Development of a Framework for Establishing Maternity Insurance in Bangladesh

Khondaker Golam Moazzem, Rumana Huque
ASM Shamim Alam Shibly, Fahmidur Rahman
Jebunnesa, Audrika Shabnam

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by:
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

CENTRE FOR POLICY DIALOGUE

ark foundation

DEVELOPMENT OF A FRAMEWORK FOR ESTABLISHING MATERNITY INSURANCE IN BANGLADESH

Development of a Framework for Establishing Maternity Insurance in Bangladesh

Khondaker Golam Moazzem
Rumana Huque
ASM Shamim Alam Shibly
Fahmidur Rahman
Ms Jebunnesa
Audrika Shabnam

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by:
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

CENTRE FOR POLICY DIALOGUE

ark foundation

Published by

Centre for Policy Dialogue (CPD)
House 40/C, Road 11 (new)
Dhanmondi, Dhaka-1209, Bangladesh
Telephone: (+88 02) 41021780, 41021781
E-mail: info@cpd.org.bd
Website: www.cpd.org.bd

First Published May 2025
© Centre for Policy Dialogue (CPD)

Disclaimer: The views expressed in this paper are those of the authors alone and do not necessarily reflect the views of Centre for Policy Dialogue (CPD).

Cover Design
Avra Bhattacharjee

Copyediting
HM Al Imran Khan

Page lay-out and typesetting
Md Shaiful Hassan

Citation: Moazzem, K.G., Huque, R., Shibly, A. S. M. S. A., Rahman, F., Jebunnesa, Ms., and Shabnam, A. (2025). *Development of a Framework for Establishing Maternity Insurance in Bangladesh.* Centre for Policy Dialogue (CPD).

Executive Summary

Bangladesh is at a critical juncture in its journey toward establishing an inclusive social protection framework. In coherence with the National Social Insurance Scheme (NSIS), the government has announced its commitment to introduce maternity insurance by 2026 under the broader National Social Security Strategy (NSSS). This study provides evidence-based insights and an institutional roadmap for designing a maternity insurance model that responds to the country's specific socio-economic and healthcare realities.

The introduction of maternity insurance is motivated by the disproportionate financial burden maternal care places on families, especially among low-income and informally employed groups. Bangladesh's current maternal healthcare landscape is characterised by high out-of-pocket expenditures, persistent gaps in access to skilled care, and significant disparities between urban and rural areas. While progress has been made in institutional births and maternal mortality reduction, the dual challenge of accessibility and affordability continues to compromise outcomes for women and newborns.

This report identifies systemic weaknesses that maternity insurance could address. Using the Sample Vital Registration System (SVRS) 2020 data and other national datasets, the study provides an in-depth socio-demographic analysis of mothers and their access to healthcare services. It finds that a majority of mothers—particularly in rural areas—give birth at home without professional medical assistance. Education, economic participation, and geographical location critically influence maternal health-seeking behaviour. For example, nearly 83 per cent of mothers are homemakers with limited financial independence, and birth registration coverage is exceedingly low—just 1.3 per cent within 45 days of birth—which forefends service linkage and accountability.

International best practices from countries such as China, Vietnam, India, and Thailand provide state subsidies, employer-employee contributions, and structured governance mechanisms to finance maternity care. Common features across these systems include mandatory enrolment, diversified funding sources, and risk pooling, all aimed at achieving universal health coverage and financial protection for women during pregnancy and childbirth.

The Bangladeshi healthcare system, although constitutionally mandated to ensure equitable access, suffers from fragmented service delivery, outdated regulatory frameworks, and an over-reliance on out-of-pocket payments (currently around 64 per cent of total health expenditure). The Ministry of Health and Family Welfare (MOHFW) operates a three-tier healthcare system with limited reach and quality assurance in rural settings. At the

same time, private and NGO sectors have grown rapidly, often operating without uniform standards, fee regulations, or formal integration into national health policies.

Maternity health outcomes vary widely by geography and age. The highest use of institutional facilities is observed in Khulna and Dhaka, while areas like Sylhet and Mymensingh lag significantly behind. A mother's age between 21 and 35 years is identified as the most suitable bracket for targeting insurance due to higher rates of skilled attendance and relatively safer delivery outcomes. Urban-rural divides remain stark, with caesarean sections disproportionately prevalent in urban hospitals, raising concerns over medical necessity and cost inflation.

In light of the significant role of the informal sector in Bangladesh's labour market and the high proportion of non-working mothers, the study stresses that a contributory-only insurance model may be exclusionary. Instead, hybrid funding and targeting mechanisms are essential to ensure equitable inclusion. Piloting in urban zones with better healthcare infrastructure and reliable birth/death registration could yield valuable lessons before national scale-up.

The study concludes that while there are multiple schemes—like the SSK health protection scheme, maternity benefits for workers, and various NGO-run voucher programmes—the current offerings are fragmented, inadequately funded, and poorly coordinated. There is a pressing need for an integrated and regulated maternity insurance scheme anchored in legal mandate, sustainable financing, and strong monitoring.

On the basis of an evidence-backed rationale and contextual understanding of the healthcare system, maternal risks, and international policy precedents, this report aims to provide a foundational basis for policy reform. It calls for a maternity insurance scheme that ensures financial risk protection, enhances access to skilled maternity care, and supports broader health and social development goals of Bangladesh.

This report presents a maternal insurance framework designed for Bangladeshi women. The framework takes into account current government strategies and policies, distinctive features of maternal insurance, gaps in existing and potential insurance models and health protection schemes of Bangladesh, as well as insights from international practices. Based on this analysis and critique, the authors outlined the following characteristics for the proposed insurance model:

- A mandatory, universal, and cashless maternal health scheme for all Bangladeshi women of reproductive age
- Coverage for two living children and up to 45 days post-delivery for all pregnancy outcomes, including miscarriage, stillbirth, clinical abortion, and menstrual regulation
- Claims for admission, in-patient and out-patient consultations, medical supplies, lab tests, hospital charges, and transportation in special cases
- Exclusion of travel and food costs for patients and companions, and any expenses incurred outside insurer-designated partner facilities

Reliable statistics on the annual number of total pregnancy attempts in Bangladesh are currently unavailable. However, based on the live birth rate, stillbirth rate, and other pregnancy outcomes, the total estimated number of yearly claims is approximately 3.7

million, with 48.7 million beneficiaries (estimated by WHO). In line with the Health Care Financing Strategy 2012–2032 of the GoB, all beneficiaries are categorised into four groups: those in the formal sector, informal sector, below the poverty line, and those who are not in the labour force or are unpaid family workers

Similarly, only a limited number of studies have examined the cost of maternity healthcare in Bangladesh, and national statistics often do not provide enough clarity. To overcome these limitations, a brief review of existing cost-related literature has been conducted. It has been found that the average cost of maternity care in Bangladesh ranges from BDT 15,000 to BDT 50,000, varying by the type of delivery and the ownership of the health facility.

Recent trends indicate that 45.1 per cent of deliveries in Bangladesh occur in private facilities, with a notably high C-section rate of 81.1 per cent, which far exceeds the WHO's recommended rate of 10 per cent to 15 per cent. In response to these statistics, the proposed framework outlines three models based on a controlled C-section rate and an equal distribution of deliveries (50 per cent) between public and private facilities. These models include: (a) a best-case scenario with 15 per cent C-sections, (b) a middle-case scenario with 30 per cent C-sections, and (c) a worst-case scenario with 45 per cent C-sections. To prevent moral hazard and limit excessive claims, the reimbursement for deliveries in private facilities will be capped at the average cost of NGO facilities.

The proposed framework suggests a yearly premium of BDT 60 to BDT 1,015 per beneficiary, based on beneficiary category and model, providing coverage up to BDT 41,000. Depending on the model, the total annual funding requirement is estimated to range between BDT 7,305 crore and BDT 9,886 crore. Of this amount, the government is expected to contribute around 63 per cent, followed by employee contributions from both the formal and informal sectors (approximately 23 per cent) and employer contributions (around 11 per cent). To ensure sustainable financing, the government may consider utilising revenue from 'sin taxes', which generated BDT 30,000 crore in FY 2020–21.

Despite its comprehensive approach, the framework has several limitations. Notably, it does not include child support, which is a critical component of maternal and child health. The framework did not include administrative or operational costs due to insufficient data, potentially affecting implementation. A major concern is the high level of government contribution required to fund the scheme, raising questions about long-term financial viability. Ensuring coverage for all women, particularly those in the unorganised informal sector, presents further challenges in terms of identification, enrolment, premium collection, and service delivery. Moreover, the absence of a structured referral system, lack of skilled professionals, and absence of a monitoring system to prevent unnecessary C-sections may hinder efficient service provision and continuity of the framework.

Addressing the above-mentioned gaps is essential for the implementation and sustainability of the insurance model. The authors recommend the following solutions:

- Unveiling the proposed maternal insurance framework with government employees, staff of autonomous/self-administered institutions (e.g., universities, banks), and the Below Poverty Line (BPL) population. For these groups, either the government

contributes the highest share of the premium, or implementation is more feasible due to greater administrative control of government.

- Government should initiate multiple small-scale pilot programs to test the proposed framework, gather data, and make necessary adjustments (e.g., cost assumptions, benefit caps, and service delivery, etc.) before scaling up nationally. Also, the government should ensure a strong monitoring and evaluation system to track progress and guide improvements during these pilots.
- Formal sector employers of Bangladesh are legally entitled to provide maternity benefits to their employees. The government should engage in discussions with private sector employers and employees to determine feasible contribution rates and participation terms. Adjustments to employer and employee contribution rates, offering tax rebates or subsidies to participating employers may be required, depending on the nature of the industry and stakeholder negotiation.
- The government should establish a unified referral system that integrates public, private, and NGO facilities. To reduce unnecessary C-sections, comprehensive treatment guidelines must be enforced, along with enhanced monitoring mechanisms, especially for NGO and private facilities.
- To ensure the inclusion of all Bangladeshi women of reproductive age, the government can use the maternal insurance card to provide additional services like vaccinations, free health checkups, and link it with other women targeted safety net programmes or use it as a regulatory tool (e.g., marriage registration). Also, the government can partner with Mobile Financial Service (MFS) providers and Microfinance Institutions (MFIs) to facilitate premium collection and broader inclusion.
- Launch awareness campaigns and financial literacy programs to improve coverage and claim settlement of maternal insurance, especially targeting women.

Acknowledgements

The Centre for Policy Dialogue (CPD) and ARK Foundation, Dhaka, jointly conducted the research, while the paper has been produced under the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) Bangladesh project titled 'Social Protection for Workers in the Textile and Leather Sector (SOSI)'.

The team would like to register its sincere gratitude to a number of government health officials from Tangail district. The valuable support received from *Dr. Silvia Popp*, Project Manager, SOSI, *Fabian Klinge, Rushan Afroze, Syed Moazzem Hossain, Nakib Rajib Ahmed, Ms Veronica Kripa Gomes, Md. Badruddin Saify, Shakhawat Hossain Rana,* and *Narmiaat An-noor* throughout the study period is duly acknowledged. Additionally, the team would like to acknowledge the effort of colleagues from the ARK Foundation and their engagement with different government and private sector officials in order to prepare the framework.

The study team would also like to express its appreciation to the International Labour Organization (ILO) and United Nations Development Programme (UNDP) officials for their input in different meetings.

Contents

List of Tables

List of Figures

Acronyms

AUB	Abnormal Uterine Bleeding
ANC	Antenatal Care
BBS	Bangladesh Bureau of Statistics
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BKMEA	Bangladesh Knitwear Manufacturers and Exporters Association
BLWF	Bangladesh Labour Welfare Foundation
BMMS	Bangladesh Maternal Mortality and Health Care Survey
BPL	Below Poverty Line
BLA	Bangladesh Labour Act
CPD	Centre for Policy Dialogue
CEOC	Comprehensive Emergency Obstetric Care
CBR	Crude Birth Rate
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DIFE	Directorate of Inspection of Factories and Establishments
DoL	Department of Labor
FDR	Fixed Deposit Receipt
FWV	Family Welfare Inspector
FY	Year of Fiscal Year
GED	General Economics Division
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HA	Health Assistant
HEU	Health Economics Unit
IDRA	Insurance Development and Regulatory Authority
ILO	International Labour Organization
ISAPRE	Institution of Social and Private Health Insurance

MA	Medical Assistant
MBF	Ministry Budget Frameworks
MFS	Mobile Financial Service
MHLW	Ministry of Health, Labour and Welfare
MOHFW	Ministry of Health and Family Welfare
MMR	Maternal Mortality Ratio
MTMF	Medium-Term Macroeconomic Framework
NBR	National Board of Revenue
NHI	National Health Insurance
NHP	National Health Policy
NHSO	National Health Security Office
NID	National ID
NGO	Non-Governmental Organisation
NSSS	National Social Security Strategy
NSIS	National Social Insurance Scheme
NVD	Normal Vaginal Delivery
OOPE	Out-of-Pocket Expenditure
PHC	Primary Health Care
PNC	Postnatal Care
PM-JAY	Pradhan Mantri Jan Arogya Yojana
PROM	Premature Rupture of Membrane
RMG	Ready-Made Garments
SACMO	Sub-Assistant Community Medical Officer
SBR	Stillbirth Rate
SHI	Social Health Insurance
SOSI	Social Protection for Workers in the Textile and Leather Sector
SSC	Secondary School Certificate
SSK	Health Protection Scheme
SVRS	Sample Vital Registration System
UHC	Universal Health Coverage
UNDP	United Nations Development Programme
WHO	World Health Organisation

1. INTRODUCTION

The Government of Bangladesh (GoB) has committed to introducing maternity insurance by 2026[1] under the National Social Insurance Scheme (NSIS), the overall social insurance framework of the National Social Security Strategy (NSSS). Maternal insurance ensures healthcare services for mothers' and newborns' well-being. The cost of maternity care can be a significant burden for families, particularly in low- and middle-income countries, which results in lower birth in medical institutions under the care and supervision of trained healthcare providers and risks the well-being of the mother and newborn. To address this issue, there have been several efforts to increase institutional births using demand-side financing. One of the methods of demand-side financing is maternity insurance. Several countries have implemented maternity insurance schemes to provide financial protection to expectant mothers and improve access to quality healthcare during pregnancy and childbirth. Bangladesh, like many developing countries, faces numerous challenges in providing adequate maternal healthcare to its female population, including limited financial resources, a high maternal mortality rate, and disparities in access to healthcare services.

The NSSS recognises the significant financial burden associated with maternity care and seeks to alleviate the barriers that prevent women from accessing essential healthcare services. Accordingly, the insurance component of the NSSS is designed to provide financial protection and medical support to expectant mothers during pregnancy and childbirth. Maternity insurance is included as one of the major reform activities under the Health Services Division, which operates under the Ministry of Health and Family Welfare. However, the modality of providing maternity insurance in the Bangladeshi context is still a work in progress.

Against this backdrop, the aim of this study is to formulate a framework for a maternity insurance scheme in Bangladesh. The framework can be considered an actionable guideline for all relevant stakeholders involved in the whole insurance supply chain. More specifically, this study will review to what extent maternity insurance can be implemented, which methods of intervention are possible, who will benefit, what will be the outcomes, and what types of organisational, operational, and regulatory issues should be considered at the micro-level. Key aspects to be explored include a comprehensive review of case studies from countries that have successfully implemented maternity insurance schemes with a particular focus on their diverse healthcare systems, socio-economic contexts, financing mechanisms of maternity schemes, coverage and benefits provided, provider networks, strategies for quality assurance, and government involvement. The findings of this paper are expected to contribute to the ongoing discourse on improving maternal healthcare in Bangladesh and provide insightful recommendations to policymakers, healthcare professionals, and other stakeholders.

2. LITERATURE REVIEW: INTERNATIONAL BEST PRACTICES ON MATERNITY INSURANCE

Any particular social scheme targeted for only maternity insurance on a national level is hard to find, except China's social insurance for maternity (World Bank, 2020). For the preparation of this section, seven countries have been reviewed from lower-middle to high-income countries, namely India, Vietnam, Chile, Thailand, Philippines, Germany, Japan, and China. Across all countries, a dual healthcare

[1]For details, please see 'Action Plan (Phase II) For Implementation of the National Social Security Strategy (NSSS) of Bangladesh' (Page 26).

system, comprising the public and private sectors, is evident. China, India, Thailand, and the Philippines have established public healthcare systems financed through taxation and government subsidies, providing essential services to citizens (WHO, 2021). Meanwhile, private healthcare sectors in these countries offer additional services and cater to individuals with higher incomes or supplementary insurance coverage (WHO, 2021). This dual system reflects efforts to balance access to basic healthcare services with the availability of specialised or premium services for those who can afford them. Ensuring equitable access to healthcare services is a common goal across China, India, and Vietnam. China's social insurance system provides coverage for various healthcare services, with an emphasis on affordability for all citizens (World Bank, 2020). India's Ayushman Bharat initiative aims to make healthcare accessible and affordable through a network of Health and Wellness Centres (HWCs) and the PM-JAY scheme, targeting vulnerable populations (National Health Authority, 2021). Vietnam's commitment to Universal Health Coverage (UHC) is evident through its extensive network of commune health centres, which offer primary healthcare services to rural and urban populations, promoting accessibility and affordability (Ministry of Health Vietnam, 2019). The main features of the healthcare system in these countries can be summarised as follows –

2.1 Governance, operational and organisational aspects

Efficient governance and regulatory frameworks are essential for the effective functioning of healthcare systems. In Vietnam, Thailand, and the Philippines, government bodies oversee healthcare delivery, regulation, and financing. Thailand's National Health Security Office (NHSO) manages the universal coverage scheme (UCS), ensuring transparency, accountability, and data-driven decision-making. Similarly, Vietnam's Ministry of Health, and local authorities oversee health services delivery, while in the Philippines, PhilHealth regulates health insurance and promotes universal coverage through policy implementation and oversight. In China, India, and Vietnam, healthcare delivery is structured hierarchically, with a network of healthcare facilities ranging from national referral hospitals to local health centres. Each country has established regulatory bodies responsible for overseeing healthcare delivery, ensuring adherence to quality standards, and promoting patient safety. China's Ministry of Health oversees the entire healthcare system, working in coordination with provincial and local health authorities. India's Ministry of Health and Family Welfare is responsible for formulating policies and guidelines, while state governments manage the implementation at the local level. Similarly, Vietnam's Ministry of Health plays a crucial role in setting healthcare policies and regulations, with provincial and district health departments responsible for service delivery and management at the grassroots level. This hierarchical structure ensures that healthcare services are efficiently managed and accessible to all citizens across urban and rural areas.

2.2 Contribution and premiums

Healthcare financing in these countries relies on various contribution mechanisms and premium structures tailored to accommodate different income levels and employment statuses. In China, social insurance schemes require contributions from both employers and employees, with contribution rates determined by income levels and insurance categories (World Bank, 2020). Similarly, India's PM-JAY scheme utilises tax-funded contributions and employer-employee premiums, with premiums varying based on income and employment status (National Health Authority, 2021). Meanwhile, Vietnam's healthcare system combines government subsidies, employer contributions, and individual premiums

to finance universal coverage, with premium rates adjusted according to income levels and insurance categories (Ministry of Health Vietnam, 2019).

2.3 Beneficiaries and coverage package

The beneficiaries of the healthcare systems in these countries encompass citizens from various socioeconomic backgrounds, with a primary focus on providing coverage to vulnerable and marginalised populations. In China, India, and Vietnam, beneficiaries include formal sector workers, indigent populations, retirees, senior citizens, and individuals from low-income households (World Bank, 2020; National Health Authority, 2021; Ministry of Health Vietnam, 2019). The coverage package typically includes a comprehensive range of services, including preventive, curative, and rehabilitative care, along with additional benefits for high-cost medical treatments, emergency care, and essential drugs. Efforts are made to ensure that the coverage package is inclusive and addresses the diverse healthcare needs of the population, thereby promoting universal access to quality healthcare services.

2.4 Funding mechanisms

The funding of healthcare systems in these countries relies on a diverse array of revenue sources, including government subsidies, tax-based financing, employer contributions, individual premiums, and external funding from international donors. In China, public funds are allocated to finance healthcare services, supplemented by contributions from social insurance schemes and revenue from sin taxes[2] on tobacco and alcohol. Similarly, India's healthcare system is financed through tax-funded contributions, employer-employee premiums, and government subsidies, with additional support from philanthropic organisations and international donors. Vietnam's healthcare system utilises a mix of government subsidies, employer contributions, and individual premiums, with sin taxes and municipal funding providing supplementary revenue streams. These funding mechanisms ensure the sustainability and accessibility of healthcare services for the population, fostering improved health outcomes and equitable healthcare access. More summarised versions of each package offered in these countries are given in Table 1.

[2]Sin tax refers to a type of tax imposed on goods and activities considered harmful or undesirable by society, such as tobacco, alcohol, and sugary beverages.

Table 1: Cross country healthcare practices

Country	Insurance Type	Short Context	Coverage	Eligibility Criteria
China	Social Insurance System	During the early stages of the reform era, China aimed to establish a new system in the 1990s, relying on individual employment contracts. It evolved gradually through regulations and provisions, consolidating into a comprehensive national framework under the Social Insurance Law in 2011.	Basic medical insurance coverage has steadily increased but remains limited for migrant workers.	Compulsory enrolment for urban employees and residents. Integration efforts for urban and rural insurance.
Chile	Mixed Public-Private Healthcare System	Chile's healthcare system combines public and private funding and service provision. It includes two schemes, FONASA for public insurance and ISAPRE for private insurance, which cover most citizens.	Majority of the population enroled in FONASA, with the option for private insurance through ISAPRE.	Compulsory enrolment for citizens and long-term residents.
Japan	Employment-based, NHI, Elderly Health Ins.	Japan's public health insurance combines employment-based, residence-based, and elderly health insurance systems. Enrolment is compulsory and coverage is universal, with residents having access to healthcare providers of their choice under the 'Free Access System'.	Nearly all citizens and long-term residents.	Compulsory enrolment for residents residing in Japan for three months or more.
Germany	Statutory Health Insurance (SHI)	Germany's healthcare system operates under a dual public-private model, with SHI covering most of the population and allowing individuals to choose between public or private insurance. The system is regulated by the Social Code and funded through contributions from both employees and employers.	Comprehensive coverage for basic healthcare needs, including doctor visits, hospital stays, and prescription drugs.	Compulsory enrolment for employees with earnings below a certain threshold.
India	Ayushman Bharat	Ayushman Bharat, a flagship scheme of the Government of India, aims to provide comprehensive healthcare coverage at primary, secondary, and tertiary levels through Health and Wellness Centres (HWCs) and Pradhan Mantri Jan Arogya Yojana (PM-JAY).	Covers over 12 crore poor and vulnerable families, approximately 55 crore beneficiaries.	Compulsory enrolment for eligible families based on deprivation and occupational criteria.
Vietnam	Universal Health Coverage (UHC)	Vietnam has established a four-tiered hierarchical healthcare system, comprising national, provincial, district, and commune healthcare centres. The government has a strong commitment to UHC and has set a clear vision for making healthcare universal and affordable for all its citizens by 2030.	Significant progress towards achieving UHC through the Law of Social Health Insurance.	Compulsory enrolment and expansion of health insurance for marginalised groups.
Thailand	Universal Healthcare Coverage (UHC)	Thailand's policy on universal health coverage (UHC) has made good progress since its inception in 2001, aiming to provide essential health services to every Thai citizen.	Essential health services at all life stages.	Compulsory enrolment in various health protection schemes.

Source: Authors' accumulation from World Bank (2020); World Health Organization (WHO) (2021); OECD (2020); National Health Authority (India, 2021);

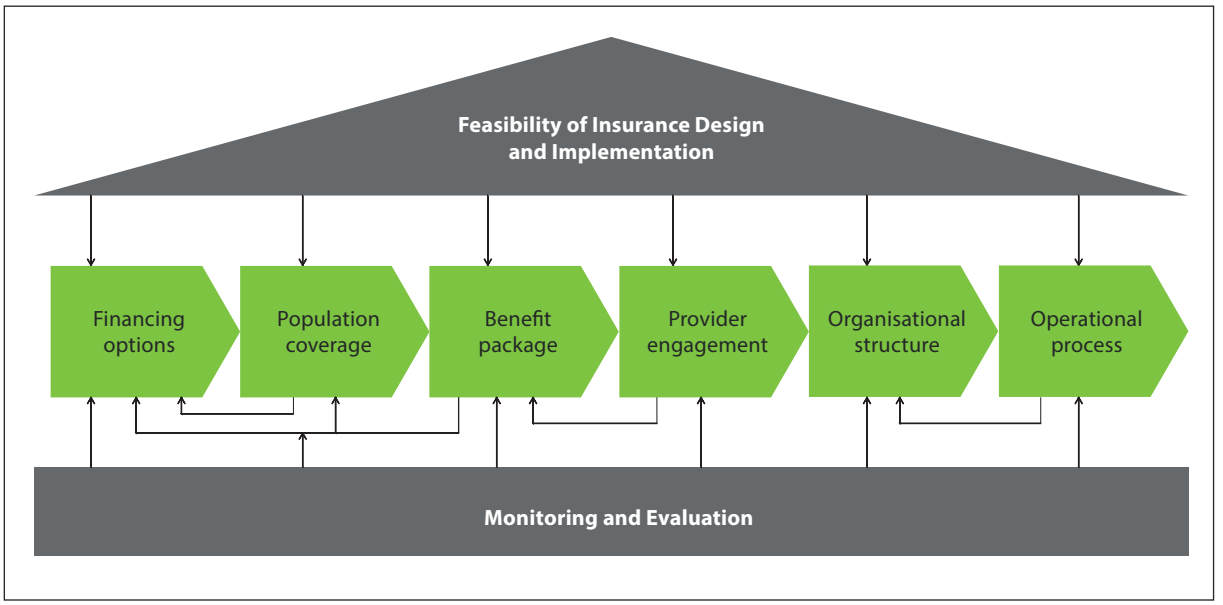
Benefit Package and Services	Calculation of Premiums	Funding Source	Governance and Regulation
Comprehensive medical coverage including outpatient treatment and hospitalisation.	Contributions are based on employees' wages.	Contributions from both employees and employers.	Regulated by administrative ordinances and notifications. Efforts to ensure complete premium payment by companies and individuals.
Access to both public and private healthcare providers. Coverage includes antenatal care, childbirth, well-child visits, and additional vaccines.	Premiums vary based on income and employment status.	Public funds, employer contributions, and private premiums.	Oversight by the Ministry of Health and the Superintendent of Health. Dual public-private regulation.
Comprehensive healthcare coverage including hospitalisation, outpatient visits, and medications.	Premiums calculated based on income, assets, and age.	Funding from premiums, public subsidies, and fiscal adjustments.	Oversight by various government bodies, including the Ministry of Health, Labour and Welfare (MHLW) and the Central Social Insurance Medical Council.
Standard medical services covered by SHI, with options for additional coverage through private insurance.	Premiums based on income, with contributions split between employees and employers.	Contributions from both employees and employers, supplemented by government subsidies.	Regulated by the Federal Ministry of Health, with oversight from various healthcare agencies and associations.
Comprehensive coverage including hospitalisation, diagnostics, medicines, and follow-up care.	Premiums fully funded by the Government of India.	Government funding with contributions from central and state governments.	Governed by the Ministry of Health and Family Welfare, with state-level implementation agencies.
Comprehensive healthcare services from central to grassroots levels.	Premiums based on income, with employer and employee contributions.	Government subsidies, employer contributions, and premiums.	Managed by the Ministry of Health, with a focus on transparency and accountability.
Comprehensive healthcare services including general medical care, rehabilitation services, and emergency care.	Tax-financed scheme with additional funding from sin taxes.	Government	————————

Ministry of Health Vietnam (2019); and country-specific policy documents.

3. ANALYTICAL PERSPECTIVE ON IDENTIFYING THE FRAMEWORK OF THE MATERNITY INSURANCE

While numerous maternity insurance schemes are implemented worldwide, the literature lacks a specific conceptual framework dedicated to maternity insurance. Most literature concentrates on health insurance in general. Therefore, this paper adopts the conceptual framework outlined in Figure 1 (The World Bank, 2012).

Figure 1: Design elements for maternity insurance scheme



Source: Excerpt from World Bank. (2012) 'Health insurance handbook: How to make it work'.

This frame offers a structured and systematic approach to designing health insurance programs, which was particularly pertinent to the study's focus on maternity care. Given the complexity of maternity services, including considerations of coverage, benefits packages, financing mechanisms, and provider networks, this conceptual framework provided a comprehensive methodology for analysing these components and formulating a well-rounded maternity scheme tailored to the needs of expectant mothers and their families. Furthermore, the framework emphasises key principles such as sustainability, equity, and efficiency in health insurance design, aligning closely with the study's objectives. By integrating these principles into the analysis, the aim was to develop a maternity scheme that not only ensures adequate coverage for maternity services, but also promotes equitable access for all women, irrespective of their socio-economic status. Additionally, the emphasis on efficiency facilitated the optimisation of resource allocation and the minimisation of wastage, thereby enhancing the scheme's impact within budgetary constraints.

As the study will focus on social insurance, which is closely linked to the social safety net/social assistance, a conceptual clarity is given below before moving on to the later sections of the study. Social insurance scheme has basic differences with social safety net scheme regarding the level of

individual's contribution, target groups and other issues. The distinct features of the two instruments are mentioned below in Table 2.

Table 2: Distinct features of social insurance and social safety net

Social Insurance		Social Safety Net / Social Assistance	
Issues	**Description**	**Issues**	**Description**
Contributory	Funded by workers and employers	Non-Contributory	Funded by the government, based on need rather than contributions
Risk-Pooling	Benefits are based on prior contributions, covering risks like unemployment, sickness, or retirement	Poverty-Targeting	Aimed at vulnerable and low-income groups
Target Group	Formal sector workers	Target Group	The poor, elderly without pensions, unemployed, and marginalised groups
Examples	Pensions, health insurance, and unemployment insurance	Examples	Cash transfers, food aid, public works programmes

Source: Prepared by authors.

The study followed a mixed method comprising both qualitative and quantitative approaches. The qualitative approach included 15 Key Informant Interviews (KIIs) with private sector representatives, government officials, and mothers to identify the legal, operational, and service aspects of healthcare providers in terms of maternity healthcare services and insurance implementation. The KIIs were conducted mainly in Dhaka and Tangail districts with different government and private healthcare providers.

4. OVERVIEW OF THE HEALTHCARE SYSTEM IN BANGLADESH

Governance, including leadership, regulation, and policymaking, has consistently been highlighted as a central element in discussions regarding healthcare systems, as noted by various scholars (Mikkelsen-Lopez et al., 2011; van Olmen et al., 2012; Barbazza & Tello, 2014). The provision of basic health services in Bangladesh is a constitutional obligation of the Government (IGS, 2012). Article 15 of the Constitution stipulates that it shall be a fundamental responsibility of the State to secure the provision of necessities of life for its citizens, including food, clothing, shelter, education, and medical care. This section of the study will review the healthcare system in Bangladesh as per the current regulatory framework.

4.1 Legal framework

In accordance with the constitution of Bangladesh, the health sector has developed policies and programmes which are implemented through the central control of the Ministry of Health and Family Welfare. While there exist a number of Acts and Ordinances to regulate the health system, including regulation of different types of providers, practice facilities and NGOs, many of these legal instruments date from several decades ago.

Bangladesh had its first National Health Policy (NHP) formally approved by the Parliament in 2000. The key objectives of the policy included providing basic health services to the people at all income levels, particularly to the poor; ensuring the availability of primary healthcare services at the union

and upazila/thana levels; improving maternal and child health and reproductive health services; and strengthening family planning services. Despite these aspirational goals, the Health Policy lacked specific details about how effective service delivery can be achieved or how it can be financed. The Health Policy also remained silent on baseline income protection for citizens who are incapacitated from employment due to ill health. The policy saw many revisions until 2011, but without any dramatic shift in its focus.

The latest policy revision in 2011 emphasises primary health and rural health, as before, and with the introduction of new issues. The Ministry of Health and Family Welfare has formulated the National Health Policy 2011 in order to ensure primary and emergency healthcare for all, expand healthcare services in an equitable manner and avail healthcare services as a matter of right, significantly reduce maternal mortality and fertility rates, provide widespread access to reproductive health facilities to the marginalised sections of the population in villages and towns, and to prevent and minimise the occurrence of disease. It also mentioned a health insurance scheme for formal institutions and the provision of health cards for the ultra-poor and deprived (MOHFW, 2011). A new dimension of the policy is to issue cards that enable poor or disadvantaged members of the community to access healthcare services (World Health Organisation, 2015: 34; MOHFW, 2011). However, the policy has not established any priorities, timeline, or action plan for achieving these goals. In addition, there is also no clear guideline as to how the government can manage the finances for the scheme. The policy has also failed to provide proper guidelines for the introduction of health insurance in the country. Although it has directed formal institutions to ensure health insurance for their employees, there is no mention of insurance for the employees of informal institutions.

In addition, the National Population Policy 2012 also stipulates goals for advancing women by reducing child and maternal mortality rates and ensuring safe motherhood for better child and maternal health.

In 2012, the Ministry of Health and Family Welfare adopted a Healthcare Financing Strategy 2012–2032. This is the first-ever healthcare financing strategy that attempts to address three major challenges: (i) inadequate health financing, (ii) inequity in health financing and utilisation, and (iii) inefficient use of existing resources. To address these challenges and to increase financial risk protection for the entire population, it determines three strategic objectives: (i) generate more resources for effective health services; (ii) improve equity and increase healthcare access, especially for the poor and the vulnerable; and (iii) enhance efficiency in resource allocation and utilisation. Moreover, this Healthcare Financing Strategy (2012–2032) has been developed to provide direction in achieving universal health coverage. The strategy puts emphasis on prepayment mechanisms with a scope of risk-pooling, and separate mechanisms are suggested for people in different economic sectors (formal sector, informal sector, and people in poverty). Taxes, social health insurance contributions, and community-based health insurance schemes have been recommended. Over its 20-year implementation period (2012–2032), the strategy aims at a reduction of out-of-pocket expenditure (OOP) from 64 per cent to 32 per cent, an increase in government expenditure from 26 per cent to 30 per cent, an increase in social protection from less than 1 per cent to 32 per cent, and reduced dependence on external funds from 8 per cent to 5 per cent of per capita total health expenditure (HealthCare Financing Strategy, 2012).

Apart from these long-term initiatives, the health sector plan is also an integral part of the national Five-Year Plans. The Planning Commission, which is the central planning agency, is responsible for preparing

the framework of these Five-Year Plans, with inputs from the Ministry of Health and Family Welfare. In line with the national Five-Year Plan, the Ministry of Health and Family Welfare prepares a Strategic Investment Plan (SIP) which sets out the sector's strategic priorities and defines an overall strategic framework to guide investments in the health sector accordingly. The SIP provides a framework for health service delivery, planning, budgeting, implementing, and monitoring for the five-year-long sectoral programmes. One major example of this plan is the Fifth Five-Year Plan (1997–2002), which encouraged the promotion of the role of the private sector and NGOs in health development. In later years, health sector diversification was emphasised, implying a shift from the government's role as a 'provider' of services towards being a 'purchaser' of services. This established formal collaborations between the public and private sectors through public-private partnerships.

To regulate the heavily involved private sector, private practice, and the functioning of clinics and laboratories, the Medical Practice, Private Clinics and Laboratories Ordinance 1982 was promulgated. The ordinance prescribes the process of application, the criteria for issuance of licences for running private clinics and lays down the maximum charges and fees for private practice, private clinics and laboratories, rules on inspection of private facilities, and penalties for violation of the rules. Although the Ordinance stipulated maximum fees for private doctors, the provision was abolished by the Medical Practice and Private Clinics and Laboratories Regulation) (Amendment) Ordinance in 1984. Currently, there is no provision regarding specific fees that can be charged by practitioners under this Ordinance. Health practitioners and providers have resisted establishing a law for fixing standard fees and service charges. In this regard, the President of the Bangladesh Private Clinic and Diagnostic Owners Association announced that no one should ask questions about the amount that private clinics and laboratories can charge for their services (Maswood, 2014). This has resulted in inequitable health outcomes for patients, especially those from low socio-economic backgrounds. Fees and charges are also non-transparent, with many clinics failing to disclose specific charges. Although the amended law has specified that a list of fees that may be charged for specific medical examinations must be displayed prominently at its premises, there remains a culture of continuing to charge patients illegal fees for medical tests (Karim et al, 2020).

There exist certain rules and laws to regulate the activities of Non-Governmental Organisations (NGOs) as the concept of third-party payer (where NGO is regarded as the third party) is absent in Bangladesh. The government regulates the organizations through (i) Voluntary Social Welfare Agencies (registration and control) Ordinance 1961; (ii) the Foreign Donations (voluntary activities) Regulation Ordinance 1978; and (iii) the Foreign Contribution (Regulation) Ordinance 1982. NGOs need to be registered with the Department of Social Services/NGO Affairs Bureau. In the case of health and family planning projects receiving foreign assistance, NGOs are to obtain clearance for their projects from the Economic Relations Division of the Ministry of Finance and the Ministry of Health and Family Welfare (Shahid AM, 1997).

In addition to this generalised provision, special focus on maternity for employee is also reflected in the policies. The first law regarding sickness and maternity care was the Maternity Benefit Act of 1939, amended in 1998, and was later amalgamated in the new Labour Code 2006 (SSA, 2012). As per the law, employees in formal establishments of five or more workers are entitled to certain benefits. Employed women have access to cash maternal benefits. Some employers provide onsite medical facilities and may also use government hospitals. To be entitled to these benefits, the workers must be under regular/

permanent employment and the female employees must have an employment of at least six months with the same employer on the expected date of childbirth. The Ministry of Labour and Employment administers the programme, while Public Health Services administers the health services. In addition to this, under Section 46 of the Bangladesh Labour Act (BLA), female workers are entitled to eight weeks of maternity leave before and after the expected date of delivery. However, the benefit is limited to getting maternity leave and does not include any maternity-related expenses. The details of the benefit package is given in Section 6.4.

4.2 Institutions and governance

Although the constitution mandates the provision of healthcare services for the populace, in practice, this duty has been significantly shared with private entities. Bangladesh operates with an entrepreneurial healthcare system, where individuals are expected to take responsibility for accessing health services based on their economic status.

Bangladesh's currently existing healthcare system is characterised by plurality, involving four main entities: the government, the private sector, NGOs, and donor agencies. These actors collectively shape the system's structure and operations. The government, private sector, and NGOs are involved in delivering services, financing, and employing healthcare personnel, while donors primarily contribute to financing and planning health initiatives.

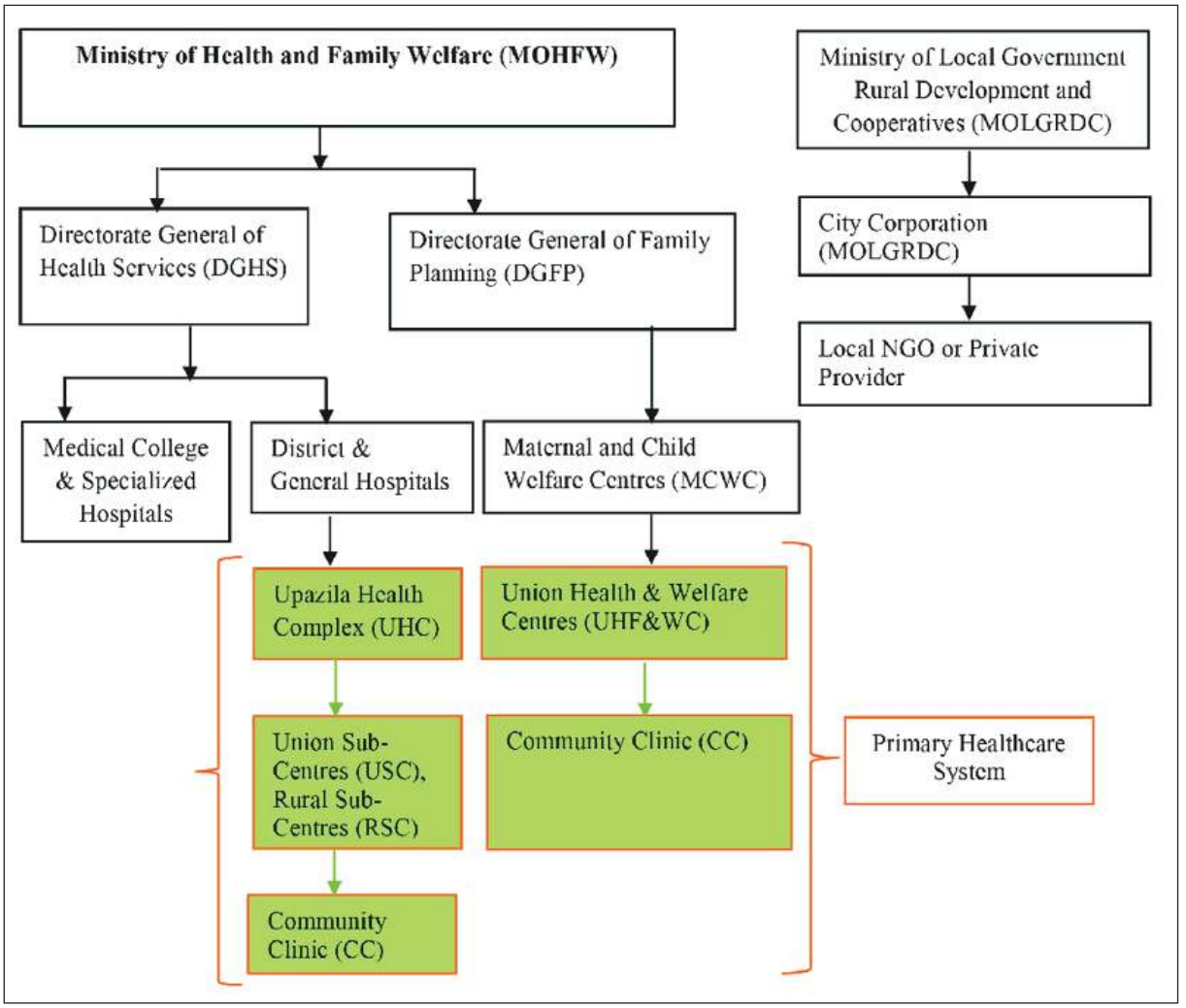
The government, as the primary actor, bears the constitutional responsibility for policy setting, regulation, and the provision of comprehensive healthcare services, including funding and staffing. The Ministry of Health and Family Welfare administers services primarily in rural areas through various executing and regulatory bodies. Urban healthcare services, on the other hand, are managed by the Ministry of Local Government, Rural Development, and Cooperatives, often in collaboration with NGOs and the private sector, independent of any oversight from the Ministry of Health and Family Welfare.

The Ministry of Health and Family Welfare operates healthcare services across three tiers: primary, secondary, and tertiary. At the primary level, care is provided through ward, union, and upazila (sub-district) levels, with wards primarily focusing on curative care while lower levels emphasise community, maternal, child, or family planning services. Secondary healthcare is delivered at district hospitals, addressing elective or non-life-threatening conditions. Tertiary healthcare encompasses all levels of care and is primarily delivered by medical colleges and post-graduate institutions. In summary, public healthcare service delivery is structured as Figure 2.

The private sector has experienced significant growth compared to the public sector. Notably, the private sector has seen a remarkable increase in the number of hospitals and beds, as well as the establishment of teaching institutions. For example, in 1996, there were no medical colleges or teaching institutions in the private sector, but by 2020, there were 69 medical colleges (MoFA, 2020).

Government-NGO collaborations in Bangladesh originated in the 1980s, focusing on national initiatives such as family planning, nutrition, leprosy, tuberculosis, and immunisation. Due to the perceived inadequacy of government services, particularly in reaching the entire population, especially the economically disadvantaged, a robust NGO sector has emerged as a significant 'third sector' of healthcare

Figure 2: Organisational flowchart of the public health system in Bangladesh



Source: Kabir, Karim, and Billah (2021).

providers. NGOs' role has expanded as donors increasingly allocate substantial funds directly to them. NGO healthcare services prioritise preventive and basic care, operating on a not-for-profit basis. Some NGOs independently execute programmes, while others collaborate with the government to enhance healthcare services.

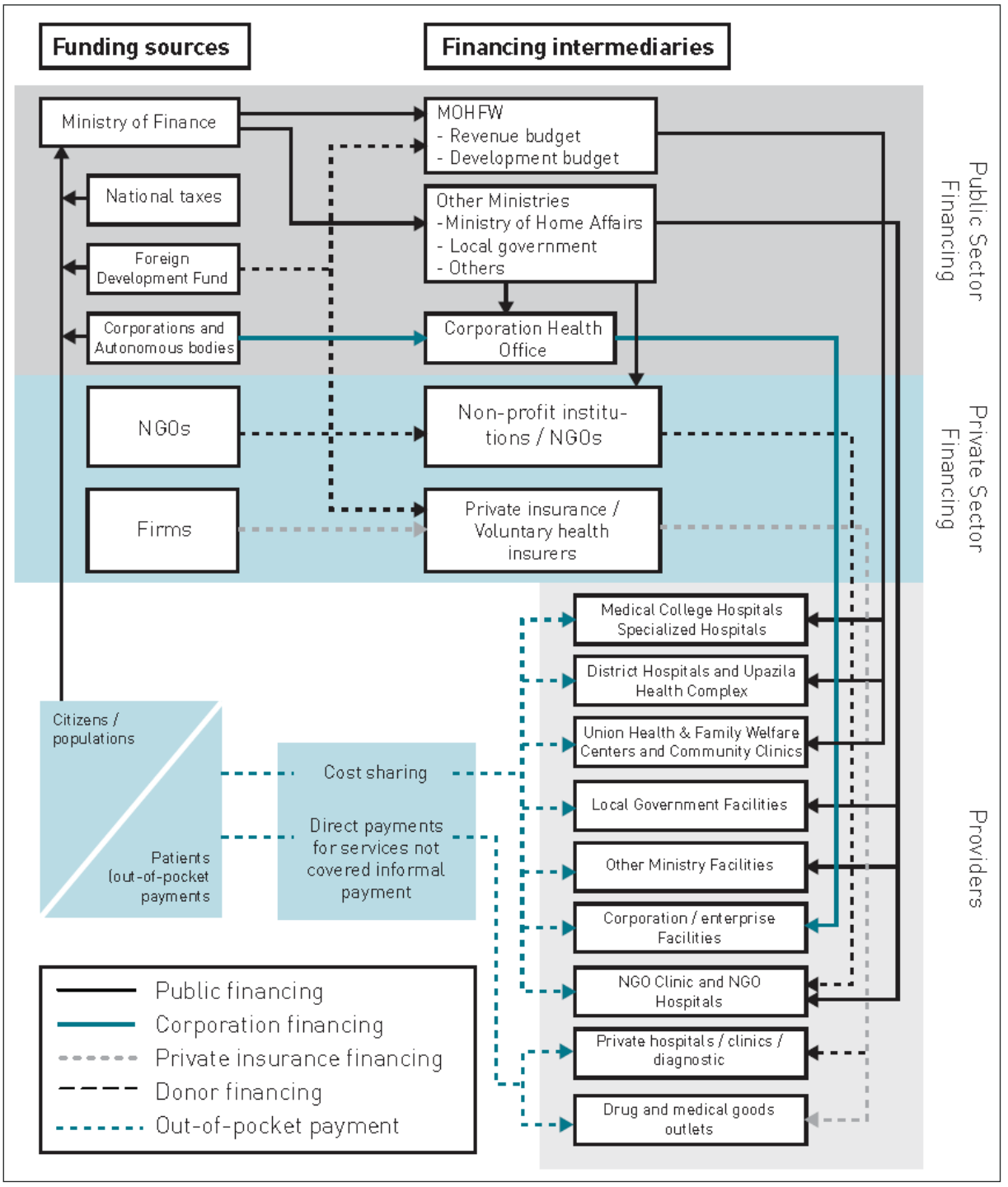
Partnerships between the government and NGOs extend to financing, planning, service delivery, capacity building, and monitoring and evaluation, resulting in tangible health improvements. Notably, NGOs have contributed to the formulation of health policies, including those in 2000 and 2011, and remain active stakeholders in Bangladesh's health sector development.

To streamline organisational processes, the government, following the Bangladesh Health Policy 2000's Strategy Plan 13, has implemented a computer-based Integrated Management Information System. This system aids in programme implementation, strategy introduction, and health system monitoring. However, challenges persist due to the Ministry's division into the Directorate General of

Health Services (DGHS) and the Directorate General of Family Planning (DGFP), each with its separate reporting systems, impacting the effectiveness of the Health Information System.

4.3 Healthcare financial flow

Figure 3: Financial flow in the Bangladesh healthcare system



Source: Health Systems in Transition Vol. 5 No. 3 (2015).

Like many other nations, healthcare funding in Bangladesh originates from various sources using different mechanisms, with payments directed to diverse healthcare providers. The primary sources of healthcare financing include out-of-pocket payments, government revenues, and funding from development partners directly to NGOs (Figure 3).

Government revenues are derived from both tax and non-tax sources, managed by the Ministry of Finance, with tax collection overseen by the National Board of Revenue (NBR). However, Bangladesh does not levy earmarked taxes specifically designated for healthcare.

Revenue pooling predominantly occurs within the framework of the government budget during the budgetary preparation process. Additionally, some pooling of revenue takes place through health insurance-specific funds managed by public and private employers for their employees.

The annual formulation of the Government budget by the Ministry of Finance relies on a Medium-Term Macroeconomic Framework (MTMF), which guides the establishment of an indicative resource ceiling and revenue targets for each ministry, including the Ministry of Health and Family Welfare. Ministries, utilising this indicative budget ceiling, develop or revise their respective Ministry Budget Frameworks (MBF). After examination by both the Ministry of Finance and the Planning Commission, detailed estimates are submitted by each Ministry according to their MBF, forming the basis for the budget's parliamentary approval.

Each ministry is tasked with allocating this resource envelope between revenue and development budgets. Within the Ministry of Health and Family Welfare, the Budget Unit and the Planning Unit prepare the revenue and development budgets, respectively, while operating within the budget ceiling. Although both top-down and bottom-up approaches are employed in budget preparation, final allocation decisions are made centrally, taking into account the previous year's actual expenditure, resource availability, and government policy priorities.

5. MATERNITY HEALTHCARE IN BANGLADESH: AN ANALYSIS OF SVRS AND OTHER NATIONAL SURVEYS

There is limited data and information available on the maternity healthcare system of Bangladesh. However, different national-level surveys have included selected sets of maternity-related variables, which partly help to understand the state of maternity healthcare. In this case, the sample vital registration statistics (SVRS) 2020 – a sample survey conducted by the Bangladesh Bureau of Statistics (BBS) every year, is a major source of information. This survey is a nationally representative survey. The SVRS 2020's microdata was analysed as it was the only available database for the research team during the preparation of this report. However, the online report of SVRS 2022 was reviewed and used to some extent, as the microdata was not available during the preparation of this report. The survey covers 301,131 households across the country, of which 45 per cent are from urban areas, and 55 per cent are from rural areas. Of the total households, 23,090 households provided birth information, and 6,275 households provided information on death-related issues. BBS asked every household whether any child was born during 2020 and vice versa for death. Those who responded, 'YES', were only surveyed for birth/death-related issues. The following tables in this section were prepared based on those birth- and death-related households. The survey includes variables related to maternity issues such as age, educational qualification and professional engagement of the child's mother, place of child's delivery,

skilled professionals' engagement in the child's delivery, birth, and death registration of the delivered child, state of life of the children, place of death of the birthed child, etc. These variables have been analysed through age and spatial points of view.

5.1 Background of the mother

Educational qualification: A mother's educational qualification and background are key indicators of maternity conditions within a family. Having higher educational qualifications among mothers enhances their decision-making capability regarding the birth and delivery of the child. Educated mothers are assumed to be more eager for an organised maternity insurance mechanism. According to SVRS 2020, the literacy rate among the mothers who delivered the children is somewhat murky since over two-thirds of the mothers have not passed the SSC level of education (Class 10: Secondary level of study) (Table 3). This mainly happened due to the higher rate of low-educated mothers in rural areas (66 per cent). Relatively higher educational attainment (SSC to Masters' level: Tertiary level education) is observed more among urban mothers (42.6 per cent) compared to that of rural mothers (25 per cent). Overall, mothers' level of education, particularly in rural areas, is not supportive towards taking an organised formal channel of maternity support system.

Table 3: Educational qualification of the child's mother (by area)

Level of education	Rural	Urban	Total	Cumulative Total
Failed Class 1	8.1	5.9	7.3	7.3
Class 1	0.5	0.4	0.4	7.7
Class 2	1.8	1.5	1.7	9.4
Class 3	2.6	1.6	2.2	11.6
Class 4	4.1	2.6	3.5	15.1
Class 5	16.6	12.5	15.0	30.1
Class 6	5.8	4.3	5.2	35.3
Class 7	9.4	6.1	8.2	43.5
Class 8	13.8	11.1	12.8	56.3
Class 9	11.9	10.0	11.2	67.5
SSC/Equivalent	13.5	16.3	14.5	82.0
HSC/Equivalent	7.5	14.0	9.9	91.9
Hon's/Equivalent	3.1	7.4	4.7	96.6
Master's/Equivalent	1.2	5.0	2.6	99.2
Doctor/Engineer/ Agronomist	0.1	0.9	0.4	99.6
Diploma	0.1	0.5	0.2	99.8
Vocational	0.0	0.1	0.0	99.8
Others	0.0	0.1	0.1	99.9
Total	**100**	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

It is important to note that poor educational attainment is observed more among aged mothers than young mothers. Table 4 presents mothers' educational qualifications in terms of different age categories

in cumulative percentages. The percentage of mothers who could not complete level one is as high as 37 per cent within the age group of 41-50 years, while this equivalent rate for mothers aged 13-17 years is only 3 per cent and for 18-20 years, it is only 3 per cent. Similarly, older mothers have a higher proportion who just passed up to the primary level (63 per cent) than adolescent mothers (22 per cent). A sizable portion of mothers aged 18-35 years have completed above SSC level education – between 11 and 23 per cent. In other words, relatively young mothers with better educational attainment will likely respond better to a formal maternity system.

Table 4: Educational qualification of the child's mother by age (cumulative percentage)

Educational qualification of the child's mother	13-17 Years	18-20 Years	21-25 Years	26-30 Years	31-35 Years	36-40 Years	41-50 Years	Total
Failed Class 1	3	3	5	8	13	24	37	7
Class 1	3	3	5	9	14	26	39	8
Class 2	5	4	7	11	17	29	42	9
Class 3	6	5	8	14	20	32	45	12
Class 4	9	7	12	17	24	40	49	15
Class 5	22	20	26	34	43	58	63	30
Class 6	32	25	31	39	48	62	65	35
Class 7	52	34	39	46	54	66	73	44
Class 8	75	50	51	57	64	74	79	56
Class 9	90	65	61	68	74	82	86	68
SSC/Equivalent	99	89	77	78	82	90	94	82
HSC/Equivalent	100	99	92	87	88	94	96	92
Hon's/Equivalent	100	100	98	94	93	97	99	97
Master's/ Equivalent	100	100	100	99	99	99	99	99
Doctor/Engineer/ Agron	100	100	100	100	100	100	99	100
Diploma	100	100	100	100	100	100	100	100
Vocational	100	100	100	100	100	100	100	100
Others	100	100	100	100	100	100	100	100

Source: Author's analysis based on BBS (2021).

Mothers' job: The majority of mothers are out of formal employment – over 80 per cent of mothers are homemakers. No significant difference is found between urban and rural-based mothers in terms of not having paid jobs (Table 5). A sizable share of mothers (10 per cent) work as domestic maids, indicating a poor income-earning group. Over 90 per cent of mothers have almost no financial independence, forcing them to depend on their male-earning family members.

About 3 per cent of mothers are students, –delivering children before completing their academic life. Engaging in formal jobs is significantly low among child-bearing mothers – only 0.8 per cent are found to be factory workers, 0.5 per cent are other office employees, 0.9 per cent are teachers, and 0.4 per cent are engaged in different kinds of services. Urban-based mothers are more involved in formal and informal

jobs than rural mothers. The potential for developing job-oriented maternity insurance mechanisms targeting working mothers is limited. With the overdominance of homemakers among childbearing mothers, the design of a potential maternity insurance system needs to be customised accordingly.

Table 5: Professional engagement of the child's mother (by area)

Mother's Occupation	Rural	Urban	Total
Homemaker	83.3	81.1	82.5
Domestic helping hand	11.2	8.0	10.0
Student	2.3	4.2	3.0
Factory/production worker	0.7	1.1	0.8
Other office employee	0.2	1.1	0.5
Teacher	0.6	1.4	0.9
Engaged to service	0.2	0.7	0.4
Servant/Maid	0.1	0.4	0.2
Looking for work	0.0	0.2	0.1
Unable to work	0.0	0.1	0.1
Others	1.3	1.9	1.5
Total	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

5.2 Place of giving birth/delivery

The overall situation of place of delivery: The place of delivery of the child, particularly the propensity to use formal medical services, portrays more possibilities for developing an organised maternity insurance supply chain. Despite the economic and social development in the country, a large share of mothers delivers their child at home (45.5 per cent) – either at their own home (34.6 per cent), others' home in the same area (2.9 per cent) or at others' home outside the sample area (8 per cent). The majority of these incidences occur in rural areas (53.3 per cent). The SVRS survey portrays a distinction between rural and urban areas (Table 6) in the case of place of delivery, where mothers in urban areas use more formal medical services. Urban mothers predominantly deliver at clinics (32.8 per cent), followed by hospitals (31.6 per cent) and maternity clinics (2.8 per cent). On the other hand, rural mothers deliver at

Table 6: Place of childbirth by the mother (by area)

Where was the child born?	Rural	Urban	Total
Within sample area at sample household	40.3	25.0	34.6
Within sample area at other household	3.2	2.4	2.9
Outside sample area	9.8	5.0	8.0
Hospital	23.8	31.6	26.8
Clinics	21.7	32.8	25.8
Maternity clinic	1.0	2.8	1.7
Other	0.2	0.5	0.3
Total	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

a lower proportion in hospitals (23.8 per cent), clinics (21.7 per cent) and maternity clinics (1 per cent). Mothers who use formal medical services for delivery are the potential target group for developing a maternity insurance system because of having formal registration, diagnosis, delivery services, and medicine services which could be administered and monitored properly.

Division-wise situation of place of giving birth/delivery: There is a significant difference in place of delivery between divisions. Out of a total of eight divisions in the country (Table 7), mothers resided in Mymensingh (60 per cent), and Sylhet (54 per cent) divisions deliver children mostly at home (either their own home, others' home in the locality or others' home outside the locality). Giving birth at the household is the lowest among mothers in the Khulna division (24 per cent) and Dhaka (35.8 per cent). In other words, these two divisions are the forerunners in terms of having a formal maternity system. Hence, piloting a maternity system could prioritise divisions/areas where formal medical services are used by mothers relatively more. In this case, the Khulna and Dhaka divisions could be preferred for piloting the maternity insurance system.

Table 7: The place where the child was born, or the delivery was taken place (by division)

Division	Within sample area at sample household	Within sample area at other household	Outside sample area	Hospital	Clinics	Maternity clinic	Other	Total
Barisal	37.3	2.0	8.8	17.0	31.6	3.3	0.0	100
Chattogram	40.7	1.1	5.4	40.2	8.1	3.4	1.2	100
Dhaka	25.2	1.7	8.9	40.0	21.8	1.7	0.9	100
Khulna	15.8	1.7	6.4	24.1	51.0	0.6	0.3	100
Rajshahi	21.2	3.2	12.4	22.0	39.9	1.0	0.3	100
Rangpur	34.6	2.3	6.9	10.5	43.7	2.0	0.0	100
Sylhet	51.3	2.3	2.5	28.5	12.8	2.6	0.0	100
Mymensingh	55.9	3.9	6.4	17.0	16.0	0.9	0.0	100
Total	**33.4**	**2.1**	**7.3**	**27.0**	**27.8**	**2.0**	**0.4**	**100**

Source: Author's analysis based on BBS (2021).

Mothers' age-wise delivery place: The mother's age is an important determining factor in the case of the place of delivery of the children (Table 8). Mothers who are at the adolescent age (13-15 years) largely deliver the children at home (52.8 per cent). In contrast, mothers aged between 16-35 years are the majority of cases delivered in hospitals and clinics. This ratio gets reversed when mothers' age reaches beyond 35 years (36-50 years) – most of the mothers deliver at home. Hence, a possible target population for maternity insurance would be mothers aged 18-35 years.

Table 8: The place where the child was born, or the delivery took place (by the age of the mother)

Age of the child's mother	Home (Own home, others' home at the locality & others home outside locality)	Hospitals (hospitals, clinics, maternity, clinics)	Others	Total
13 to 15 Years	52.8	46.6	0.6	100
16 to 20 Years	45.8	54.0	0.3	100
21 to 25 Years	44.2	55.5	0.3	100
26 to 30 Years	43.7	56.1	0.3	100
31 to 35 Years	47.2	52.5	0.2	100
36 to 40 Years	52.7	47.0	0.3	100
41 to 45 Years	59.1	41.0	0.0	100
46 to 50 Years	65.8	34.2	0.0	100
Total	**45.5**	**54.2**	**0.3**	**100**

Source: Author's analysis based on BBS (2021).

5.3 Skilled professionals attended during the delivery of children

Rural-urban dimension of skilled professionals: The need for skilled professionals during the delivery process not only ensures the safe birth of the children but also reduces risks in delivery-related complicacy as well as related expenses. SVRS presents data on the attendance of skilled professionals in delivery services. Almost half of the delivery takes place with the support of doctors (48.4 per cent in 2020), and the share of doctor's support is higher in urban areas (60.5 per cent) than in rural areas (41.1 per cent) [3]. Among the traditional professionals, mothers or their families depend on traditional midwives (16.7 per cent) and neighbours and relatives (7.9 per cent) for assistance. Besides, professional

Table 9: Attendance of professionals at the place where the child was born, or the delivery took place (by area)

Who attended during the delivery	2020		
	Rural	Urban	Total
Doctor	41.1	60.5	48.4
Nurse/midwife	11.0	13.5	12.0
Trained midwife/midwife	16.7	11.8	14.9
Paramedic/ Family Welfare Inspector (FWV)	1.7	1.2	1.5
Medical Assistant (MA)/Sub-Assistant Community Medical Officer (SACMO)	2.6	1.5	2.2
Health Assistant (HA)/ Family Welfare Assistant (FWA)	0.8	0.5	0.7
Traditional midwife	17.1	7.1	13.4
Quack	1.0	0.3	0.7
Neighbours/relatives	7.9	3.6	6.3
Others	0.0	0.1	0.0
Total	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

[3]Comparatively, the presence of skilled professionals during childbirth is poorer in Bangladesh compared to that in other South Asian countries. Rural mothers depend on diverse types of professionals for child delivery.

support is also taken by mothers in the rural areas, including trained midwives (16.7 per cent), nurses (11 per cent), medical assistants (2.6 per cent), paramedics (1.7 per cent), and family welfare assistants (0.8 per cent). In other words, a large section of mothers in rural settings receive childbirth/ delivery service from professionals whose quality of services is not up to the mark, which is likely to raise delivery-related complicacy. On the other hand, urban mothers are relatively less dependent on professionals outside formal doctors – about 13.5 per cent take the service of nurses, and 11.8 per cent take the services of trained midwives (Table 9). Hence, urban areas will likely be more suitable for piloting maternity insurance because of the standardised formal maternity services and service-providing skilled professionals.

Division-wise dimension of skilled professionals: There are division-wise differences in terms of the availability of different types of skilled professionals (Table 10). Doctors provide delivery services proportionately at a higher share in the case of Khulna (64 per cent), Dhaka (57.2 per cent) and Rajshahi (54.5 per cent) divisions. The presence of doctors is the lowest in Mymensingh (33.3 per cent), followed by Sylhet (37.4 per cent). On the contrary, Mymensingh depends more on midwifery services – trained midwives (24.6 per cent), traditional midwives (15 per cent), and neighbours (13.5 per cent). Hence, the scope for piloting the maternity insurance needs to consider the access and availability of doctoral services where some of the divisions are found to be in a better position, such as Khulna, Dhaka and Rajshahi.

Table 10: Attendance of professionals at the place where the child was born, or the delivery took place (by division)

Who attended during the delivery	Barisal	Chattogram	Dhaka	Khulna	Rajshahi	Rangpur	Sylhet	Mymensingh	Total
Doctor	45.8	40.9	57.2	64.0	54.5	49.4	37.4	33.3	48.4
Nurse/midwife	15.2	14.6	9.0	12.1	11.0	8.5	16.6	5.2	12.0
Trained midwife/midwife	16.3	17.5	13.7	10.4	8.0	13.8	18.1	24.6	14.9
Paramedic/ Family Welfare Inspector (FWV)	1.0	2.3	1.3	1.8	1.1	2.3	0.5	1.5	1.5
Medical Assistant (MA)/ Sub-Assistant Community Medical Officer (SACMO)	1.6	2.2	2.4	1.1	2.0	2.2	2.7	4.3	2.2
Health Assistant (HA)/ Family Welfare Assistant (FWA)	0.4	0.9	0.6	0.2	0.6	1.4	0.5	0.4	0.7
Traditional midwife	14.1	17.5	11.4	6.6	14.0	9.8	17.0	15.0	13.4
Blind doctor/quack/ hammer doctor	0.2	0.5	0.2	0.5	1.0	1.5	0.7	2.0	0.7
Neighbours/									
relatives	5.3	3.5	4.2	3.3	7.8	11.3	6.5	13.5	6.3
Others	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

Mothers' age-wise dimension of using skilled professionals: The use of different categories of skilled professionals widely varies in terms of the mother's age (Table 11). The highest share of mothers who avail the services of doctors for child delivery are mothers aged between 26-30 years (51.6 per cent), followed by mothers aged 21-25 years (49.5 per cent). The lowest share of mothers who avail the doctors' services are those aged 41-50 years (35.6 per cent). Young mothers under the age of 18 and older mothers over 40 years predominantly seek assistance from traditional midwives, neighbours, and relatives for maternity services. Usually, mothers of these age brackets (below 18 and above 40) are susceptible to complications related to childbirth and require relatively more doctors' support during the time of delivery. Hence, the target population for piloting child delivery is mothers in the age bracket of 21-35 years.

Table 11: Age of the child's mother by the professionals who attended during the delivery

Who attended during the delivery?	13-17 Years	18-20 Years	21-25 Years	26-30 Years	31-35 Years	36-40 Years	41-50 Years	Total
Doctor	44.4	46.4	49.5	51.6	47.5	42.1	35.6	48.4
Nurse/midwife	11.4	13.1	12.1	11.0	11.4	12.8	13.0	12.0
Trained midwife/ midwife	14.2	15.5	15.0	13.9	14.4	17.4	21.2	14.9
Paramedic/ Family Welfare Inspector (FWV)	1.5	1.8	1.4	1.4	1.7	1.5	0.4	1.5
Medical Assistant (MA)/ Sub-Assistant Community Medical Officer (SACMO)	1.9	2.4	2.0	2.2	2.2	2.7	4.3	2.2
Health Assistant (HA)/ Family Welfare Assistant (FWA)	0.5	0.5	0.8	0.5	1.0	0.5	1.4	0.7
Traditional midwife	16.4	13.8	12.5	12.8	14.0	14.8	14.4	13.4
Blind doctor/quack	1.3	0.5	0.9	0.6	0.4	0.9	1.1	0.7
Neighbours/relatives	8.4	6.1	5.6	6.0	7.4	7.2	8.6	6.3
Others	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

5.4 Birth and death registration

Registering the children after their birth is an important process of the maternity insurance system. According to the Social Safety Net Programmes (SSNPs) of the government, pregnant women and mothers of newborn babies can apply for maternity support up to three years (36 months) after giving birth. Supports include multiple social safety net programmes for lactating mothers, and poor mothers who have given birth and are unable to feed nutritious food to the baby. To avail the benefits, it is necessary to submit documents related to the age statistics of the mother, NID, income status, etc., to the local social welfare officer and the women and child officer for verification. This support is mainly provided to poor mothers in rural regions. According to the SVRS data, only 1 per cent of babies' births or deaths are registered within 45 days of birth. In other words, the birth registration system is almost

non-functional immediately after the birth period. Both urban (1.8 per cent) and rural (1.0 per cent) areas experience a similar poor situation in terms of registration of childbirth (Table 12). In the absence of a proper functional birth registration system, it is challenging to implement the maternity system, particularly for the period of neonatal care.

Table 12: Status of birth registration at the local government offices (by area)

Birth registration status within 45 days of birth	Rural	Urban	Total
Yes	1.0	1.8	1.3
No	99.0	98.2	98.7
Total	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

Similarly, the death registration of the children at local government offices is poor. According to the official protocol, child death is to be registered within 60 days of death. According to the SVRS data, only 5.7 per cent of children's deaths are registered within the stipulated time – reporting in urban areas is relatively high (8.1 per cent) compared to that in rural areas (4 per cent). A functional death registration is equally important for enforcing a maternity insurance system. Even in urban areas, pilot maternity insurance will require strengthening the birth and death registration system within the concerned local government offices.

Table 13: Status of death registration at the local government offices (by area)

Death registration status within 60 days of death	Rural	Urban	Total
yes	4.0	8.1	5.7
no	96.1	91.9	94.3
Total	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

5.5 Male-female ratio of newborn babies

No significant difference was observed regarding children's gender in different localities. Irrespective of locations, such as divisions and urban-rural areas, the male-female children ratio is almost equal (Table 14). The gender of the new-born babies has a nearly 50:50 ratio in all divisions. In other words, there is no gender bias among parents of different localities, which could force them to make any adverse move in case of childbirth.

According to Table 15, in case of 98 per cent of instances, mothers have delivered one baby per delivery. Nevertheless, in almost 2 per cent of cases, mothers have delivered twins during a single delivery, with a higher incidence noted in urban areas. In few cases, more than two children were born (0.2 per cent) in urban areas. On the other side, according to Table 16, the incidence of twin children is relatively high (2.3 per cent-2.8 per cent) among mothers aged 31-40 years. Thus, incidences of more than a single child are an important issue for the maternity insurance system, which needs to be considered, particularly its association with the age of the mothers.

Table 14: Gender status of the born children (by division)

Location	Male	Female	Total
Barisal	50.6	49.5	100
Chattogram	49.3	50.7	100
Dhaka	49.9	50.1	100
Khulna	50.1	49.9	100
Rajshahi	50.4	49.6	100
Rangpur	50.5	49.5	100
Sylhet	49.3	50.7	100
Mymensingh	50.4	49.6	100
Total	**50.0**	**50.0**	**100**

Source: Author's analysis based on BBS (2021).

Table 15: Status of the number of children born from a single delivery by area

Type of birth of the baby	Rural	Urban	Total
One	98.3	97.7	98.1
Twin	1.6	2.2	1.8
More than 2	0.0	0.2	0.1
Total	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

Table 16: Status of the number of children born from a single delivery (by the age of the child's mother)

Age of the child's mother	Type of birth of the baby			Total
	one	twin	more than 2	
13-17 Years	99.0	0.9	0.2	100
18-20 Years	98.6	1.4	0.0	100
21-25 Years	98.0	1.9	0.1	100
26-30 Years	98.1	1.9	0.0	100
31-35 Years	97.6	2.3	0.1	100
36-40 Years	97.1	2.8	0.1	100
41-50 Years	98.6	1.4	0.0	100
Total	**98.1**	**1.8**	**0.1**	**100**

Source: Author's analysis based on BBS (2021).

5.6 Types of child delivery systems

Delivering children either normally or through a caesarean section (C Section) has considerable differences in terms of costs as well as the level of risks and complications involved in those systems. There are wide variations between different localities in terms of using specific types of delivery systems. Notable variances are observed in the rates of normal and caesarean deliveries between rural and urban areas, as well as those in city corporation areas. In the earlier tables, it was found that

mothers within the Khulna division predominantly opted for hospital births and sought the assistance of trained professionals. However, Table 17 reveals that the rate of caesarean sections is significantly higher in the Khulna division than in others. Trained professionals in both Khulna and Dhaka divisions are administering caesarean sections at a notably higher frequency than normal deliveries; this requires further inquiry into whether maternal health conditions genuinely warrant these procedures or whether hospitals are conducting businesses or mothers are opting for caesarean deliveries. On the other hand, normal delivery rates are highest in Sylhet region (73.8 per cent), followed by Chattogram (67.9 per cent) and Mymensingh (67.7 per cent) divisions.

Table 17: Types of delivery by area in 2022

Division	Normal	C-section	Total
Localities			
Rural	61.5	38.5	100
City corporation	41.8	58.2	100
Municipal and other urban areas	49.0	51.0	100
Divisions			
Barishal	65.4	34.6	100
Chattogram	67.9	32.1	100
Dhaka	48.7	51.3	100
Khulna	42.2	57.9	100
Mymensingh	67.7	32.3	100
Rajshahi	55.0	45.0	100
Rangpur	60.3	39.7	100
Sylhet	73.8	26.2	100
Total	**58.6**	**41.4**	**100**

Source: Author's analysis based on BBS (2021).

5.7 Children delivery by Mother

As per Table 18, on average, mothers in rural areas, in their entire lifespan, give birth to 2.07 children, with 1.98 alive, while the mothers in the urban settings give birth to 1.91 children, with 1.84 alive. The figures highlight higher mortality rates in rural areas than in urban areas. This is perhaps due to the lack of proper healthcare facilities in rural areas.

Table 18: Summary statistics of total children delivered (by a mother and alive to date)

Indicator	Location	Obs	Mean	Std. dev.	Min	Max
Number of Children given birth in a mother's lifetime (including living and dead)	Rural	14,594	2.07	1.14	0	9
	Urban	8,703	1.91	0.99	0	9
Number of Children Alive of that mother	Rural	14,594	1.98	1.09	0	9
	Urban	8,703	1.84	0.95	0	9

Source: Author's analysis based on BBS (2021).

5.8 Living/ death status of children after delivery

This section presents data based on the children born, either alive or dead, in 2020. During the survey, BBS introduced this indicator to collect data from mothers whose children were either alive or dead after birth. This is different from the stillbirth indicator.

Tracking living or death birth rates allows life or health insurance providers to estimate better life expectancy, a key metric for determining life insurance premiums. The probability of having a living neonatal child is higher when the mother's age is between 21 and 30; the mother's age bracket 21-25 especially appeared to be the safest. The proportion of dead new-born babies is higher at the ages of below 20 and above 30 (Table 19). The death rate of new-born babies is higher for the mothers aged above 36. The situation points to the high risk and unsafe pregnancy of the under-aged (below 20 years) and older (above 36 years) mothers.

Table 19: Living/death status of the newborn child after delivery by mother's age

Age Group of Mother	Child living/death status		Total
	Alive	Dead	
13-17 Years	97.4	2.6	100.0
18-20 Years	97.4	2.6	100.0
21-25 Years	98.0	2.0	100.0
26-30 Years	97.9	2.1	100.0
31-35 Years	97.4	2.6	100.0
36-40 Years	96.7	3.3	100.0
41-50 Years	97.1	2.9	100.0
Total	**97.7**	**2.3**	**100**

Source: Author's analysis based on BBS (2021).

According to Table 20, excerpted from SVRS 2020, in 2 per cent of total delivery cases, newborns are discovered deceased within a few months. Although they were born alive, they passed away within days or months, with this occurrence being more prevalent among urban children (2.6 per cent).

As presented in Table 20, dead child rates vary across different divisions of the country. Dhaka has the lowest rate (2.0 per cent), which might be attributed to relatively better healthcare and awareness among ordinary people. Of the other divisions, Barisal (2.7 per cent), Rajshahi (2.7 per cent), and Sylhet (3 per cent) exhibit higher child mortality rates after birth.

Table 20: Living/death status of the new-born child after delivery (by division)

Division	Child living/death status		Total
	Alive	Dead	
Barisal	97.4	2.7	100.0
Chattogram	97.7	2.3	100.0
Dhaka	98.2	1.8	100.0
Khulna	98.0	2.0	100.0
Rajshahi	97.30	2.7	100.0

(Table 20 contd.)

(Table 20 contd.)

Division	Child living/death status		Total
	Alive	Dead	
Rangpur	97.70	2.3	100.0
Sylhet	97.00	3.0	100.0
Mymensingh	98.00	2.0	100.0
Total	**97.67**	**2.33**	**100**

Source: Author's analysis based on BBS (2021).

Table 21: Rural-urban distribution of the living/death status of the new-born child

Child living/death status	Rural	Urban	Total
Alive	97.8	97.5	97.7
Dead	2.2	2.6	2.3
Total	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

Surprisingly, the living status after birth is better in rural areas than in urban areas. This indicates a relatively safe environment for a neonatal to grow up in rural areas.

As shown in Table 22, Child mortality is higher among mothers aged 36 to 40 who gave birth in urban areas compared to other age groups in both urban and rural settings. The child mortality rate in rural areas is consistent across different age groups, which is the opposite of that in urban areas.

Table 22: Rural-urban distribution of the living/death status of the child delivered within a year (by area and mother's age)

Age of the child's mother	Rural			Urban		
	Alive [%]	Dead [%]	Total	Alive [%]	Dead [%]	Total
13-17 Years	97.3	2.7	100	97.8	2.2	100
18-20 Years	97.7	2.3	100	96.80	3.2	100
21-25 Years	97.9	2.1	100	98.10	2.0	100
26-30 Years	98.0	2.0	100	97.70	2.3	100
31-35 Years	97.7	2.3	100	96.90	3.1	100
36-40 Years	97.1	2.9	100	96.00	4.0	100
41-50 Years	96.8	3.2	100	97.80	2.2	100
Total	**97.8**	**2.2**	**100**	**97.45**	**2.55**	**100**

Source: Author's analysis based on BBS (2021).

5.9 Livebirth/stillbirth status of children from delivery

As the data indicate, the stillbirth rate is significantly lower when the delivery is attended by professionals like a Paramedic/ Family Welfare Inspector (FWV) or Health Assistant (HA)/ Family Welfare Assistant (FWA). The incidence of stillbirth tends to be elevated when quacks oversee deliveries, followed by nurses/midwives lacking accreditation.

Table 23: Status of stillbirth or livebirth in the presence of a professional attendant at the time of delivery

Professionals attended the delivery	Proportion of Newborn Child		Total
	Live birth	Stillbirth	
Doctor	98.8	1.2	100
Nurse/midwife	98.2	1.8	100
Trained midwife/midwife	98.9	1.1	100
Paramedic/ Family Welfare Inspector (FWV)	99.4	0.6	100
Medical Assistant (MA)/ Sub-Assistant Community Medical Officer (SACMO)	98.8	1.2	100
Health Assistant (HA)/ Family Welfare Assistant (FWA)	99.4	0.6	100
Traditional midwife	98.8	1.2	100
Blind doctor/quack/			
hammer doctor	97.6	2.4	100
Neighbours/relatives	98.6	1.4	100
Others	100	0	100
Total	**98.72**	**1.28**	**100**

Source: Author's analysis based on BBS (2021).

Note: Others may have a few observations for which it shows 100 per cent.

Furthermore, as evident in Table 24, the rate of stillbirths is elevated in urban regions compared to rural areas. Besides, among urban mothers aged over 40, the stillbirth rate is notably higher, completely contrary to the case for rural areas. This is perhaps due to the better living quality in rural regions (fresh air, food, and better family surroundings) compared to urban areas.

Table 24: Status of still or live birth during the delivery (by area)

Age of the child's mother	Rural			Urban		
	live birth	stillbirth	Total	live birth	stillbirth	Total
13-17 Years	99.1	0.9	100	99.0	1.0	100
18-20 Years	98.7	1.3	100	98.4	1.6	100
21-25 Years	98.7	1.3	100	98.6	1.4	100
26-30 Years	99.2	0.8	100	98.8	1.3	100
31-35 Years	98.8	1.2	100	98.4	1.6	100
36-40 Years	98.4	1.6	100	97.6	2.4	100
41-50 Years	99.5	0.5	100	95.7	4.4	100
Total	**98.84**	**1.16**	**100**	**98.5**	**1.5**	**100**

Source: Author's analysis based on BBS (2021).

5.10 Death place during the child's delivery

As given in Table 25, the majority of maternal deaths during childbirth occur at home (72.3 per cent), especially in rural areas (nearly 80 per cent). Interestingly, maternal mortality at hospitals is also notably high in urban areas, being twice as high as in rural regions. This might be attributed to the higher

volume of deliveries taking place at urban hospitals compared to those in rural areas. This postulates that hospitals' overall quality of maternity services may be below standard.

Table 25: Death place of the mother during delivery

Death Place	Rural	Urban	Total
Within sample area at sample household	78.7	63.6	72.3
Within sample area at other household	1.2	2.3	1.7
Outside sample area	2.7	2.6	2.6
Hospital	14.1	25.7	19.1
Clinics	2.4	3.8	3.0
Maternity clinic	0.1	0.0	0.1
Other	0.9	2.0	1.3
Total	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

Furthermore, Table 26 notes various causes of maternal mortality in rural and urban areas. Causes of maternal mortality are mainly attributed to complex delivery (33.3 per cent), complex pregnancy (23.1 per cent), and bleeding after delivery (23.1 per cent). Death due to complex abortion has been reduced by nearly 50 per cent in 2020 compared to 2019.

Table 26: Causes of maternal mortality in rural and urban areas

Maternal mortality causes	2019			2020		
	Rural	Urban	Total	Rural	Urban	Total
Complex pregnancy	15.4	16.7	15.8	23.1	23.1	23.1
Complex delivery	30.8	50.0	36.8	34.6	30.8	33.3
Bleeding after delivery (postpartum haemorrhage)	26.9	16.7	23.7	23.1	23.1	23.1
Complex abortion	15.4	0.0	10.5	7.7	0.0	5.1
Bleeding at pregnancy	11.5	8.3	10.5	11.5	15.4	12.8
Tetanus	0.0	8.3	2.6	0.0	7.7	2.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

Source: Author's analysis based on BBS (2021).

Miscarriage experience of a mother (A case for learning)

In another aspect of this research, the team conducted an interview with a mother who had experienced a miscarriage, to document her perceptions of maternity services provided by both public and private healthcare institutions. The mother sought antenatal care (ANC) services from a government-run hospital three months after her pregnancy. During the consultation, doctors were unable to detect a foetus heartbeat and advised her to return after a few days for further assessment. Meanwhile, the couple sought a second opinion at a private hospital, where a thorough examination revealed that the foetus was no longer present and concluded that the baby inside the embryo was dead. The private doctor recommended surgery to clear the uterus, presenting it as the only viable option. This was to

ensure that any remaining pregnancy tissue, including the placenta and foetal tissues, would be fully expelled to prevent infection or other complications. However, the couple was afraid about this course of action due to the procedure's painful nature and high cost, as the doctor estimated the surgery would cost approximately BDT 50,000.

Subsequently, the couple returned to the government hospital with the private hospital's reports. The doctors there advised two standard procedures available to them. The first involved medication to cause a natural delivery, which would clear the uterus; if this method proved ineffective, the doctors would then proceed with surgery, which would be provided free of cost. The mother's uterus was cleaned through normal medication procedures.

This story highlights the profit-driven approach observed in private healthcare settings, where suggestions may prioritise financial gain over patient well-being. As such, this study advocates for the establishment of a framework that ensures mothers and their families have access to healthcare services that prioritise their overall health and well-being, free from financial exploitation.

5.11 Maternal and newborn health statistics from DGHS

The analysis presented in the preceding sections is based on data from the nationally representative survey, the Sample Vital Registration Statistics (SVRS) 2020. However, the Directorate General of Health Services (DGHS) publishes monthly health bulletins, which report a range of health indicators. One of the most critical indicators related to maternal and newborn health is also reported monthly at the upazila, district, and divisional levels. This section has been prepared using data from the DGHS. Table 27 and Table 28 outline the key issues highlighted in the DGHS reports, comparing data from 2019 and 2023. Given the desk-based nature of the analysis and time constraints, the team compiled data from the divisional level for these two years. The 2019 data provide a pre-COVID baseline, while the 2023 data offer insights into the current situation. Tables 27 and 28 were included as they are pertinent to this study, representing the actual figures reported by each hospital at the upazila and district levels to the central authority. These data indicate a significant decline in delivery rates among mothers

Table 27: Maternal health statistics on Antenatal care, delivery, MMR and post-natal care

Maternal health	2019	2023
ANC1	1695891	1511206
ANC2	949472	912776
ANC3	679273	666156
ANC4	647660	627912
Delivery	977145	920696
Normal vaginal delivery (NVD)	496761	512779
Caesarean	468636	399746
Maternal Death	1105	872
Maternal Death Reviewed	2162	807
PNC1	888635	788537
PNC2	585918	526640

Source: Author's compilation from DGHS. (n.d.).

between 2019 and 2023. Notably, the number of mothers receiving all antenatal care (ANC) services has dropped to less than half of those who received their first ANC service. The ratio of normal to caesarean deliveries stands at 50:48, and approximately 2 per cent of births (19,632 in 2019 and 17,958 in 2023) were stillbirths. This is a concerning trend and underscores the urgent need for policymakers to design and provide support for expectant mothers to reduce pregnancy-related complications, maternal mortality rates (MMR), and neonatal mortality.

Furthermore, approximately 1.5 million expectant mothers received their first antenatal care (ANC) service, while the total number of deliveries was 0.92 million in 2023. The substantial drop in the number of expectant mothers from ANC1 to ANC4 and subsequently to delivery can be attributed to several factors, such as mothers relocating after receiving their first ANC, uncertainty regarding whether the birth occurs at a medical facility or at home, and potential cases of miscarriage. However, the exact reasons behind the discrepancy between the number of pregnancies and deliveries remain unclear.

Additionally, as provided in Table 28, among the recorded deliveries, 2 per cent of mothers experienced stillbirths, while 24.4 per cent of newborns died within the first minute of delivery. Postnatally, nearly 90 per cent of mothers received their first post-natal care (PNC), but this figure drops to approximately 55 per cent for those receiving second PNC. It is important that the maternity insurance framework addresses these concerns, incorporating them into premium calculations and offering flexible package options for mothers or family members to choose based on their needs. Simultaneously, the framework should ensure that the quality of healthcare services remains uncompromised and aligned with international standards when introducing these packages.

Table 28: Newborn and child health statistics

Newborn and Child Health	2019	2023	Share %
Delivery	977145	920696	-
Live birth	939244	872591	96.1
Stillbirth	19632	17958	2.0
Dying in 1 minute	229172	675976	24.4
PNC-1	823196	824109	87.6
PNC-2	524030	556592	55.8

Source: Author's compilation from DGHS. (n.d.).

5.12 Conclusion

In conclusion, a number of factors are found important in maternity-related issues and decisions. This section found that the educational qualification of mothers significantly impacts maternity conditions and decision-making, with higher education levels likely to be linked to greater engagement in organised maternity insurance, particularly in urban areas. The SVRS 2020 data shows that over two-thirds of mothers have not passed the SSC level, with rural areas having higher rates of low-educated mothers. Most mothers are homemakers, emphasising the need for tailored maternity insurance systems. Urban mothers are more likely to use formal medical services for childbirth, making urban areas suitable for piloting maternity insurance. Regions like Khulna and Dhaka, with better access to formal medical services, are ideal for such initiatives. Younger mothers (21-35 years) are the primary

target group for maternity insurance due to their higher use of skilled professionals and formal medical services. Poor birth and death registration systems pose challenges, requiring improvements for effective implementation. Disparities in healthcare access and quality between urban and rural areas are evident, with rural mothers having higher birth and mortality rates. Maternal deaths occur mainly due to complex deliveries and pregnancy complications, particularly in urban hospitals. Therefore, to implement a successful maternity insurance system, factors such as educational attainment, employment status, place of delivery, access to skilled professionals, and regional healthcare quality must be considered, with a focus on enhancing healthcare infrastructure and registration systems in rural areas.

6. ASSESSMENT OF EXISTING MATERNITY HEALTHCARE RELATED SCHEMES IN BANGLADESH

The government has taken significant steps to provide social protection to its citizens and expand its coverage. It has been working with several key ministries on various social safety net programmes to provide coverage, targeting specific vulnerable groups. The maternal benefit-related provision is one of the key safety net programmes under the current interventions. While some are being provided in the form of safety nets, and others are in legislative or pilot-based schemes. The current maternal benefit schemes run under the social safety net programmes, and under different activities of public and private sector organisations. The notable maternal benefits include maternal allowance for working women, maternity leave for workers, voucher schemes for maternal healthcare under the health protection scheme, medical benefits for working women in the ready-made garments (RMG) sector, maternity benefits under the SSK programmes, etc.

6.1 Health protection scheme (SSK)

Targeted population and area

The health protection scheme Shasthyo Shuroksha Karmasuchi (SSK) of the Ministry of Health and Family Welfare is a major health benefits programme that is currently being implemented on a pilot basis in all thirteen upazilas of the Tangail district, which is the habitat of nearly 4 million people. The targeted beneficiaries of the programme are poor people living below the poverty line. Under this scheme, eligible citizens are receiving different treatments free of cost, including maternal health-related issues. Since it is a free medical benefit programme, the poor are keen to undergo clinical examinations as per doctors' advice. Previously, they were less inclined to undergo medical examinations. Earlier, people used to fear taking the services and whether the programme would eventually cost them more money.

Prior to the initiation of this programme, there was a cap on the number of individuals (50-100 people) to be included in the SSK programme. However, as of 2024, inclusion is no longer limited. All poor people in the Tangail upazila are expected to be covered under the programme in future.

The HEU is currently enrolling the remaining uncovered eligible persons in the designated area by hiring a firm to conduct assessments and interviews with poor people. These interviews involve the administration of a comprehensive questionnaire comprising 52 questions designed for screening purposes.

Financial Coverage

The government is financing the SSK programme and pays the insurance premiums of up to BDT 1,000 per family, which covers health expenditures up to BDT 50,000 per year. The beneficiaries receive the treatments free of cost. Specific spending limits are assigned to each disease code; for instance, the heart disease package is allocated BDT 12,000, beyond which patients cannot avail themselves of heart-related treatments. Consequently, doctors often transfer the unutilised funds from less costly treatments such as fever or asthma to accommodate further heart-related treatments.

Moreover, doctors may redistribute unused limits from other patients within the same year if a patient exhausts their spending limit. Previously, many patients reached their limit, mostly exhausting their allotted budget, leading the upazila Hospital to cover the costs. However, doctors have now streamlined this process, ensuring more efficient utilisation of resources. Doctors are not aware of the cost of different packages. They initially provide treatment services, and expenses are adjusted later at the SSK booth. The redistribution, in fact, undermines the social insurance approach of the SSK. The study also found by interviewing people familiar with the SSK that, in practice, it is not a proper insurance model, and that the government is not paying any premium to the insurance companies. Rather, the government pays all the medical costs, and a private contractor is assigned to expedite the documentation process and provide services.

Many patients have multiple diseases (like diabetes, hypertension, blood pressure, etc.). They are treated under a single package with a higher budget limit (i.e., diabetes has a limit of BDT 5000, whereas hypertension has a budget of BDT 3000) since there is no scope to treat multiple diseases under multiple packages.

Coverage of health services

Currently, the SSK covers the treatment of 110 different diseases, with funding facilitated by the Health Economics Unit (HEU). Each family enrolled in the SSK database is allocated a budget of BDT 50,000, within which they can access those 110 services. Previously, eligibility for treatment benefits was extended to any member of the family, a provision that is no longer in effect. If a family member is enlisted in the SSK database as a household member of that family, then he/she can receive the benefit. If the person is not found in the database, then he/she gets excluded. Therefore, during the SSK survey, the SSK unit collects the name and national ID number of the household members. If, for some reason, anyone fails to enlist their family members' names, they remain excluded.

The programme does not provide outdoor services to the SSK beneficiaries but instead provides indoor services due to the expensive nature of outdoor services. Around 50 per cent of the indoor patients are SSK beneficiaries in all the upazila hospitals of Tangail. Indoor patients are admitted through the hospital's emergency centre; a beneficiary can get admitted until their budget limit is exhausted.

The programme does not include treatment services for back pain. However, this is a common phenomenon among senior citizens. The doctors provide back pain-related services under different line items where costs are mostly unused. This is another mechanism of the reallocation of the unutilised funds to incorporate the needs of the patients. However, financial constraints hinder patients who

require ongoing medication throughout the year from accessing comprehensive treatment services. Patients are typically given medicines for up to 15 days after discharge from hospital admission. Medication may sometimes be extended to cover 1-2 months, depending on the patient's condition. Monthly, 150 SSK patients are admitted to the hospital for treatment purposes. In Ghatail Upazila Hospital of Tangail district, each day around 25-30 SSK patients visit the hospital, of which only 7-8 patients are admitted.

Female patients under the SSK programmes visit the hospital more frequently than male patients. Doctors attribute this disparity to the tendency of female patients to seek medical attention for minor issues, prompting more frequent hospital visits. Conversely, male patients typically refrain from seeking medical assistance unless their condition becomes severe.

Maternity issues under SSK

The hospital extends maternity services to SSK beneficiaries and houses a dedicated Antenatal Care (ANC) ward. Within the SSK code range of 61 to 79, including maternity and gynaecology concerns, approximately 10-15 per cent of SSK beneficiaries in Kalihati upazila undertake treatments with such issues. Not every maternity-related complexity is included in the SSK programme; only major issues are included.

Maternity services under SSK	
Eclampsia	Ectopic Pregnancy
Haemorrhoids in Pregnancy	Genital Prolapse
Hyperemesis Gravidarum	Molar pregnancy
Perineal Tear (1st degree)	Ovarian Tumour
Perineal Tear (2nd & 3rd degree)	Pelvic Inflammatory Diseases
Postpartum Haemorrhage (PPH)	Polyp of the Female Genital Tract
Hypertensive disease of pregnancy	Septic Abortion
Premature Rupture of Membrane (PROM)	Therapeutic Termination of Pregnancy
Puerperal Pyrexia (Conservative + Surgical)	Uterine Fibroids (Leiomyoma)
Vaginal Delivery	Abscess (Ano-rectal)
Abnormal Uterine Bleeding (AUB)	

Source: HEU (n.d.).

Another issue is the fact that rural midwives (commonly termed as Dai maa) try to convince expectant mothers and their families to use their services. This is also true for the local private clinics. They try to capitalise on their complex condition by convincing the expectant mothers. This is due to the SSK only covering a limited number of maternity services. Also, lack of awareness of government health services, consequences of taking services from rural midwives, lengthy government process, etc., are also responsible.

Each upazila hospital has 50 health assistants and 54 additional persons (104) to investigate local child and maternal mortality-related incidents. They identify the households and fill out a comprehensive form.

C-sections at the upazila hospitals are conducted on a pre-planned basis, where the doctor reviews the condition of the patient and conducts a thorough check-up. If there is any possibility for complexities, the doctors advise a C-section and provide a suitable date for the patient. However, the upazila local hospitals do not conduct any emergency C-sections.

On a different note, when expectant mothers visit the local private clinic, the doctors refer the patient for a C-section and receive a handsome amount of remuneration, which is absent in the upazila government hospitals.

At government hospitals, the distribution of normal deliveries to C-sections typically stands at a ratio of 60:40. However, the Madhupur Upazila Hospital has documented a monthly occurrence of 90 normal deliveries compared to 10 caesarean sections. On the other hand, Ghatail upazila documented 10-12 deliveries in total in a month.

6.2 Maternity leave for working women in the industrial sector

The Labour Law Act of 2006 in Bangladesh (later modified and enacted as the Labour Law Act of 2018) contains provisions related to maternity benefits in Chapter IV, specifically sections 45 to 50. Among these, section 46 is dedicated to outlining policies regarding maternity leave. As per the official document from the state, it is mandated that employers must provide a total of 4 months of paid leave for pregnant women, with eight weeks designated before childbirth and another eight weeks following the delivery.

Targeted population and area

As of now, employers provide maternity leave and benefits for working women, particularly workers in the industrial sector. Working women have increased in number in the last 20 years. According to BBS (2022), the female labour force participation rate in Bangladesh is 42.68 per cent. With women working, incorporating measures to ensure the preservation of jobs for pregnant employed women and countering maternity-related bias forms an essential component of maternity insurance.

Financial coverage

Under Section 48 of the Labour Act, to determine the amount of maternity benefit, the daily average wage must be calculated by dividing the total wages earned by a worker during the preceding three months from the date on which she gives notice of pregnancy by the number of actual days of work during that period.

Coverage of health services

The BLA does not advocate pre-medical check-ups, post-natal care, and delivery expenditures and who will cover those expenses. Also, the scheme is enforced only in the formal sector, although several implementation challenges persist in the formal sector in terms of ensuring maternity leave for workers.

6.3 Maternity leave for women in the government sector

Eligibility, targeted population and area

Expecting mothers being employed in the government sector will get maternity leave up to six months of the baby's age. In 2012, the Ministry of Education decreed the same for non-government teachers. Similarly, the Bangladesh Bank also decreed that all state-run and private banks give their female workers six months of maternity leave. An amendment with such a provision was made to the Bangladesh Service Rules.

Financial coverage

The government employees get six months of paid maternity leave.

Coverage of health services

Since the leave is paid, the government rules do not specify any other benefits, like maternal healthcare services.

6.4 Central and labour welfare fund of MoLE

The Central Fund was created under the provisions of Section 232(3) of the Bangladesh Labor Act, 2006, to support workers in the 100 per cent export-oriented industrial sector. However, until today, only the Readymade Garment (RMG) industry workers have been able to avail themselves of the fund. Governed by Rule 218 of the Bangladesh Labor Rules, 2015, a Board of Directors oversees the fund's operations. This board includes key figures such as the Minister of the Ministry of Labor and Employment (MoLE), the Secretary of the Ministry of Labor and Employment, the Vice Presidents of BGMEA and BKMEA, and representatives from labour organisations and government agencies like the Directorate of Inspection of Factories and Establishments (DIFE) and the Department of Labor (DoL). The fund does not rely on direct worker contributions; instead, it is financed by employer contributions. The primary source of funding comes from 0.03 per cent of the total value of Letters of Credit (LCs) opened by export-oriented industries (RMG). Additional sources include voluntary grants from the government, donations from individuals or institutions, both domestic and international, and profits generated from investments made using fund money.

The fund management is handled by a team of 19 individuals, working under the Ministry of Labor and Employment, who are responsible for the organisational and operational aspects of the fund. This manpower is considered sufficient, as much of the verification and authentication work is carried out by entities such as BGMEA, BKMEA, DIFE, and DoL. In cases where the fund has a surplus after disbursing and settling claims, the remaining money is invested in fixed deposits (FDR).

The fund exclusively supports workers in the RMG sector, and to date, approximately 18,000 workers have benefited from it through claiming funds for medical purposes. Notably, 30 per cent of these beneficiaries have accessed the fund for maternity-related purposes. The demand for the fund is

growing daily, reflecting the increasing awareness and need for support among RMG workers. For maternity coverage, only female workers are eligible. They can apply for the fund when they submit their maternity leave applications at their respective factories. In general, a maternity grant of BDT 25,000 is provided to the female worker. In cases where post-delivery complications arise, the fund can provide additional support, which varies from BDT 5,000 to BDT 100,000, depending on medical documentation. The process of availing the fund begins when a worker submits a leave application to the factory. The factory forwards the necessary documents to BGMEA or BKMEA, which then refers the case to the Central Fund. The DIFE and DoL monitor the entire process. The Central Fund's board reviews the application, and after the Secretary's approval, the fund is disbursed to the worker in the presence of factory management and representatives from BGMEA or BKMEA. The processing time for the fund is approximately 20 days after the Central Fund receives the application. One significant challenge of the Central Fund is that it does not cover the wives of male workers.

On the other hand, the Bangladesh Labour Welfare Foundation (BLWF) Fund was established by the Bangladesh Labour Welfare Foundation Act of 2006. The BLWF fund is available to workers in both formal and informal sectors, as well as domestic workers, but RMG workers are excluded because the Central Fund covers them. The fund is operating under the Ministry of Labor and Employment with 11 dedicated staff members. Approximately 30,000 people have benefited from the BLWF fund, and the number of claims continues to rise as more workers become aware of its existence.

The fund is fully dependent on employer contributions, and no direct worker contributions are required. According to the Bangladesh Labour Act of 2006, companies with a paid-up capital of at least BDT 1 crore or immovable assets worth BDT 2 crore are required to contribute a portion of their net profits to several funds, including the Workers Profit Participation Fund, the Welfare Fund, and the Bangladesh Labour Welfare Foundation Fund. Profitable companies with assets worth over 2 crores are required to allocate 5 per cent of their net profits for worker welfare, 10 per cent of which is directed to the BLWF fund. This amounts to approximately 0.5 per cent of the company's total profit being contributed to the BLWF. Despite these regulations, not all registered companies comply, and many informal businesses remain unregistered, which limits the potential contributions to the fund. However, the BLWF still receives around BDT 100 crore annually from the companies that do comply.

For maternity coverage, only female workers can apply during or within one year of their pregnancy. They must provide proper documentation of the delivery process, along with certifications from medical professionals and local authorities, such as the Chairman or city councillor, verifying the incident. The general amount provided for maternity benefits is BDT 25,000, though additional funds may be granted for post-delivery complications, based on medical prescriptions. The process for accessing the BLWF fund begins when the worker submits their application to DIFE or DoL. After verifying the authenticity of the documents, the application is forwarded to the Bangladesh Labour Welfare Foundation for approval. The Secretary of the Foundation makes the final decision on fund disbursement, and once approved, the cheque is sent directly to the worker's address.

6.5 Voucher scheme for maternal healthcare

In terms of maternal care, the voucher scheme is a demand-driven programme providing vouchers and cash benefits to disadvantaged pregnant women for accessing scheme-covered services at no cost. Initially piloted in 21 upazilas, the scheme now operates in 53 of Bangladesh's 556 upazilas.

Targeted population and area

The voucher scheme employs a universal approach, offering vouchers to all first or second-time pregnant women in the poorest 9 sub-districts, regardless of their economic status. Later, a targeted strategy was adopted in additional 24 sub-districts, employing means-testing to identify eligible beneficiaries based on residency, pregnancy status, land ownership, income, and asset ownership.

Financial coverage

The government provides financial assistance to poor women of up to BDT 2000 to improve the health of the pregnant women and neonatal. In addition, the beneficiary receives BDT 2000 for delivery by a skilled attendant at a facility or BDT 500 for delivery by skilled attendant at home. The scheme offers vouchers which are exchangeable for health-related services to be taken from different public and private hospitals. Pregnant women receive vouchers during antenatal care visits or at community outreach events. Public and private healthcare providers within the network agree to offer specified services to voucher holders at no cost or a reduced cost. Beneficiaries present their vouchers to accredited healthcare providers when accessing services. Healthcare providers submit vouchers to the program administrators for reimbursement. The government, through the Ministry of Health and Family Welfare, oversees and regulates the voucher scheme. Funding for the programme comes from various interventions that channel government or donor subsidies to service users rather than service providers.

Coverage of health services

Originally, the scheme covered three antenatal check-up visits, facility-based delivery, post-natal check-ups, free medicines, transportation allowances, cash incentives for facility-based delivery, and managing maternal complications, including caesarean delivery when necessary. Services are available in public and selected private healthcare facilities, with compensation provided to healthcare providers (Mia, et.al., 2022; Ahmed & Khan, 2011).

6.6 Private insurance in Bangladesh

Targeted population and area

Private insurance in Bangladesh primarily targets urban populations and higher-income groups who can afford the premiums. These insurance plans are often more prevalent in metropolitan areas like Dhaka and Chattogram, where there is a higher concentration of private healthcare facilities. The reach to rural areas and lower-income populations is limited due to affordability issues and less demand. However, even in metropolitan cities, private organisations rarely provide maternity insurance to individuals. Rather, the packages work as group insurance for private company employees, with premiums paid by the companies. Most of these private insurance schemes do not have any contracts with hospitals. However, the premium payer can choose any hospital they want. Based on this, the premium will be fixed. Later, the insurance holder will have to submit the receipts of payment paid to the hospital to avail of the insurance money.

Financial coverage

Financial coverage under private insurance plans varies significantly based on the type of policy and premium paid by the company. The extent of coverage can be limited by high deductibles, co-payments, and exclusions for pre-existing conditions or specific medical treatments.

Coverage of health Services

Private insurance plans in Bangladesh generally offer a broad spectrum of health services, including inpatient and outpatient care, diagnostic tests, prenatal care, delivery, and postnatal care. However, the quality and accessibility of these services can vary, with higher-end policies providing access to more extensive and high-quality healthcare facilities and services in hospital stays and surgeries.

7. STAKEHOLDER'S PERSPECTIVE ON CURRENT HEALTHCARE SCHEMES

For this section, the study employed a qualitative approach using Key Informant Interviews (KIIs) and telephone interviews. A total of 15 KIIs were conducted with healthcare providers and government officials. Additionally, telephone interviews were carried out with 6 mothers (expecting or with newborns), segmented by monthly household income: BDT 0 to 30,000, BDT 31,000 to 1.5 lakh, and BDT 1.51 lakh and above. More detailed insights from the interviews are as follows –

7.1 Perspectives of pregnant women, new mothers, and their families

Pregnant women, new mothers, and their families from the upper class generally view maternity insurance as a beneficial supplement to their health security. They appreciate packages that offer comprehensive coverage and access to high-quality private healthcare facilities that can be available in any emergency. However, their primary concern is often more about the convenience and additional benefits rather than the financial protection aspect, as they can typically afford maternity-related expenses out-of-pocket.

For the middle class, maternity insurance is seen as a financial safety net that can alleviate the burden of high medical costs. They value insurance plans that offer affordable premiums with substantial coverage, including prenatal and postnatal care. The middle class is highly concerned about the cost-benefit ratio, seeking plans that provide maximum coverage for maternity services without straining their budgets.

Among the lower class, there is often limited awareness and understanding of maternity insurance. For those who are aware, maternity insurance provided by the government is seen as a possibility that could provide financial relief to their existing status. However, the cost of premiums and lack of affordable options may work as a significant barrier. These families are more focused on the immediate costs and often rely on public healthcare services which are mostly free. They view insurance as something currently beyond their financial reach but highly desirable if provided free for the security it brings.

7.2 Perspectives of the healthcare providers (public and private including NGOs)

Given the limited resources and manpower, in many cases government invites private entities to deliver the services committed under government scheme. Delivering the services of the abovementioned SSK package requires support from two different private entities. One of them is the local private clinics situated in regions where SSK scheme is ongoing, and another is Green Delta Insurance Company Limited. The local privately owned clinics provide support by offering medical services such as specialised consultations, critical medical/dental procedures, various blood tests, X-ray, and ultrasound to SSK card holders. Generally, these tests are not available in local public hospitals, or sometimes, specialised doctors are not found due to vacant positions. So, when referred by the public hospitals, the clinics provide additional services. On the other hand, Green Delta provides support for effective functioning of the SSK scheme by conducting recruitment process for SSK booth, maintaining billing and other documentation for SSK patients receiving services in public hospital and private clinics, overseeing the SSK card registration and issuing process, etc.

According to these private service providers, local private clinics participating in the SSK programme often encounter delays in receiving reimbursement from the government, impacting their ability to sustain operations and provide consistent care. On the other hand, employees from Green Delta face delays in making decisions and sometimes receive lobbying requests from government employees while recruiting manpower. There is a belief among them that to make the insurance system work in Bangladesh, it needs to be operated fully by a private organisation. The role of the government party should be centred on policymaking.

7.3 Perspectives of policymakers and government

According to government officials related to the SSK programme, while the scheme offers valuable services, it has inherent flaws that affect its efficacy and accessibility. Firstly, outpatient services are not covered, leading individuals to deliberately seek admission to the hospital for any minor health issues solely to access programme benefits. This creates unnecessary strain on healthcare resources and facilities. For instance, a diabetic patient who needs to continue their regular medication might have to be admitted to the hospital because there are no provisions for outpatient services where a doctor could simply review the prescription and authorise additional medicine. As a result, the patient ends up occupying a hospital bed and requiring unnecessary doctor visits just to obtain medications that were already prescribed. Moreover, certain demographics, like new-borns, are excluded from the programme due to registration constraints, depriving them of essential healthcare support. Additionally, life changes such as divorce or remarriage can result in the loss of access to services, illustrating a lack of adaptability and inclusivity within the system. Furthermore, doctors operating within SSK-enabled areas are burdened with extra administrative tasks, including cumbersome paperwork and manual form-filling, leading to demotivation and potential staff turnover.

8. PROPOSED OPERATIONAL FRAMEWORK FOR MATERNITY INSURANCE

8.1 Government-suggested strategic approaches

The proposed operational framework for maternity insurance needs to comply with the strategic approaches suggested by the government and address policy gaps. Government-suggested strategic approaches are as follows: (a) ensuring universal health coverage for all population particularly the poor and vulnerable groups; (b) reducing OOPE (Out of Pocket Expenses) to protect families from catastrophic healthcare expenses; (c) integrating fragmented government initiatives into a unified scheme and minimising targeting error; (d) exploring more options for financing and co-contributions for better financial viability and sustainability; and (e) promoting community-based risk pools via women's cooperatives or NGO's to enhance participation and sustainability of insurance plans for the informal sector.

8.2 Fundamental differences of maternity insurance

Maternity insurance is comparatively different from other health insurance in various aspects. Three fundamental differences that make maternity insurance different are outlined below.

Event-Specific Coverage: Maternity insurance is tied to a specific, predictable life event (pregnancy) covering both expected and unexpected outcomes during pre-natal and post-natal care. In contrast, health insurance offers broader, more comprehensive coverage for a wide range of unforeseen medical needs and emergencies, addressing various illnesses and conditions that can arise unexpectedly. While maternity insurance focuses on the planned or unplanned event of pregnancy, health insurance provides protection against a broader spectrum of health risks.

Limited Timespan: The need for coverage from timeline aspects is different for maternity insurance and health insurance. Health insurance provides comprehensive coverage for a variety of medical needs over the course of a person's life, accommodating different durations depending on age and health conditions. In contrast, maternity insurance is specifically tailored for women of reproductive age (15–49 years), and its coverage is primarily limited to pregnancy-related events. Several factors, such as marital status, the legal age of marriage, the number of children, socio-economic status, education, and contraceptive use, could influence the demand for maternity insurance, often reducing its necessity even among individuals within the reproductive age range.

Beneficiary Limitations: Beneficiary limitations also differentiate the two types of insurance. Maternity insurance directly benefits the mother and child, which can make its inclusion in group insurance programs more complex, particularly in male-dominated industries. Group health insurance plans are typically designed to cover a diverse range of beneficiaries, irrespective of gender or age. However, including maternity coverage in such plans can be challenging, as male employees may be less likely to participate in a programme that includes maternity risks. This reluctance limits the ability to form larger, more diverse groups for risk diversification, which is essential for maintaining cost-effectiveness and widespread participation in group insurance.

8.3 Comparison of health insurance frameworks in Bangladesh

From the discussion of previous chapters, it has been found that multiple maternity healthcare-related schemes are currently operational in Bangladesh (see Chapter 6 for details). With the collaboration and funding from INGOs/donors, many NGOs in Bangladesh have taken the initiative to provide micro health insurance in Bangladesh (Ahsan, 2013). In 2020, PricewaterhouseCoopers (PwC) drafted a report for the General Economics Division of the Planning Commission to propose three potential models of maternity insurance (PwC, 2020). To understand the current context of health insurance frameworks of Bangladesh, a comparison has been drawn (Table 29) among government-financed SSK (social protection) model, potential models proposed by PwC and two micro-health insurance packages offered by two prominent NGOs of Bangladesh. Due to the diversity of packages of micro-health insurance provided by different NGOs, the comparison only includes two packages provided by Grameen Bank and BRAC.

Income Loss vs Treatment Cost Coverage: What should be the priority?

Based on the quick comparison of the PwC proposed and ongoing social protection schemes/ insurance (SSK and BRAC), two different types of coverage plans have been observed. One is the coverage for loss of income during maternity leave (pre-pregnancy or post-pregnancy time), and the other is the cost of treatment associated with maternity. The proposed plans of PwC compensate for the loss of income, whereas the SSK and BRAC provide coverage for the cost of treatment. However, according to the BLA 2006, all permanent female employees of any formal sector are entitled to receive a maternity leave of 16 weeks, including maternity benefits from their employer (read Chapter 6 for details). The need for income loss coverage for women working in the formal sector has been addressed in the current labour law. In addition, it is difficult to include women in the informal sector, women living Below the Poverty Line and women out of the labour force in a single scheme that is designed based on the earnings (due to income calculation, tracking of income continuity, scalability, implementation and monitoring). The current government strategy and plans are focusing on reducing out-of-pocket health expenditures of catastrophic health events to protect households from economic shocks. Chapter 5 of NSSS 2015 clearly states the government plan of financing maternity benefits (compensation for income loss) through labour legislation and maternity insurance (compensation for treatment cost) through the social insurance scheme (GED, 2015). The NSSS 2015 defines maternity insurance as a package that covers part or all of the medical cost during a woman's pregnancy, including inpatient (hospitalisation and physician fees associated with childbirth) and outpatient services. Hence, any state-led maternal health insurance scheme(s) of Bangladesh should focus and prioritise on treatment cost coverage, and PwC proposed models are incompatible with current government policies.

Funding and contributions: Evidence of different funding mechanisms

The comparison of models shows three patterns of funding mechanisms for insurance packages. The financial mechanisms are as follows (a) non-contributory or fully public funded approach, (b) partial contributory approach backed up by public funds and (c) contributory (zero/no utilisation of public fund) approach. Targeted approaches (designed for vulnerable population) like SSK are fully government funded. The government provides the cost of coverage and administrative expenses from public

Table 29: Comparison of existing and potential insurance models and health protection schemes of Bangladesh

Point of Comparison	Shasthyo Shurokhsha Karmasuchi	PwC Proposed Model 1	PwC Proposed Model 2	PwC Proposed Model 3	Grameen Kalyan*	BRAC Micro-health Insurance*
Type of Coverages	Embedded maternal health care in a general family health care protection scheme for BPL.	Universal Health Coverage	Coverage for the working population in the formal sector	Coverage for the entire working population in both formal and informal sector	Preventive and curative family healthcare	Family health coverage including embedded maternity service
Role of Government in Funding	Entirely borne by the government	The government will bear administrative expenses and will play the role of employer for self-employed and informal sector workers.			Beneficiary/non-beneficiary pays premium to avail coverages. No government interventions required.	
Benefit Packages	In-patients: Up to BDT 50,000 per year on travel costs to referred hospital, diagnosis, medicine expenditure	Per day BDT 346 (2/3rd of Salary as per ILO Convention) up to 16 Weeks/112 Days. This rate was calculated based on the average wage of females. (BDT 15,568 as per FY 2016-17).			In-patients: Up to BDT 2,000 Discounted service at specified healthcare centre Consultation Fees (25%), Pathological Tests (25%), Medicines (10%), Regular Blood Sugar Tests (20%), Free quarterly health check-ups for all members	In-patient: Up to BDT 10,000 Out-patient: up to BDT 1,500 Normal Childbirth: up to BDT 2,200 C-section: up to BDT 6,500 Life Coverage: up of BDT 10,000
Contributions	Yearly BDT 1,000	Monthly Employee: BDT 121.45, Employer: BDT 121.45. For the informal sector, in the absence of an employer, the government will play the role and will contribute to the pooled fund			Yearly ~BDT 250 to ~BDT 400 which is paid by policy holder	Yearly BDT 650 to BDT 1220 which is paid by policy holder

Source: Compiled by authors.

Note: Asterisk (*) refers to micro-health insurance.

funds. Partial contributory approaches are where the employer and employee mutually contribute to a common fund for the coverage of the employee. The government may contribute or may provide administrative expenses from public funds. The proposed plan of PwC (for the working population in the formal and informal sector) is an example of a partial contributory approach where employer, employee and government pay the income loss coverage cost. In the case of contributory approaches, the government does not need to provide any expenses. Usually, such an approach is donor-driven (foreign, domestic or philanthropic support) or relies on a self-sufficient/revenue generating process. BRAC Micro-health Insurance and Grameen Kalyan charge annual premiums from BDT 250 to BDT 1,220 to their insured beneficiary. Respective NGOs (BRAC and Grameen) facilitate these micro-insurance packages and no support from public funds is required.

Micro-health insurance: Potentiality to include the people of grass-root level

The insured beneficiaries of micro-health insurance are usually the people of the grassroots or portion of the population who are difficult to reach. Many NGOs, who are working with these need-based population groups under different development programs, brought these vulnerable (or prone to vulnerability) groups into micro-health insurance schemes. Micro-health insurance programs in Bangladesh are funded by development partners and typically backed up by NGOs' own facilities. Clients of Grameen Kalyan and BRAC enjoy discounted services at the designated sites of their insurers. However, researchers also criticised its potentiality to scale up, service modality, sustainability and other factors. There is no uniformity in the insurance packages of different NGOs regarding pricing, benefit packages, coverages, administrations and monitoring systems.

8.4 Target population and categories of beneficiaries

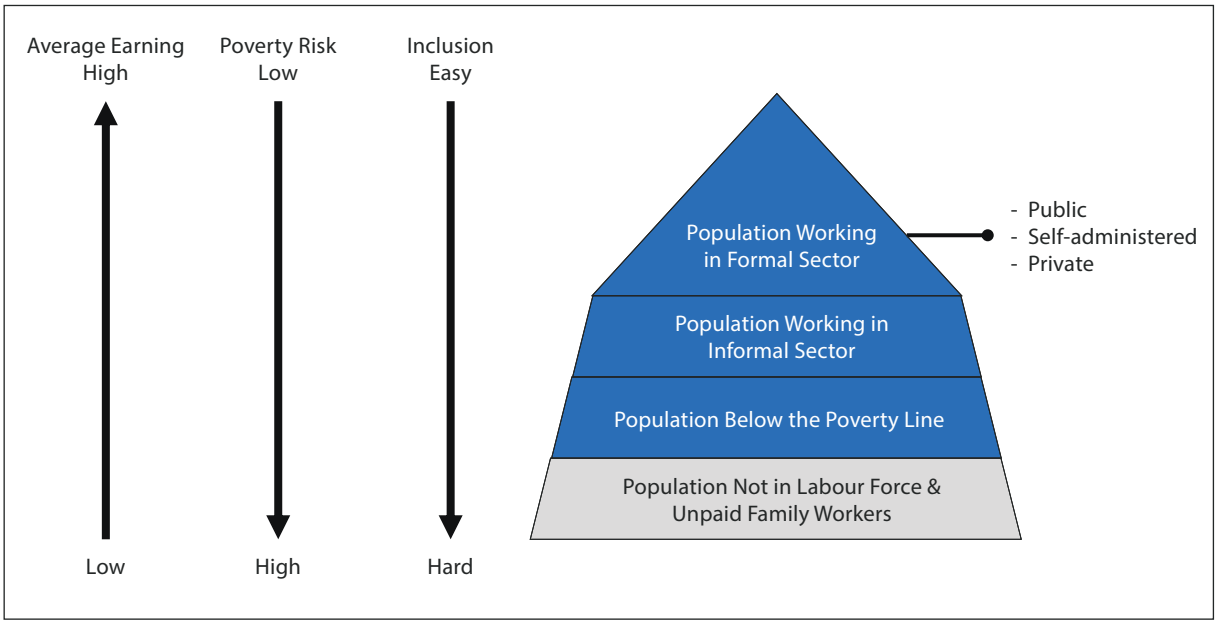
Based on the GoB Health Care Financing Strategy 2012-32, the targeted population for insurance coverage can be divided into three major segments which are illustrated below (marked in blue). The first group refers to the population who works in the formal sector. This group is comparatively organized and has some uniformity in their socio-economic status. Usually, this group is easier to target and cover through payroll taxes. This segment may purchase insurance packages directly or through contributions from the employer. Based on the nature of the organisation, this group can be divided into three sub-groups such as public/government employees, private employers and employees of self-administered organisations.

The second group is the population working in the informal sector who earns more and has better purchasing power compared to the BPL population. However, bringing this group under institutional coverage is difficult as the group is geographically dispersed, lacks uniformity in job roles and nature, unorganised and uncategorised.

Population below the poverty line belongs to the third group. Due to a lack of purchasing power and resources, a fully government-subsidised social protection scheme is required for this group.

The grey-marked segment is the fourth group who are not directly included in the above-mentioned government strategies. This group refers to the segment of working population who are not active in the labour force, dependents or working as unpaid family members, such as, housewives, students etc.

Figure 4: Authors' illustrations of beneficiary groups[4]



Source: Authors' illustrations.

8.5 Methods and Calculations

Estimated number of beneficiaries

To calculate beneficiaries of maternity insurance, this framework adopted the following formula:

$$Total\ beneficiaries = \left(\frac{Total\ Population}{1{,}000} \times Crude\ Birth\ Rate\ (CBR)\right) + \left(\frac{Total\ Crude\ Birth}{1{,}000} \times Still\ Birth\ Rate\ (SBR)\right)$$

Table 30: Total population, Crude Birth Rate (CBR) and Still Birth Rate (SBR) of Bangladesh.

Variables	Value	Unit	Definition	Data Source
Total Population	165.16	Million	Total Population of Nation	Bangladesh Population Census 2022
Crude Birth Rate (CBR)	19.8	Cases per 1,000 population	Defined as the number of live births during a specified period and area per 1000 mid-year population.	Bangladesh Sample Vital Statistics 2022
Still Birth Rate (SBR)	9.5	Cases per 1,000 live births	Number of babies born with no signs of life at 28 weeks or more of gestation, per 1,000 live births.	Bangladesh Sample Vital Statistics 2022

Source: Authors' calculations.

[4]Prepared based on 'Health Care Financing Strategy 2012-2032' and 'Study on Framework for Introduction of National Social Insurance Scheme in Bangladesh'.

So,

$$Total\ beneficiaries = \left(\frac{165.16\ million}{1{,}000} \times 19.8\right) + \left(\frac{3.27\ million}{1{,}000} \times 9.5\right)$$

$$= 3.30\ million$$

Considering the other outcome of pregnancies (e.g., miscarriage, abortions, pre-delivery maternal mortality rates and others), this framework is including (r) ~12 % more beneficiaries to avoid underestimation. Hence, total beneficiaries including adjusted rates stands approximately 3.70 million cases per year. Estimates from BBS and World Bank are showing that the fertility rate of Bangladesh is declining year-on-year and can sustain around 2 per cent for a long-time. This means the number of targeted beneficiaries under this insurance mechanism will decline in the upcoming years.

Puzzle of numbers: During the designing of this framework, the authors faced numerous challenges associated to maternal health statistics/data of Bangladesh. Among the challenges, data unavailability, difference in estimations, lack of detailing and miscalculations were the prime issues. Few relevant examples/discussions have been outlined below.

- Medical Inflation Data (AY 2023) published by BBS was highly criticised due to its surprising and unrealistic trends (Saif, 2023). While BBS data recorded decline in inflation, sector insiders found no evidence of price drop in the markets 'Health sector inflation jumps in Dec after months in negative territory' (2024).
- Different national surveys estimated the same indicators but published different results. SVRS 2022 reported a lower Still Birth Rate (9.5 per 1000) comparted to DHS 2022 (21 per 1000).
- Government-run Urban Primary Health Care (PHC) centres lack proper facilities, human resources and equipment to record patient data compared to its rural counterparts (Anee, 2024). This creates an information gap for the urban health care seekers.
- Private healthcare facilities or facilities not directly controlled by health ministry (dominantly in urban arena and operates under city corporation) are not included/integrated in the national healthcare monitoring system, leading to an information gap (DGHS, n.d.).

Based on this calculation, number of beneficiaries by categories (discussed in 8.4) has been estimated below.

Table 31: Number of beneficiaries by group.

Variables	Population	Source
Formal Employment (Male & Female)	10,673,000	Labour Force Survey 2022
Informal Employment (Only Female)	12,311,534	Labour Force Survey 2022
Below Poverty Line	9,106,900	Asian Development Bank 2022
Dependent or Out of LF	16,608,566	The gap between estimation and others
Total Reproductive Age Women	48,700,000	WHO 2022
Total Expected Claim	3,700,000	Calculated earlier

Source: Authors' estimation based on available data.

Note: Assumed that in formal employment, each male employee will cover a dependent (as advised in NSSS 2015).

Maternity healthcare expenses in Bangladesh

In Bangladesh, a limited number of studies have been conducted to estimate the cost associated with maternity healthcare services. National statistics produced by different government agencies often do not provide a clear picture but rather a shared aggregate summary. However, to understand the limitation, a short review of existing literature related to the cost has been summarised below.

Afsana (2004) conducted an ethnographic study of childbirth practices in a village of Bangladesh to measure the tremendous cost of seeking hospital obstetric care in Bangladesh (Afsana, 2004). The study included expenses of drugs, diagnosis, blood transfusions, food, travel and other informal payments. The author compared the expenditure of obstetric treatment and other costs borne by patients between secondary and tertiary government facilities.

Table 32: Comparison of obstetric treatment expenditure by patients.

Cost Components	Secondary	Tertiary		
	Normal	Normal	C-section	Other Complications
Drugs	300	400	7,000	10,000
Diagnosis	-	-	600	2,000
Blood	-	-	400	3,000
Food	100	200	2,000	2,000
Travel	200	500	2,000	2,000
Others	200	500	1,000	1,000
Total	**800**	**1,600**	**13,000**	**20,000**

Source: Afsana (2004).

Borghi et al. (2006) estimated household costs of healthcare during pregnancy, delivery, and the postpartum period by tracking the expenditure of 326 women from Matlab, Bangladesh (Borghi et al., 2006). The study showed a comparison of costs by facility and type of care received. CEOC facilities are generally more expensive compared to BEOC facilities, whether in public or private settings.

Table 33: Comparison of basic and comprehensive essential obstetric care by facility

Cost Components	Basic essential obstetric care facility (BEOC)		Comprehensive essential obstetric care facility (CEOC)	
	Health Centre	ICDDR,B BEOC	Public	Private
Transport	10 (6–14)	23 (20–27)	132 (47–216)	186 (121–252)
Medical[5]	75 (33–117)	251 (5–496)	7,358 (5,201–9,515)	21,901 (19,656–24,146)
Cleaning	12 (5–19)	15 (6–25)	13 (4–22)	14 (1–26)
Food	171 (122–219)	265 (148–381)	757 (406–1,108)	840 (619–1,060)
Tips	52 (25–78)	58 (17–98)	333 (59–606)	399 (188–610)
Companion	110 (67–153)	270 (155–385)	568 (361–775)	905 (577–1,234)
Total	**440 (338–543)**	**1,043 (614–1,472)**	**9,451 (6,640–12,261)**	**24,461 (22,049–26,796)**

Source: Borghi et al., (2006).

[5]Refers drugs, laboratory tests, and any other medical supplies within laboratory.

Rahman et al. (2013) analysed out-of-pocket expenses incurred by women accessing maternal healthcare services, including antenatal care (ANC), delivery, and postnatal care (PNC), at public and private health facilities in Bangladesh (Rahman et al., 2013). The study examined the expenditures of 3,300 women who had given birth within the 12 months preceding the data collection, spanning 33 rural upazilas across the country.

Bangladesh Maternal Mortality and Health Care Survey 2016 (BMMS) estimated the mean cost of both normal and C-section deliveries (NIPORT, icddr,b, & MEASURE Evaluation, 2019). The survey gathered data from women who had delivered in the three years prior to the survey, asking about the total amount their families spent for the most recent birth. However, the report does not contain information regarding the expenditure of ANC and PNC services.

Table 34: Out of pocket expenses of ANC, Delivery and PNC by type of facility

Cost Components	ANC (Per Visit)		Normal		C-section		PNC (Per Visit)	
	Public	Private	Public	Private	Public	Private	Public	Private
Registration	2	2	1	4	1	6	1	0
Consultation	15	141	144	891	562	3,260	39	93
Lab	59	257	13	5	43	21	26	27
Medicine from facility	2	31	59	476	641	1,946	20	97
Medicine - Outside	131	311	1,077	895	4,834	3,154	686	363
Transport	38	108	416	541	369	673	143	107
Other	7	16	318	150	467	474	15	7
Total	**252**	**866**	**2,027**	**2,962**	**6,915**	**9,533**	**928**	**693**

Source: Rahman et al. (2013).

Table 35: Mean cost of child delivery by the place of birth

Method of delivery	Place of birth					
	Public	Private	NGO	Home	Other	Total
Normal	4,130	9,160	4,160	1,459	4,175	2,479
C-section	15,447	22,468	19,316	-	-	21,185

Source: BMMS (2016).

Jo et al (2019) estimated patient direct and indirect cost of receiving ANC care in Gaibandha District of Bangladesh and conducted exit interviews with 70 pregnant women in different facilities (Jo et al., 2019). The calculation included admission fees, medical service fees, transportation and other costs to estimate direct cost.

Table 36: Cost of receiving ANC at different facilities estimated from patient exit survey

Cost Components	Community Level			Facility Level			
	Gov't	BRAC	S. Sun	CC	UHC	MCWC	S. Sun
Admission Fees	No notable direct cost	0	No notable direct cost	0	.04	0	0
Medical Service		.65		0	0	1.89	1.56
Transportation		0		.13	.45	.52	.65
Other		0		0	0	.71	0
Total direct cost							
(Values in USD)		.65		.13	.49	3.12	2.21
Total direct cost							
(Values in BDT)		~50		~10	~38	~240	~170

Source: Jo et al (2019).

Note: CC (Community Clinic), UHC (Upazila Health Complex), S. Sun (Smiling Sun) Satellite or State Clinic, MCWC (Maternal and Child Welfare Centre). USD 1 = BDT 76.86 as per 30 June 2016.

Average OOPE of maternity healthcare

Based on the discussion outlined above, this framework estimated the average out-of-pocket expenditure of maternity health care broadly associated with ANC, Delivery and PNC by facilities. During calculations, expenses of home-based services have been excluded to prioritise institutional expenses as per the national guideline (Ministry of Health and Family Welfare, 2019).

Table 37: Average OOPE of ANC, Normal delivery, C-section delivery and PNC

Variables	Public/NGO	Private	Data Source
Average cost of ANC visit (multiplied by 4 visits)	1,008	3,464	Rahman et al., 2013
Average cost of normal delivery	4,145	9,160	BMMS 2016
Average cost of C-section delivery	17,382	22,468	BMMS 2016
Average cost of PNC visit (multiplied by 4 visits)	3,712	2,772	Rahman et al., 2013

Source: Authors' compiled data from different literature and estimated costs based on available data.

Note: Inflation has not been adjusted.

To adjust inflation, the following formula has been used:

$$Current\ value = Base\ Value * (1 + r)^n$$

Table 38: Average OOPE of ANC, Normal delivery, C-section delivery and PNC with adjusted inflation

Variables	Public/NGO	Private	Data Source
Average cost of ANC visit (4 visits)	1,994	6,854	Adjusted for 11 years (n)
Average cost of normal delivery	6,809	15,046	Adjusted for 8 years (n)
Average cost of C-section delivery	28,551	36,906	Adjusted for 8 years (n)
Average cost of PNC visit (4 visits)	7,345	5,485	Adjusted for 11 years (n)

Source: Authors' calculation.

Note: Average inflation rate 6.4% estimated from the World Bank Open Database from 2014 to 2023.

A matrix of expenditure by delivery and facility type is written below:

Table 39: Average total cost by type and facility

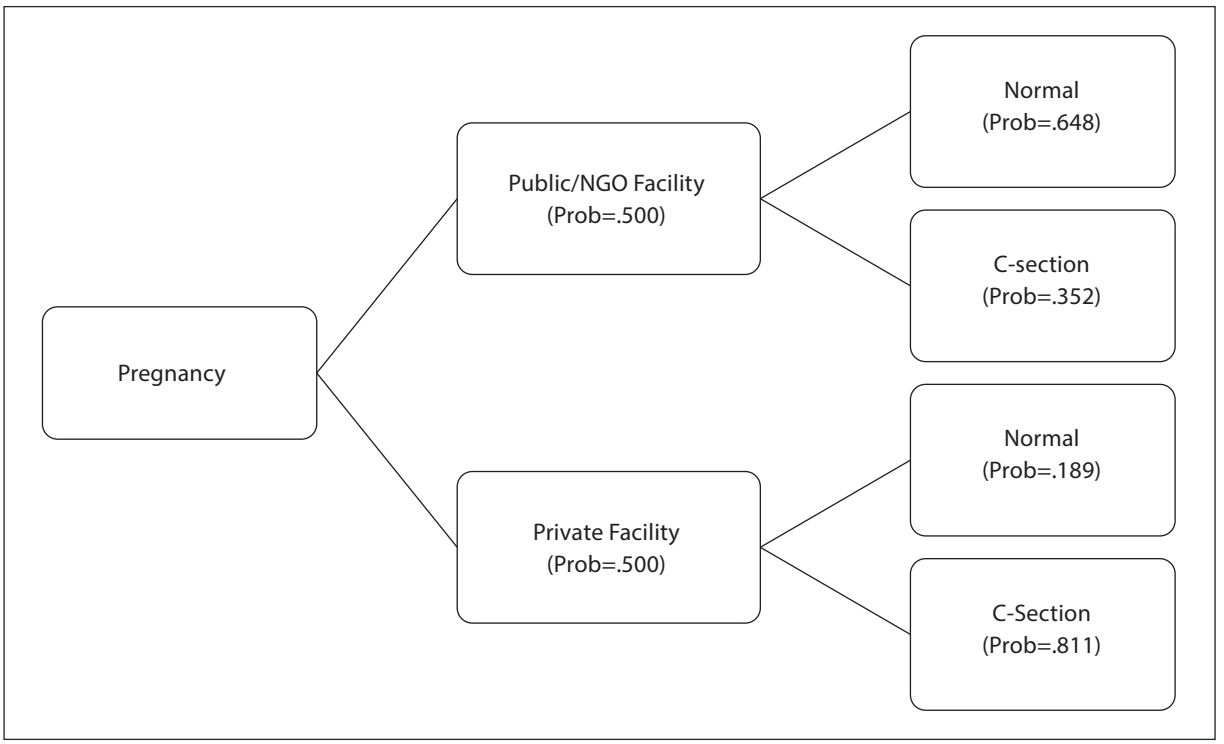
Variables	Public/NGO	Private
Average cost of Normal Delivery including ANC & PNC	16,148	27,385
Average cost of C-Section including ANC & PNC	37,890	49,245

Source: Authors' calculation.

Expected Avg. OOPE of maternity healthcare

To calculate the Expected Avg. OOPE, let's assume a scenario where a pregnant mother has two choices of facility (public/NGO or private) and there will be two outcomes of pregnancy (normal and C-sections).

Figure 5: Probability tree diagram based on facility type and delivery procedure



Source: Illustrated based on assumptions by authors.

As per DHS 2022, 45.1 per cent deliveries take place in private facilities. With insurance coverage, it is expected that home-based deliveries will shift to nearest public/NGO facilities and more people will shift to private facilities with increasing purchasing power backed up by maternal insurance. Considering the current rates, expecting that the people will use these facilities equally (50 per cent) and public/NGO facilities will be able to accommodate home-based deliveries (34.9 per cent currently). Ahmed, S. et al (2022) found high prevalence of C-section in private facilities (81.1 per cent of total cases) compared to non-private facilities (35.2 per cent of total cases). Based on these values (probabilities), expected avg. OOPE has been estimated.

Cost of other outcomes: The cost of menstrual regulation (MR), miscarriage and other delivery situations is not well calculated/estimated in Bangladesh. In 2022, in Dhaka Tribune, an article named 'No official data on menstrual regulation in Bangladesh' was published. Quoting industry insiders, the article discussed about the cost variation of MR which may fluctuate from BDT 300 to BDT 25,000 based on procedure (manual or surgical), facility type and other issues. Also, typically average cost of miscarriage treatment is lower or equal to average cost of delivery. Though not directly mentioned, these situations can be covered under the average expected cost.

Cost of childcare: Due to data unavailability and policy gaps, neo-natal care cost is not included in the framework. The definition of NSSS regarding maternal insurance does not cover or keep provision for neo-natal care.

To calculate the Expected Avg. OOPE, the following equation has been used.

$$Expected\ \text{Avg.}\,OOPE\ or\ \boldsymbol{E}(\textbf{avg.}\,\boldsymbol{OOPE}) = \Sigma(Probability\ of\ occarance \times Average\ OOPE) \quad .....(4)$$

The probability table and expected cost are given in Table 40:

Table 40: Calculation of expected average OOPE

Facility	Delivery	Probability			Avg. OOPE	Avg. Expected Cost
		Facility (F)	Delivery (D)	F*D		
Public/NGO	Normal	0.5	0.648	0.324	16,148	5,231.95
	C-Section		0.352	0.176	37,890	6,668.64
Private	Normal	0.5	0.189	0.0945	27,385	2,587.88
	C-Section		0.811	0.4055	49,245	19,968.85
Total Probability				1		
E(avg. OOPE)						34,457.32

Source: Authors' calculation.

8.6 Proposed Frameworks

A review of OOPE from the literature indicates that the cost of a C-section is significantly higher than that of a normal delivery, regardless of whether the setting is public or private, or basic or comprehensive. According to DHS 2022, the current C-section rate stands at 45 per cent, far exceeding the WHO's recommended rate of 10 per cent to 15 per cent. This high prevalence is often attributed to unnecessary

or non-essential procedures especially in private facilities. Several factors influence the likelihood of C-section deliveries. Ahmed et al. (2022) identified wealth status, maternal age, at least one antenatal care (ANC) visit, and delivery in private facility as significant contributors (Ahmed et al., 2022). Similarly, Kumar and Sharma (2023) highlighted education level, wealth status, four or more ANC visits, and delivery in private facilities as key drivers (Kumar & Sharma, 2023). However, it is important to note that C-sections remain crucial or lifesaving in many cases and the private health system is an integrated part of our healthcare structure.

The above criticism led us to a few questions which are (a) What level of financial coverage should individuals receive to minimise the burden of OOPE while keeping minimum government contribution? (b) How can a balance be achieved between public, NGO, and private healthcare services to ensure equitable and efficient delivery? (c) What strategies can be implemented to mitigate moral hazard and reduce unnecessary interventions while addressing their adverse effects?

In answering these three questions, the following needs to be taken into account. As established above, currently the split between deliveries in private and public/NGO facilities is roughly 50-50, while the C-section rate stands at 45 per cent. If the maternity insurance were to reimburse beneficiaries for the full cost of any delivery whatever they happen to choose – hospital and delivery type – there would be a strong incentive for choosing deliveries at private hospitals and going for C-sections. If so, the delivery distribution would shift, resulting in a much higher rate of C-sections in private facilities. This, in turn, would undermine the initial premium calculation and we would end up with much higher insurance costs than estimated.

To avoid these perverse incentives, the maternity insurance has to be designed as follows: the insurance can only fully cover the costs of deliveries taking place in public and NGO facilities; moreover, C-sections are only covered if they are strictly necessary from a medical point of view. In case, a beneficiary chooses to have a delivery at a private hospital, the insurance should only reimburse them for the amount that a delivery at an NGO hospital would have costed on average (both for normal deliveries and C-sections). Any additional costs would have to be borne by the beneficiaries themselves - either out of pocket or via an additional (voluntary) private health insurance. The reason why we propose to take average costs of the NGO facilities as a reference point and not public hospitals is that public hospitals are often subsidised such that real costs are higher than what patients pay. Furthermore, in order to get reimbursed for the delivery costs of C-sections, convincing proof of medical necessity would need to be submitted.

In this way, premiums can, in principle, be calculated as if all beneficiaries take deliveries at public/ NGO facilities and only 15 per cent of deliveries are C-sections (as per WHO recommendations). In realty, there would probably be a higher number of C-sections and quite a few deliveries in private facilities. These unnecessary C-sections, however, would be treated by the maternity insurance as if they were normal deliveries: beneficiaries would be reimbursed by an amount equivalent to what a normal delivery in a public or NGO facility would have cost on average.

However, it might be too optimistic to assume that all unnecessary C-sections can be easily identified. Doctors will have an incentive to provide false proof for the necessity of unnecessary C-sections and not all of these false claims might be detected by the insurance administration. It might, therefore, be useful to have two additional models to the one described in the above paragraph: a 'worst-case' model, in which the detection rate of rigged claims for unnecessary C-sections is very low and the effective C-section rate,

therefore, remains at 45 per cent; and a 'middle-case' model, in which the detection rate is higher but not perfect, resulting in an effective rate of 30 per cent C-sections recognized under the insurance.

To summarise, the proposed framework encompasses three models:

1. A 'best-case' model with 15 per cent C-sections recognised by the maternity insurance
2. A 'middle-case' model with 30 per cent C-sections recognised by the maternity insurance
3. A 'worst-case' model with 45 per cent C-sections recognised by the maternity insurance

Expect for the rate of recognized C-sections, the three models would be analogous, assuming (in line with the probability tree of Figure 2) that 50 per cent of deliveries take place in public/NGO facilities and 50 per cent in private hospitals – but the 50 per cent taking place in private hospitals would be reimbursed only according to the amount that on average a delivery in an NGO facility costs.

The discussion of framework includes coverage amounts, total requirement of funds, premium calculation, contribution of different actors (employer, employee, beneficiaries and government stakeholders).

Type and timeline of coverage

- It is a universal maternal health scheme and participation in the scheme is mandatory for all Bangladeshi women of reproductive age.
- The proposed scheme is a cashless coverage. This means beneficiaries will not be able to receive any direct cash benefits.
- Under the scheme, partner hospitals (government, NGO, and private settings) will be able to charge patients for admission, in-patient and out-patient consultations, medical supplies, lab tests, hospital/in-patient charges, and transport (in special cases only).
- Any outcome of pregnancy (such as miscarriage, stillbirth, clinical abortion, or menstrual regulation) will be covered under this package.
- The benefit packages become active upon registration and provide coverage for up to 45 days post-delivery. The package can be availed by the mother during this timeline.
- Travel cost of patient and companion, food cost of companion, and expenses in non-partner facilities (consultation, diagnosis or medicine) will not be included in the scheme.
- The insurer may accommodate excess costs of one component by adjusting it against another, depending on availability.

Inclusion and eligibility criteria

- All Bangladeshi women of reproductive age (aged between 15 to 49 years) should be included in the insurance scheme. The inclusion of girls aged 15 to 19 in the insurance scheme may be a subject of debate, as it could potentially increase adolescent pregnancy. However, studies indicate that this age group faces the highest health risks associated with pregnancy.
- Individual women must declare their pregnancy status to the nearest ANC providers and register themselves to activate their insurance coverage. Prior to that, she must enrol herself in the coverage.
- A pregnant woman must complete all scheduled ANC (antenatal care) visits as per the national

guidelines to get the complete benefit of the insurance programme.
- Coverage will be invalid for the subsequent pregnancy if an individual mother has two living children. This provision will support national policy for population control.
- In the formal sector, male employees should participate in the insurance program to avail coverage for their family members. This will help to distribute risk among a larger pool and will be able to cover a larger section of the population.

Assumptions and estimations

The proposed insurance framework proposed 3 models which are designed based on the following assumptions:

- Each model incorporates a controlled rate of C-sections.
- The distribution of deliveries is assumed to remain constant and evenly split (50 per cent) between public and private facilities.
- To balance the subsidised costs of public facilities and the profit-driven costs of private facilities, the models have treated the average cost of NGO facilities as a representation of the actual cost of private facilities.
- As expenditure data is unavailable for ANC and PNC, the average costs of public facilities have been considered.
- As government will solely provide the administrative cost, the model has excluded the administrative cost from the premium calculation.

Reasons for not estimating the administrative cost: Often considering a fixed administrative (or managerial) cost associated to disbursement of insurance can be misleading. Administrative cost during the early stage of operation can be high as it is the development phase of the framework. Initial costs (such as operational software set-up, development of awareness or training materials) are usually higher though have potential future benefits.

Premium calculation and coverage

The following formula will be used for premium calculations. The details calculations are added in the annex.

$$\text{Premium per policy (yearly)} \quad = E(avg.OOPE) \times \frac{Total\ Number\ of\ Pregnancy\ Claim\ Per\ Year}{Total\ Number\ Population\ in\ Coverages}$$

Table 41: Coverage and premium by proposed model

Models	Details	Coverage Up to	Premium (Per Policy, Per Year)
Model 1	Best Case Scenario – accommodate 15% C-section	41,000	1,500
Model 2	Middle Case – accommodate 30% C-section	41,000	1,760
Model 3	Worst Case Scenario – accommodate 45% C-section	41,000	2,030

Source: Authors' calculation based on assumptions.
Note: As the average OOPE is same for all models, the coverage remains same for all models. Due to changes in the **high-cost risk parameters (rate of C-section)**, premium per model changed. This means, with lower possibility of C-section, premium will go down (lower the risk, lower the premium). Please see annex for detailed calculation.

Table 42: Ratio-wise cost components of proposed models

Cost Components	Ratio	Coverage
Registration/Admission	2%	820
Consultation (In/Out)	15%	6,150
Diagnosis/Blood transfusion	15%	6,150
Medicine and supplies	34%	13,940
Outpatient	30%	12,300
Transport (For referral only)	4%	1,640
Total Coverage		**41,000**

Source: Authors' calculation based on available literatures.

Note: Ninety-four (94) per cent allocation is for medical purpose and 6 per cent allocation is for non-medical purpose (e.g., registration/ administration and transportation). Outpatient cost applicable for the accommodation, food and other required charges by hospitals for the patients only.

The packages will cover registration/admission, consultations (both inpatient and outpatient), diagnostics, blood transfusions, medicines and supplies, outpatient care, and transportation (ambulance services for referrals only). In the absence of reliable national statistics and considering inflated cost in urban areas, the authors assumed the rate of cost components based on the discussion of section 8.5.2. Recognising the limitations of the SSK model, the authors have incorporated a provision for flexibility, enabling adjustments among components at any stage of the claims process.

A comparison of cost components of the three proposed models is given below. The total cost of these two models will be compared in later discussions.

Contributions

If employees (beneficiaries) are working in the formal sector, both employee and employer will contribute to the premium equally (50 per cent each). In case employees (beneficiaries) are working in the informal sector, the government will play the role of employer and contribute 50 per cent of the premium. Self-employed women can be covered through this strategy. However, if the employees (beneficiaries) are regular government service holders, then the government will contribute and will play the role of employer. If the population is from the below-the-poverty-line (BPL) group, the government will pay the full value of the premium. The beneficiaries may contribute, and their contribution can be considered as 'token value' (a minimal payment of BDT 60 per policy will be charged as a premium) which may shift a slight burden from government funds.

The breakdown of yearly premium is given in Table 43:

Table 43: Contribution in premiums by sector and group.

Models	Per Head Premium (Yearly)	Formal Sector			Informal Sector			BPL, Dependent or Out of Labour Force		
		Employee	Employer	Govt	Employee	Employer	Govt	Beneficiary	Other Donations	Govt
Model 1	1,500	750	750	0	750	0	750	60	0	1,440

(Table 43 contd.)

(Table 43 contd.)

Models	Per Head Premium (Yearly)	Formal Sector			Informal Sector			BPL, Dependent or Out of Labour Force		
		Employee	Employer	Govt	Employee	Employer	Govt	Beneficiary	Other Donations	Govt
Model 2	1,760	880	880	0	880	0	880	60	0	1,700
Model 3	2,030	1,015	1,015	0	1,015	0	1,015	60	0	1,970

Source: Authors' calculation.

Finance

Based on the premium, the total contribution of different groups (employee, employer, beneficiary and government) has been illustrated below. Government will provide 64 per cent of premium in all cases/ models. In the fiscal year 2021-22, the government budgeted BDT 4,653.35 crore for the Honorarium for Freedom Fighter Heroes which covers only 0.2 million people of Bangladesh. The current model accommodates social insurance coverage for 3.70 million beneficiaries. This demonstrates the prior ability of the government to manage, scale up and allocate budget for the social protection programmes of similar size.

Table 44: Group-wise estimation of contribution

Models	Total Fund Required (in Cr)	(both formal and informal)Employee Contribution		Employer Contribution		Govt. Contribution		(BPL, Dependent or Out of Labour Force)	
		BDT in Cr	%	BDT in Cr	%	BDT in Cr	%	BDT in Cr	%
Model 1	7,305	1,724	23.6%	800	11.0%	4,626	63.3%	154	2.1%
Model 2	8,571	2,023	23.6%	939	11.0%	5,455	63.6%	154	1.8%
Model 3	9,886	2,333	23.6%	1,083	11.0%	6,316	63.9%	154	1.5%

Source: Authors' calculation.

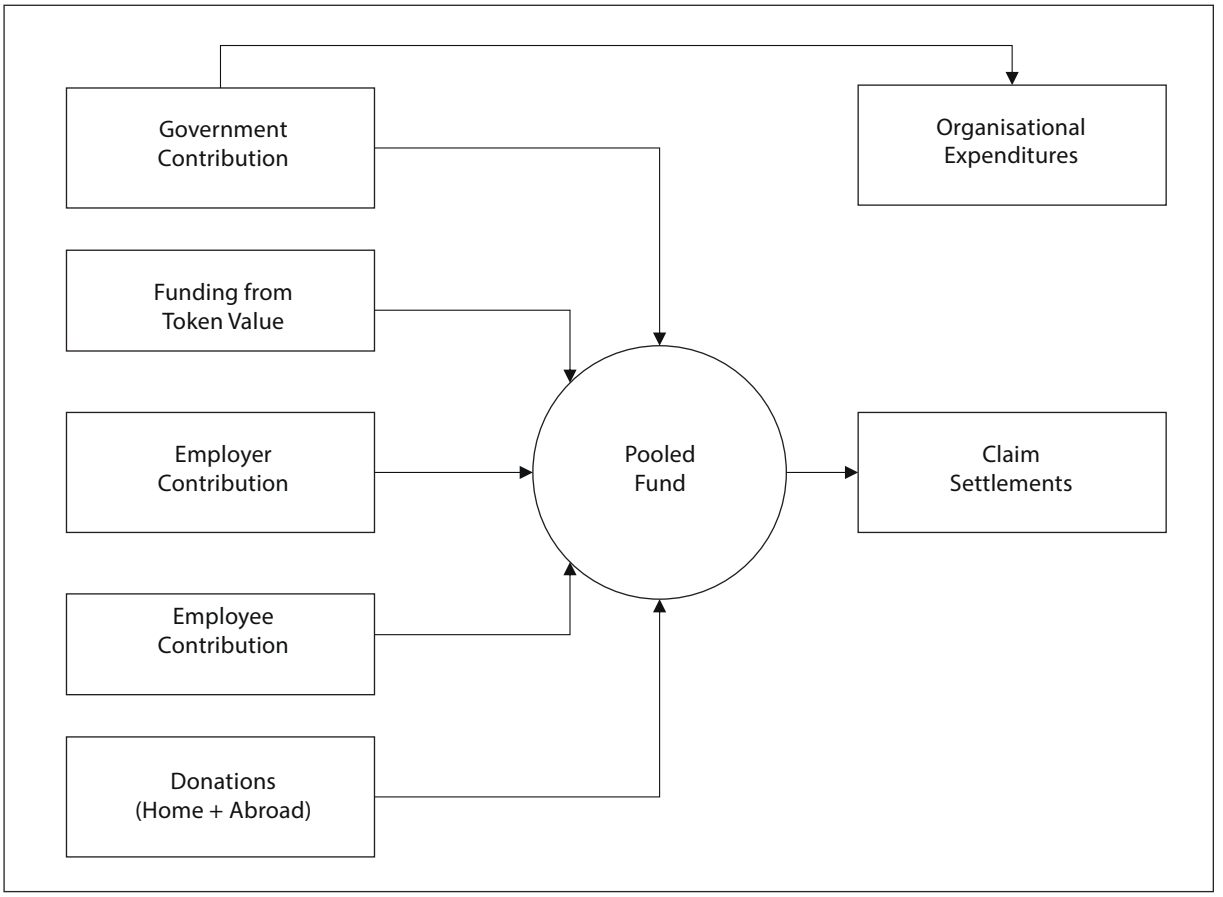
Note: Total Fund Required (TFR) has been calculated after multiplying respective total coverage with 3.70 million expected cases.

The rest of the flow will come from the contribution of employers, employees and token values. However, in addition to the contribution, the government has to provide 'organisational expenditure' as an administrative cost.

How can the government finance a new scheme?

A probable solution to this question can be the 'Sin Tax'. The tax collected as 'Sin Tax', such as Tobacco and SSB Tax (tax imposed on sugar sweet and beverage products) can be directly transferred to the pooled fund. In FY 2020-21, the Bangladesh government earned a revenue of BDT 30,000 crore (approximately) from sin tax which was BDT 2,000 crore in FY 2004-05. This will ensure funding without interruption. Other alternative sustainable funding sources are the inclusion of different public-private partnerships, adding donor contributions/philanthropic funding, or bringing innovation in the

Figure 6: Proposed financing strategy



Source: Authors' illustration.

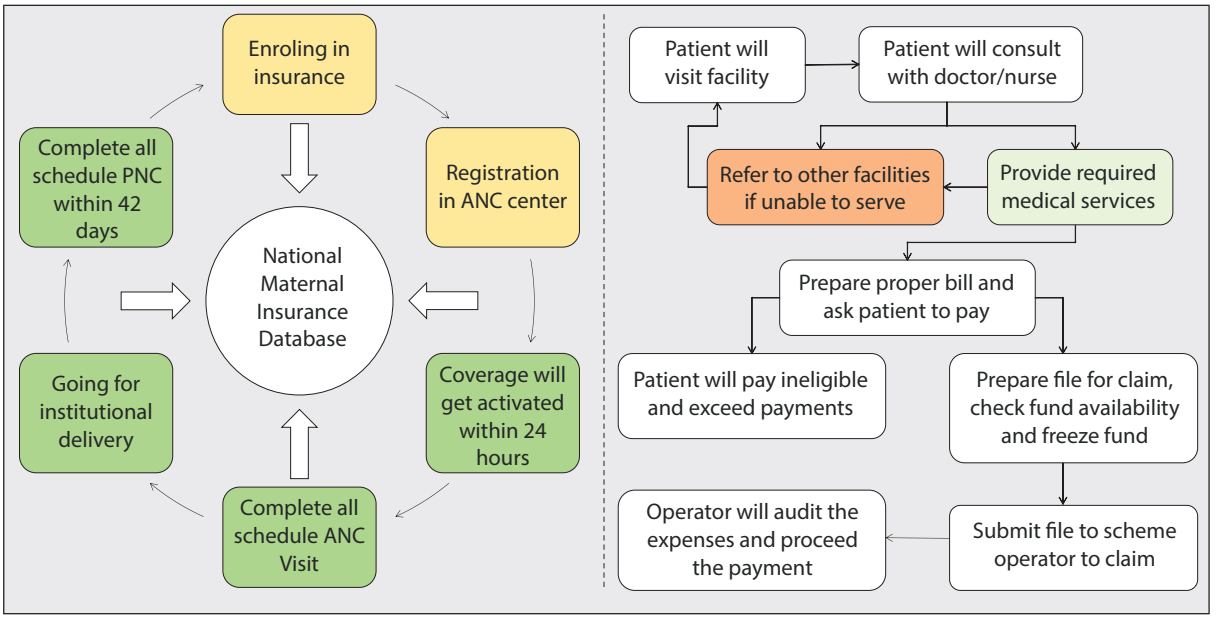
process. Government can also utilise the allocated budget spend for similar kind of social protection schemes (e.g., voucher schemes).

Inclusion, claim settlement and governance mechanism

The GoB developed a comprehensive protocol for the operation and management of the SSK model. The Health Economics Unit (HEU) of the Ministry of Health and Family Welfare (MoHFW) is leading the concept development. This concept includes a detailed guideline for the financing strategy, risk assessment, and risk mitigation options. The model also addresses monitoring and fraud management strategies. Primarily SSK model/protocol can be followed to implement the proposed insurance schemes.

There are two reasons behind this proposal. First, actors associated with SSK are already aware of the mechanism. Implementation of a new system means that the government has to start from the beginning, which increases the cost of deployment. Second, the GoB is planning to offer different insurance coverage to its citizens and population. It is important that the design of this insurance framework supports existing frameworks. Managing a single supply chain and mechanism for all

Figure 7: Process of insurance enrolments, coverage and insurance claim



Source: Authors' illustration.

schemes will be a cost-effective approach in the long run. However, independent evaluation has shown flaws in the current system and recommended improvements (Chowdhury et al., 2021). A regular revision of the SSK protocol should take place to address these issues.

Risk assessments and mitigation

The proposed framework contains many risks and challenges. Few risks and challenges, including their mitigation strategy, have been discussed in Table 45.

Table 45: Risk assessment and mitigation matrix

Risk or Challenges	Mitigation Strategy
Eligible women of reproductive age, such as unmarried women, widows, those who do not plan to have children in the near future, or those who already have two living children, may not participate in the scheme.	**Mandatory Implementation:** The card should be made 'compulsory' for all women aged 15 to 49 years.
	Branding: The 'Maternal Health Card' should be branded as a 'Female Health Card', offering broader services beyond insurance coverage. Additional government facilities, such as vaccination programs and free medical camps or check-ups, will be integrated with this card. Higher service fees will be charged by government facilities or NGO facilities for women aged 15 to 49 who do not have this card.
	Compliance with Laws and Regulations: The card will serve as a critical document for compliance with other government regulations. For instance, it will be mandatory document for marriage registration, aiding in the detection of underage brides and supporting efforts to prevent child marriages.
	Future Integration: The card can be utilised for expanding safety nets and introducing insurance schemes in the future. Any targeted initiatives for women can be linked to this card, ensuring a streamlined approach for delivering benefits and services.

Risk or Challenges	Mitigation Strategy
How the collection of premiums will be completed in formal and informal sector? How to track the job migration of formal and informal workers?	**Direct Approach:** In the formal sector, employers will be actively involved in the premium collection process. They will deduct the premium directly from employees' salaries and deposit the amount into government-pooled funds. In the informal sector, collaboration with NGOs, large cooperatives, and social networks will be utilized to collect premiums from individuals.
	For both sectors, a case-by-case record will be maintained by the scheme manager to issue health cards to those who have completed their premium payments. This individualised tracking will help to ensure inclusivity and accountability.
	Indirect Approach: Premium contributions from employers and employees will be deposited into a centralised 'Women and Children Welfare Fund' by employer. Employee (or his/her nominated beneficiary) can purchase health cards from the scheme manager at a subsidised price by showing evidence of contribution. This reduces the need for maintaining detailed premium collection records by individual employee. This approach minimises administrative complexity and simplifies the process of premium collection for both formal and informal workers.
	Inclusion of Digital Methods: Leverage Mobile Financial Service (MFS) providers or Mobile Operator Companies to streamline premium collection and reduce the cost. Digital payment systems can be integrated into the scheme, allowing users to pay premiums conveniently from their mobile devices.
	This approach enhances accessibility, especially for informal sector workers who may lack access to traditional banking services.
Absence of a structured referral system and establishing connections between different public, NGO and private facilities.	In Bangladesh, no structured referral system exists among public facilities (e.g., primary, secondary and tertiary). Bringing public, private and NGOs into a same referral system might be quite challenging. The government has to implement strict guidelines and increase monitoring in this case.
How to mitigate moral hazard and reduce unnecessary expenses while ensuring coverage for larger entities? Absence of cap in the expenditure components.	Treatment of all pregnancy phases will be recorded electronically including referrals and expenses. The M&E department of HEU will create an open-access dataset so that independent researchers can figure out gaps and advise policies.
	National treatment protocols and manuals such as the 'Operational Manual for Maternal and Newborn Health Service Accreditation Program' and 'National Neonatal Health Strategy and Guidelines for Bangladesh' should be followed properly.
	The proposed model is a theoretical approach of implementing maternal health insurance in Bangladesh. Though it is developed based on the findings from earlier pieces of literature and models, it is not tested. The plan must be approved after conducting multiple small-scale tests.
	From the test phase, as data will come, it will be easier to conduct extensive research on the cost of maternity and childcare. Through a trial and success/error process, caps of each cost item can be included.
Lack of skilled care providers.	Insurance coverage will increase the demand of skilled care providers (e.g., doctors, nurse, midwives). Though current statistics are indicating a positive growth, number of skilled care providers may not be sufficient.

Risk or Challenges	Mitigation Strategy
No projection of administrative and management cost.	Use actuarial cost projections to identify administrative cost savings (e.g., digitisation, streamlined claims processes) after pilot test.
No incentives for employers.	Employers of Bangladesh from formal sector are already entitled to provide (by law) maternity benefits to its employees. Additional pressure of maternity insurance may discourage them to participate in other social activities. Offering tax rebates or subsidies to employers who contribute to premiums could be a solution for this problem.

Source: Authors' compilation.

Implementation strategy

As the government is contributing a major portion of premiums for the 'Below Poverty Line' population group, it is feasible to implement the proposed framework for this cohort. An implementation phase can be adopted, starting with a limited number of upazilas. This strategy aligns with the SSK model, which initially launched in three upazilas before scaling up. Lessons learned from these small-scale implementations can be leveraged to refine the proposed models.

For the formal sector, the government may need to engage in negotiations with 'private sector stakeholders'. Adjustments to employer and employee contribution rates may be required, depending on the nature of the industry and the outcomes of these negotiations. Initially, the government can focus on rolling out the framework in government-run institutions and self-administered public entities, such as universities, institutes, and banks, while continuing negotiations with private sector representatives.

Integrating the informal sector population poses the greatest challenge. The government can collaborate with large Microfinance Service (MFS) providers to enhance insurance coverage from this sector.

To ensure successful implementation of the maternal insurance framework and address the limitations discussed earlier, multiple pilot phases should be conducted. A robust monitoring and evaluation system should be in place to track progress and identify areas for improvement.

Simultaneously, essential supporting systems, protocols, and facilities should be developed and operationalised. These include establishing referral systems between public and private healthcare providers, monitoring mechanisms to limit unnecessary C-sections, and frameworks for maternal and neonatal health risk management. Additionally, incorporating private healthcare facilities and urban facilities managed by NGOs and city corporations into the national monitoring system is crucial for comprehensive oversight and successful implementation.

Probable collaborative approaches and partnerships

Role of different stakeholders, collaborative strategy in terms of insurance is discussed in Table 46.

Table 46: The role of different actors associated with insurance

Name of Actors	Proposed Role
Ministry of Health & Family Welfare Role: Defining Policies, Laws, and strategies, ensuring funding	The ministry of MoHFW will play the role of guardian and ensure the formation of required policies, laws and strategies. The ministry should also ensure the required funding essential for the insurance program and actively participate in monitoring and audit activities.
Health Economics Unit (HEU) Role: Developing and monitoring insurance framework	As the unit has experience in developing insurance frameworks addressing the needs and requirements of the Bangladesh market, this institute should coordinate with GoB and other stakeholders for the development and modification of Insurance Models.
Insurance Development and Regulatory Authority (IDRA) Role: Monitoring and Safeguarding	This agency is authorised to monitor insurance activities and safeguard the interests of policyholders. They can also play an active role in claim settlement disputes and fighting against insurance-related social stigma to encourage more beneficiaries to join in the coverage programme.
Insurance Company Role: Scheme Manager/Handler	Providing all insurance-related services at ground level. Encouraging beneficiaries to participate in the coverage programme.
Employer (formal) Role: Implementation of Insurance	Employers will implement insurance schemes at the workplace and will coordinate with the 'Scheme Manager/Handler' for the better execution of the insurance model.
NGO Role: Implementation of Insurance Program for Informal or BPL groups.	Their role may be expanded into collecting premiums and disseminating insurance models among informal sectors. They could also play a significant role in community-driven health workers' training and bridging the gap between government and high-needs populations.
Mobile Financial Services or Mobile Network Operators Role: Joining insurance chain and collecting premium	MFS and MNO could be potential partner for the collection of premiums. They can actively participate in public awareness activities.
Private Settings Role: Extending health care support for mothers and children	By partnering with scheme manager, private settings will extend healthcare support for larger population.

Source: Authors' compilation.

Public awareness and education campaigns

During an evaluation of SSK scheme, Chowdhury et al. (2021) found that 49.9 per cent SSK card holders who did not utilise their cards during in-patient services as card holders were unaware about the usage of SSK cards (Chowdhury et al., 2021). This implies the significance of public awareness and education regarding insurance in Bangladesh, and it should not be limited to enrolment only.

Campaigns for public awareness regarding maternity health insurance aim at enlightening and educating the general public on the significance, advantages, and specifics of various insurance features. These campaigns typically try to reach a wide audience by using various strategies and mediums. The main objectives are to dispel myths, increase coverage by encouraging more people to purchase policies, educate the public about different types of insurance kinds and promote financial literacy.

The primary target audience for a maternity health insurance campaign would be women who are of childbearing age, as well as their families and communities. The campaign may utilise print media,

social media campaigns, radio and television commercials and community outreach initiatives to reach the demographic. Workshops and seminars could be organised to explain the concept of maternity health insurance in detail. Additionally, interactive tools, success stories, and educational content could help consumers better understand their insurance needs.

Collaborations with governmental bodies, insurance providers, and nonprofit groups could ensure the accurate dissemination of information and align the public awareness campaign with existing policies. Monitoring and evaluation would be necessary to track the campaign's reach and impact, making it possible to adjust the campaign based on data and feedback.

9. CONCLUSION

The development of a maternity insurance framework in Bangladesh is a critical step toward ensuring financial protection and improved healthcare access for expectant mothers. The nation currently lacks a structured maternity insurance scheme, leaving a majority of women without financial security during pregnancy and childbirth. The proposed framework, therefore, emphasises the importance of establishing an operational mechanism that ensures universal access to quality maternal healthcare services, reducing out-of-pocket expenditures and preventing financial distress among low-income families. According to the SVRS 2020, approximately 45.5 per cent of births still take place at home, highlighting the need for an organised maternity insurance system.

This study provides an in-depth analysis of existing healthcare schemes, stakeholder perspectives, and international best practices to design an effective and sustainable maternity insurance model. Given that out-of-pocket expenditure (OOPE) for maternal healthcare accounts for approximately 64 per cent of total health expenditure in Bangladesh, this study proposes actionable guidelines to bridge gaps in service delivery, affordability, and accessibility, particularly for vulnerable populations.

One of the key takeaways from this study is the urgent need to strengthen healthcare governance and regulatory mechanisms. Absence of a functional referral system among different facilities, gaps in data and information, limited previous research/study and lack of standardised treatment guidelines were the prime barriers for developing a sustainable maternal health insurance framework. Due to lack of data and cost estimations, the proposed framework excludes any form of childcare schemes. Also, as income loss during maternal leave is addressed by Bangladesh Labour Act 2006, the provision of income loss coverage has been excluded from the proposed framework.

A major aspect of this framework is its proposed coverage and eligibility criteria, which aim to create an inclusive system. The study identifies multiple beneficiary categories, including formal sector employees, informal workers, and economically inactive or disadvantaged women. The insurance model will offer coverage for essential maternal healthcare services, including antenatal care, delivery, postnatal care, and treatment of pregnancy-related complications. The study estimates that maternity healthcare costs in Bangladesh range between BDT 8,500 and BDT 25,000 in government and NGO-based hospitals, depending on the type of delivery.

Financing is an important component of the maternity insurance scheme, requiring a multi-stakeholder approach. The framework suggests a combination of employer contributions, government subsidies

and individual premiums (including donor support if applicable) to ensure financial sustainability. Special consideration has been given to NGOs to include grassroots populations, particularly workers in the informal sector, who constitute approximately 85 per cent of Bangladesh's workforce. This approach balances financial, administrative and operational mechanisms, ensuring comprehensive benefits for all policyholders.

Risk assessment and mitigation strategies have also been integrated into the framework. Identifying potential challenges such as premium affordability, claim settlement processes, and administrative efficiency, the framework outlines mechanisms to minimise risks and ensure smooth implementation. Efficient governance and a robust claim settlement process are critical to maintaining transparency and building public trust in the maternity insurance system. The proposed model suggests a premium contribution of approximately BDT 60–1,015 per year per beneficiary, depending on their nature of employment status.

The proposed maternity insurance framework considers three models to address the financial burden of out-of-pocket expenditures (OOPE) while minimising government contribution and discouraging unnecessary C-sections. The best-case model assumes only 15 per cent of C-sections are recognised under the insurance, aligning with WHO recommendations. The middle-case model estimates a 30 per cent recognition rate. The worst-case model assumes a 45 per cent recognition rate, reflecting the current prevalence due to low detection of unnecessary procedures. In all models, full reimbursement will be provided for the deliveries taking place in public and NGO facilities, while private hospital deliveries will be reimbursed at the average NGO facility cost. This approach aims to balance equitable healthcare access, control costs, and reduce incentives for non-essential medical interventions. Successful implementation requires collaboration among multiple stakeholders. The Ministry of Health & Family Welfare will play a key role in policy development and regulatory oversight, while the Health Economics Unit and Insurance Development & Regulatory Authority will be responsible for framework design and compliance. Private insurance companies, healthcare providers, NGOs, and mobile financial services will facilitate enrolment, premium collection, and claim settlements. Employers, particularly in the formal sector, must integrate workplace maternity insurance schemes, while NGOs will extend coverage to informal sector workers.

Ultimately, public awareness and education campaigns will be required to promote uptake and ensure that beneficiaries understand their rights and entitlements under the scheme. By addressing these critical aspects—coverage, eligibility, financing, governance, and implementation—the proposed maternity insurance framework can significantly improve maternal and neonatal health outcomes in Bangladesh. Ensuring a well-structured and inclusive system will not only increase financial protection but also contribute to broader health equity and social development goals.

References

Afsana, K. (2004). The tremendous cost of seeking hospital obstetric care in Bangladesh. *Reproductive Health Matters, 12*(24), 171-180. Available at https://pubmed.ncbi.nlm.nih.gov/15626207/

Ahmed, S., & Khan, M. M. (2011). A maternal health voucher scheme: What have we learned from the demand-side financing scheme in Bangladesh? *Health Policy and Planning, 26*(1), 25–32. https://doi.org/10.1093/heapol/czq015

Ahmed, S., et al. (2022). Multilevel analysis to identify the factors associated with caesarean section in Bangladesh: Evidence from a nationally representative survey. *International Health, 15*(1), 30–40. https://academic.oup.com/inthealth/article/15/1/30/6534558

Ahsan, S. M. (2013). *The microinsurance market in Bangladesh: An analytical overview.* Bangladesh Institute of Development Studies. Available at https://bids.org.bd/uploads/publication/BDS/36/36-1/01_Microinsurance%20Market%20in%20Bangladesh.pdf

Anee, U. S. (2024). *How prepared are Government-run Urban Dispensaries, and NGO clinics to manage hypertension and type two diabetes in urban Dhaka? A cross-sectional study*. (Under review)

Barbazza, E., & Tello, J. E. (2014). A review of health governance: Definitions, dimensions and tools to govern. *Health Policy, 116*(1), 1–11. Available at https://doi.org/10.1016/j.healthpol.2014.01.007

Bangladesh Bureau of Statistics (BBS). (2021). *Report on Bangladesh sample vital statistics 2020*. Available at https://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/6a40a397_6ef7_48a3_80b3_78b8d1223e3f/2021-06-30-04-37-90c4374ce2c14b93852ae7830f7ec3c1.pdf

Bangladesh Bureau of Statistics (BBS). (2022). *Labour Force Survey 2022 Final Report*. Available at https://bbs.gov.bd/site/page/b588b454-0f88-4679-bf20-90e06dc1d10b/-

Borghi, J., Sabina, N., Blum, L. S., Hoque, M. E., & Ronsmans, C. (2006). *Household costs of healthcare during pregnancy, delivery, and the postpartum period: A case study from Matlab, Bangladesh*. Available at https://pubmed.ncbi.nlm.nih.gov/17591341/

Chowdhury, M. A., et al. (2021). *Evaluation of the Pilot Shasthyo Shurokhsha Karmasuchi (SSK)*. Available at http://rdm.icddrb.org/wp-content/uploads/2022/03/Final-report-on-the-Evaluation-of-the-pilot-Shasthyo-Shurokhsha-Karmasuchi-SSK.pdf

Directorate General of Health Services (DGHS). (n.d.). *Due to this under reporting, the authors could not use data from DGHS Dashboard*. Available at https://dashboard.dghs.gov.bd/

Directorate General of Health Services (DGHS). (n.d.). *Real time health information dashboard*. Available at https://dashboard.dghs.gov.bd/pages/index.php

General Economics Division (GED), Planning Commission, Government of Bangladesh. (2015). *National Social Security Strategy (NSSS) of Bangladesh*. Government of Bangladesh. Available at https://bcsadminacademy.portal.gov.bd/sites/default/files/files/bcsadminacademy.portal.gov.bd/page/6a28f1e5_7ded_44a1_a531_bd13881c8e0c/NSSS-3rd-Version-Web-version.pdf

Health Economics Unit (HEU). (2012). *Health care financing strategy 2012-2032*. Ministry of Health and Family Welfare, Government of Bangladesh. Available at https://heu.gov.bd/site/page/c271fdb4-9601-47ed-ae89-41353383d471/-

Health Economics Unit (HEU). (n.d.). *SSK benefit package*. Ministry of Health and Family Welfare, Government of Bangladesh. https://heu.gov.bd/site/page/731ec851-a429-4a0b-9414-082ebbe7f7fc/-

Health sector inflation jumps in Dec after months in negative territory & Health sector inflation in 2024. (2024, January 14). *The Business Standard.* Available at https://www.tbsnews.net/bangladesh/health/health-sector-inflation-jumps-dec-after-months-negative-territory-774974

Institute of Governance Studies (IGS). (2012). *The state of governance in Bangladesh 2010–11: Policy, influence, ownership*. Institute of Governance Studies, BRAC University. Available at https://bigd.bracu.ac.bd/publications/the-state-of-governance-in-bangladesh-20110-11-policy-influence-ownership/

Jo, Y., et al. (2019). Antenatal care in rural Bangladesh: Current state of costs, content, and recommendations for effective service delivery. *BMC Health Services Research, 19*(1), 1–10. https://doi.org/10.1186/s12913-019-4696-7

Kabir, A., Karim, M. N., & Billah, B. (2021). Primary healthcare system readiness to prevent and manage non-communicable diseases in Bangladesh: A mixed-method study protocol. *BMJ Open, 11(9)*, e051961. Available at https://doi.org/10.1136/bmjopen-2021-051961

Karim, F., Alam, M. B., & Islam, A. (2020). Regulatory challenges of private healthcare in Bangladesh: The case of private diagnostic centers. *BMC Health Services Research, 20*, Article 1083. Available at https://doi.org/10.1186/s12913-020-05981-4

Kumar, P., & Sharma, H. (2023). Prevalence and determinants of socioeconomic inequality in caesarean section deliveries in Bangladesh: An analysis of cross-sectional data from Bangladesh Demographic Health Survey, 2017-18. *BMC Pregnancy and Childbirth, 23*(1), 1–10. https://doi.org/10.1186/s12884-023-05782-4

Maswood, M. H. (2014, April 6). Clinic owners against fixing service charges. *The Daily Star*. https://www.thedailystar.net/clinic-owners-against-fixing-service-charges-18048

Mia, M. N., Mahmood, S. S., Iqbal, M., Bhuiya, A., Pallikadavath, S., & Stones, W. (2022). The Bangladesh Maternal Health Voucher Scheme: impact on completeness of antenatal care provision. *Journal of Biosocial Science, 54*(2), 217–224. doi:10.1017/S0021932020000784

Mikkelsen-Lopez, I., Wyss, K., & de Savigny, D. (2011). An approach to addressing governance from a health system framework perspective. *Health Policy and Planning, 26*(5), 357–367. https://doi.org/10.1093/heapol/czq078

Ministry of Foreign Affairs (MoFA). (2020). *List of medical colleges in Bangladesh*. Government of the People's Republic of Bangladesh. https://mofa.portal.gov.bd/sites/default/files/files/mofa.portal.gov.bd/page/2a1c5a1b_0a9d_4d8d_9a4e_7a8d1d9f8b6d/Medical%20Colleges%20in%20Bangladesh.pdf

Ministry of Health and Family Welfare (2019). *Bangladesh National Strategy for Maternal Health 2019–30*. Government of Bangladesh. Available at https://bids.org.bd/uploads/publication/BDS/36/36-1/01_Microinsurance%20Market%20in%20Bangladesh.pdf

Ministry of Health and Family Welfare (MOHFW). (2011). *National Health Policy 2011*. Government of the People's Republic of Bangladesh. https://dghs.gov.bd/images/docs/Policy/National-Health-Policy-2011-English.pdf

Ministry of Health. (2019). *Joint Annual Health Review 2019: Strengthening Primary Health Care at the Grassroots towards Universal Health Coverage*. Hanoi (Viet Nam): Ministry of Health.

National Health Authority. (2021). *Annual Report 2020–21: Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY)*. Government of India.

National Institute of Population Research and Training (NIPORT), International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), & MEASURE Evaluation. (2019). *Report on maternal health in Bangladesh*. Available at https://bcsadminacademy.portal.gov.bd/sites/default/files/files/bcsadminacademy.portal.gov.bd/page/6a28f1e5_7ded_44a1_a531_bd13881c8e0c/NSSS-3rd-Version-Web-version.pdf

PricewaterhouseCoopers (PwC). (2020). *Study on framework for introduction of National Social Insurance Scheme in Bangladesh*. Social Protection Ministry, Government of Bangladesh. Available at https://socialprotection.gov.bd/wp-content/uploads/2020/05/Social-Insurance-Framework-for-Bangladesh-SSPS-Study-Draft-Report.pdf

Rahman, M., et al. (2013). *Out-of-pocket expenses for maternity care in rural Bangladesh: A public-private comparison*. Available at https://journals.sagepub.com/doi/10.2190/IQ.33.2.d

Shahid, A. M. (1997). *Non-governmental organizations (NGOs) in Bangladesh: Activities, resources, and governance*. Bangladesh Development Research Center (BDRC).

Social Security Assessment (SSA). (2012). *Social protection in Bangladesh: Building effective social safety nets and ladders out of poverty*. International Labour Organization (ILO).

Study on Framework for Introduction of National Social Insurance Scheme in Bangladesh. (2024). https://socialprotection.gov.bd/wp-content/uploads/2024/04/Study-on-Framework-for-Introduction-of-NSIS-in-Bangladesh.pdf

Saif, S. (2023, December 19). BBS healthcare cost data raises more questions than answers. *The Business Standard*. Available at https://www.tbsnews.net/bangladesh/health/bbs-healthcare-cost-data-raises-more-questions-answers-760186

van Olmen, J., Criel, B., Bhojani, U., Marchal, B., van Belle, S., Chenge, M. F., & Van Damme, W. (2012). The health system dynamics framework: The introduction of an analytical model for health system analysis and its application to two case studies. *Health, Culture and Society, 2*(1), 1–21. https://doi.org/10.5195/hcs.2012.71

World Bank. (2012). *Health insurance handbook: How to make it work*. Available at https://documents.worldbank.org/en/publication/documents-reports/documentdetail/1822514683290 69521/health-insurance-handbook-how-to-make-it-work

World Bank. (2020). *Social Protection and Jobs Responses to COVID-19: A Real-Time Review of Country Measures*.

World Health Organization (WHO). (2021). *Tracking universal health coverage: 2021 global monitoring report*. https://cdn.who.int/media/docs/default-source/world-health-data-platform/events/tracking-universal-health-coverage-2021-global-monitoring-report_uhc-day.pdf

World Health Organization. (2015). Bangladesh health system review. *Health systems in transition, 5*(3), WHO Regional Office for the Western Pacific. https://iris.who.int/handle/10665/208214

Bangladesh is preparing to introduce a maternity insurance scheme by 2026, aligning with its National Social Security Strategy. This report presents an evidence-based framework tailored to the country's healthcare and labour realities, especially for low-income and informal sector women. Drawing on national data and international best practices, it outlines a universal, mandatory, and cashless model offering up to BDT 41,000 in coverage in the government and NGO based hospitals. With hybrid financing, risk pooling, and phased implementation, the proposed scheme aims to reduce out-of-pocket costs, improve maternal health outcomes, and ensure equitable access for all women of reproductive age.

Centre for Policy Dialogue (CPD)
House 40/C, Road 11 (new), Dhanmondi
Dhaka-1209, Bangladesh
Telephone: (+88 02) 41021780-2
Fax: (+88 02) 41021783
E-mail: info@cpd.org.bd