
		Satellite clinic	9
		NGO clinic	10
		Private hospital/clinic/chamber	11
		Pharmacy	
			99
		Others……………………..	
306	To whom you received ANC care?	MBBS	1
		FWA	2
		HA	3
		CSBA	4
		FWV	5
		MA/SACMO	6
		Nurse/Paramedics	7
		NGO worker	8
		TTBA	9
		Village doctor/TH/Homeopathy	10
		TBA	11
		Others………………	98

307	Where did you deliver your child?	Own residence/Parental residence/in-laws residence Others residence (CSBA/TTBA/RMP) Medical college/District sadar Hospital UHC MCWC UHFWC Community clinic Satellite clinic NGO clinic Private hospital/clinic/chamber Pharmacy Others……………………..	1 2 3 4 5 6 7 8 9 10 11 99
308	Who deliver your child?	MBBS FWA HA CSBA FWV MA/SACMO Nurse/Paramedics	1 2 3 4 5 6 7

		NGO worker TTBA Village doctor/TH/Homeopathy TBA Mother/Mother in law/relative/neighbor Others………………	8 9 10 11 12 98
309	Did you have any kind of complicacy during delivery?	Yes NO	1 2
310	Did you receive any service for such complicacy?		
311	Where did you receive service for such complicacy?	Own residence/Parental residence/in-laws residence Others residence (CSBA/TTBA/RMP) Medical college/District sadar Hospital UHC MCWC UHFWC Community clinic Satellite clinic NGO clinic Private hospital/clinic/chamber	1 2 3 4 5 6 7 8 9 10 11

		Pharmacy Others……………………..	99
312	Did you have any complicacy after delivery?	Yes NO	1 2
313	Did you receive any treatment for such complicacy?	Yes NO	1 2
314	Where did you receive service for such complicacy?	Own residence/Parental residence/in-laws residence Others residence (CSBA/TTBA/RMP) Medical college/District sadar Hospital UHC MCWC UHFWC Community clinic Satellite clinic NGO clinic Private hospital/clinic/chamber Pharmacy Others……………………..	1 2 3 4 5 6 7 8 9 10 11 99

315	Did your child have any complicacy after delivery?	Yes NO	1 2
316	Did you receive any treatment for such complicacy?		
317	Where did you receive service for such complicacy?	Own residence/Parental residence/in-laws residence Others residence (CSBA/TTBA/RMP) Medical college/District sadar Hospital UHC MCWC UHFWC Community clinic Satellite clinic NGO clinic Private hospital/clinic/chamber Pharmacy Others……………………..	1 2 3 4 5 6 7 8 9 10 11 99

Section 4: Questions related to voucher scheme

401. Do have any Govt.voucher book? If yes then tell me your experience as a voucher scheme utilizer?

402. Do you think incentive and service received by this scheme is sufficient for you? If not, then what else do you want from this scheme?

403. Did you face any difficulties as a voucher scheme user? If yes what are they?

Appendix G: Regional ethical clearance from Norway.

Region:	Saksbehandler:	Telefon:	Vår dato:	Vår referanse:
REK sør-øst	Anette Solli Karlsen	22845522	01.08.2014	2014/1043/REK sør-øst A
			Deres dato:	Deres referanse:
			23.06.2014	

Vår referanse må oppgis ved alle henvendelser

Atle Fretheim
Norwegian Knowledge Centre for the Health Services

We refer to the Remit Assessment form received by the Regional committee for Medical and Health Research Ethics on the 17.06.2014. The Remit Assessment has been evaluated by leader of REK south-East on the authority of the committee.

The object of the project, as it is understood from the remit assessment, is to identify which factors that contribute to that an increasing amount of women give birth in hospitals, and to what degree actions and political resolutions have contributed to this development.

Information on individual health will not be collected.

The object of the project is not to generate new knowledge about health, disease, diagnosis or treatment.

The project is therefore not considered to be taken in under the substantial scope of the Act on medical and health research (the Health Research Act), jf. § 2. The project may be carried out without an approval from the regional committee for medical and health research ethics in Norway. It is the responsible institutions responsibility that the project is carried out with reliability and that local approvals are obtained.

Vi ber om at alle henvendelser sendes inn via vår saksportal: http://helseforskning.etikkom.no eller på e-post til: post@helseforskning.etikkom.no

Vennligst oppgi vårt referansenummer i korrespondansen.

Med vennlig hilsen

Knut Engedal
Leder

Anette Solli Karlsen
Komitesekretær

Kopi til:

Besøksadresse: Gullhaugveien 1-3, 0484 Oslo
Telefon: 22845511
E-post: post@helseforskning.etikkom.no
Web: http://helseforskning.etikkom.no/

All post og e-post som inngår i saksbehandlingen, bes adressert til REK sør-øst og ikke til enkelte personer

Kindly address all mail and e-mails to the Regional Ethics Committee, REK sør-øst, not to individual staff

Appendix H: Ethical clearance from Bangladesh.

House # 15B, Road # 13
Gulshan, Dhaka 1212
Bangladesh

Tel: +880 2 882 1227
Fax: +880 2 882 3127

popcouncil.org

April 20, 2015

Sabuj Chandra Bhowmick
University of Oslo
International community health
MPhil

Subject: Ethical Clearance

With reference to your request on the above subject this is to inform you that your study titled **"Increasing Institutional delivery in Bangladesh"** has been reviewed and as there is no intervention, risk of distress or injury, physical or psychological to the subjects, therefore ethical clearance from Bangladesh is not needed.

Thanking you,

Ubaidur Rob, PhD
Country Director

The Population Council conducts research and delivers solutions that improve lives around the world.
Big ideas supported by evidence: It's our model for global change.