The Costs of the Bangladesh Essential Health Service Package: Fourth Health Population and Nutrition Sector Programme

July 2018

USAID FROM THE AMERICAN PEOPLE

Health Finance & Governance
Expanding Access. Improving Health.

HEU

icddr,b

World Health Organization
Bangladesh

The Costs of the Bangladesh Essential Health Service Package: Fourth Health Population and Nutrition Sector Programme

July 2018

July 2018

This report has been prepared under the authority of the Health Economics Unit, Health Services Division of the Ministry of Health and Family Welfare. It was conducted from January to September 2017 by the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) with support from the World Health Organization. Necessary collaboration was extended to the study team by the Health Finance and Governance project of the United States Agency for International Development (USAID).

DISCLAIMER: The views expressed in this publication are those of the authors and do not necessarily reflect the views of the Government of Bangladesh, WHO Bangladesh, the United States Agency for International Development (USAID), or the United States Government.

Report prepared by: Ziaul Islam, Sayem Ahmed, Farzana Akter Dorin, Md. Zahid Hasan, Mohammad Wahid Ahmed, Shehrin Shaila Mahmood, Ferdousi Zaman
International Centre for Diarrhoeal Disease Research, Bangladesh: icddr,b

Reviewed by : Karin Eva Elisabet Stenberg, World Health Organization
Lluis Vinals Torres, WHO SEARO
Valeria de Oliveira Cruz, WHO Bangladesh
Mohammad Touhidul Islam, WHO Bangladesh
Nadia Carvalho and Andre Zida, Health Finance and Governance (HFG) project
Mursaleena Islam, Health Finance and Governance (HFG) project
Dr Shamima Akhter, Health Finance and Governance (HFG) project

Edited by : Allison Cooke, icddr,b

Suggested citation:

The Costs of the Bangladesh Essential Health Service Package: Fourth Health Population and Nutrition Sector Programme. Dhaka: Ministry of Health and Family Welfare, Health Economics Unit and World Health Organization (WHO) Bangladesh; 2018.

MESSAGE

I am delighted to know that the Ministry of Health and Family Welfare (MOHFW), Government of the People's Republic of Bangladesh has initiated the costing exercise of Bangladesh's Essential Health Service Package (ESP). It is a very important initiative to successfully implement all elements of the ESP for the people of Bangladesh from all walks of life, particularly of rural community at grassroots level.

The Government under the leadership of the Honorable Prime Minister Sheikh Hasina is committed to achieve Universal Health Coverage (UHC) by 2030 and effective implementation of ESP is a core strategy of the government to move towards this direction. The ESP covers all areas of essential services and interventions which are being delivered through public delivery channels from community clinics to district hospitals

The present Government has given emphasis on ensuring good governance and quality health services, where primary healthcare remains a priority. The relentless efforts of the Government to make improvements in the health sector would help achieve the health related sustainable development goals (SDGs) including UHC within the stipulated timeframe. Hence, ESP costing exercise will contribute as an instrument to facilitate efficient planning for the effective delivery of ESP.

I am conveying my gratitude to the Health Economics Unit (HEU) for leading the ESP costing exercise. I am grateful to World Health Organization (WHO) Country Office for Bangladesh for providing technical and financial support to implement the costing exercise by commissioning International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b). I am also thankful for the contribution of the Health Finance and Governance Project of the United States Agency for International Development (USAID) for providing their technical support.

I am very much hopeful that the exercise on ESP costing will help us projecting the financial needs to deliver Primary Health Care (PHC) in an efficient manner.

Joy Bangla, Joy Bangabandhu
Long live Bangladesh.

Zahid Maleque, MP
Minister
Ministry of Health & Family Welfare
Govt. of the People's Republic of Bangladesh

FOREWORD

I am happy to learn that Health Economics Unit (HEU) of the Ministry of Health and Family Welfare (MOHFW) for the first time has conducted a detailed costing study of Essential Service Package (ESP). It is also admirable that a national resource pool was formed and trained on One Health Tool (OHT) software to assist the study team in designing and validating the costing process and results. Thereby, HEU has not only come up with detailed costing information at each ESP intervention level, but also enhanced local capacity to perform such comprehensive costing exercise at national level using the tool.

I strongly believe that effective ESP implementation is a critical step towards achieving Universal Health Coverage (UHC) by 2030. The current version of ESP includes mostly primary health care interventions, which are being delivered through ten public delivery channels in both rural and urban areas. I have found the report captured the unit cost of around 132 interventions at different public facilities levels. Obviously this costing exercise has opened windows for other researchers to conduct advanced economic evaluation on Primary Health Care delivery systems.

The Fourth Health Population and Nutrition Sector Program has planned to extend the subsidized coverage of ESP to a considerable level to improve the health outcome and reduce the financial burden due to health care expenditure. The detailed costing of ESP will assist the ministry to understand the financial feasibility of full ESP implementation and instigate policy dialogues in revisiting the health financing for primary health care.

I would like to extend my gratitude to World Health Organization (WHO) and Health Finance and Governance project of the USAID for their technical and financial support. I acknowledge the contribution of International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) for conducting the exercise on this ground.

I am extending my sincere thanks and gratitude to all involved in conducting ESP cost analysis and wish its effective implementation to accelerate the progress towards achieving the health related Sustainable Development Goals by 2030.

Md. Ashadul Islam
Secretary
Health Services Division
Ministry of Health and Family Welfare
Govt. of the People's Republic of Bangladesh

MESSAGE

The success of attaining the boarder health goals of a country lies in its robust Primary Health Care (PHC) delivery systems. Realizing the potential, the government of Bangladesh has been centering its focus around PHC since independence. Meanwhile, the adaption of an updated Essential Service Package (ESP) comprised of mostly PHC interventions on the eve of the Fourth Health Population and Nutrition Sector Program (HPNSP) reflects the government's sensible move to be responsive to the country's changed priorities and needs.

I am delighted to know that Health Economics Unit of the Ministry of Health and Family Welfare is going to publish a report on the detailed cost of Essential Service Package (ESP) for the Fourth health sector program. Understandably, it is a resourceful document for policy planners and health managers to attune their financial interposition for ensuring and extending the ESP coverage in line with the country's health policy.

Since the Government of Bangladesh aspires to achieve Universal Health Coverage (UHC) through implementation of the ESP, costing of all its interventions is the first step for gauging its financial capacity in delivering the package in effective and efficient manners. The cost based norm budgeting will guide the public health system for efficient and equitable financing towards PHC. Further, advanced researches based on these costing estimates will certainly give grounds to policy planners in undertaking corrective measures for gaining efficiency within the vertical health programmes and public health system.

I would like to express my warmest appreciation to Health Economics Unit for making this valuable report available. My sincere thanks to icddr,b for conducing the painstaking costing exercise. I would also like to thank WHO Bangladesh and USAID for their support in this worthwhile initiative.

Shaikh Yusuf Harun
Secretary
Medical Education & Family Welfare Division
Ministry of Health and Family Welfare
Govt. of the People's Republic of Bangladesh

World Health Organization
Bangladesh

MESSAGE

I congratulate the Health Economics Unit of Ministry of Health and Family Welfare (MOHFW) for conducting a large-scale costing study on the updated essential service package (ESP) from 2016 to 2022.This is a very valuable document which not only provides basic cost information on current and projected cost of health interventions under the ESP delivered through public facilities, but also apprehends segregated level costing estimates on services by disease programs, delivery channels and health service inputs.

Understandably, these costing estimates will be instrumental in financing an efficient delivery of the essential service package. It will further assist the government in investigating the productivity of different vertical programs through examining the value of produced outcome against the cost. The findings will also support policy decisions in shaping the content of the package during its revisions in future.

I came to know from this report that, in 2016, the government ensured 20.4% of ESP coverage on average through its public facilities by spending USD 6.10 per capita. This result implies that there is room for improvement in public arrangements for expanding access to primary health care for the citizens of this country. Growing evidence shows that public investment in primary health care is the key to attaining broader health goals in the most cost-effective way. Henceforward, the headway towards achieving universal health coverage is largely dependant on the country's determination to develop a resilient primary health care system with the capacity of gradually extending ESP coverage, while ensuring quality and equity.

I take the opportunity to thank International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) for conducting this comprehensive costing exercise. I acknowledge with thanks the extended support to this initiative provided from the Health Finance and Governance project of United States Agency for International Development (USAID).

Finally, I would like to extend my sincere thanks and gratitude to all of those who have contributed to the costing exercise, including WHO team members in the country, regional and headquarter offices and congratulate the relevant officials of MOHFW for their valuable contribution. I wish all of them great success in taking further steps in delivering the ESP in an effective and efficient manner.

Dr Bardan Jung Rana
WHO Representative to Bangladesh

PREFACE

I am very delighted for the successful accomplishment of the costing study on Essential Service Package (ESP) from 2016 to 2022 under the headship of Health Economics Unit (HEU). Publishing this informative document is really a pleasant undertaking by HEU, which appears to support the government's current efforts to develop evidence based policies for ensuring the access of basic healthcare by all its citizens.

This document is an important source of current and projected cost-estimates of all ESP interventions that the government of Bangladesh is delivering through all its public delivery channels both in rural and urban areas. More specifically, the costing exercise captured the cost of each ESP intervention segregated by all inputs level (e.g. medicine and supplies, human resource, management, infrastructure and logistics etc.) for each type of public facilities. In addition, the study has made an aggregated cost estimates of delivering each ESP component through public delivery channels for the current and targeted coverage set for the Fourth Health Nutrition Population Sector Programme.

I believe that this document will be treated as a powerful policy instrument to provide an estimate of required annual investment for effective ESP implementation. As such the policy planners will use these estimates while advocating for strategic financing particularly for the Primary Health Care (PHC) and setting target of the ESP coverage for next sector program based on government's financial capacity.

Competition of this comprehensive study would have not been possible without the guidance, cooperation and support provided to us by different government and non-government entities and individuals. In this connection, I would like express special thanks and gratitude to International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) for conducting the analysis. My sincere gratitude is also due to World Health Organization (WHO) and the Health Finance and Governance project of the United States Agency for International Development (USAID) for their extensive support. I deeply acknowledge the support of National Resource Pool for their contribution to this study. I also like to offer my special thanks to Planning Wing of MOHFW for their overall guidance in the study from the very beginning.

Dr. Mohd. Shahadt Hossain Mahmud
Director General
Health Economics Unit (HEU)
Health Services Division
Ministry of Health and Family Welfare

CONTENTS

Acronyms			xviii
Acknowledgments			xix
Executive Summary			xx
1.	Introduction		1
	1.1	Background	1
	1.2	Bangladesh Essential Health Service Package	2
2.	Methodology		5
	2.1	Study Objectives	5
	2.2	Study Approach	5
	2.3	OneHealth Tool	5
	2.4	OHT Customization & Costing Methods	6
	2.5	Study Sites	8
	2.6	Data Collection	8
	2.7	Data Sources	9
	2.8	Training of Data Collectors	10
	2.9	OHT's Health Services Module	10
	2.10	OHT's Health Systems Module	11
	2.11	Data Entry	11
	2.12	Assumptions and Estimates	11
	2.13	Limitations	12
3.	Results		13
	3.1	ESP Total Costs: 2016 - 2022	13
	3.2	Cost per Service (Unit Cost)	14
	3.3	Public Cost per Beneficiary	15
	3.4	Human Resource Cost	16
	3.5	Infrastructure Cost	18
	3.6	Logistics Cost	19
	3.7	Total Cost of ESP Core Services	21
	3.8	Maternal Health	24
	3.9	Neonatal Health	25
	3.10	Child Health and EPI	27
	3.11	Adolescent Health	29
	3.12	Family Planning and Reproductive Health	29
	3.13	Non-Communicable Diseases	31
	3.14	Management of Other Common Conditions	33
	3.15	Nutrition	35
	3.16	ESP Cost by Public Sector Delivery Channels	36
	3.17	ESP Cost by Programme Area and Delivery Channels	38
	3.18	Public Cost Per Capita for ESP	39
	3.19	Comparison of Per Capita ESP Cost	40

4. DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS 41
4.1 Public ESP Cost and Macroeconomic Indicators 41
4.2 ESP Total Cost and MOHFW Budget 2015-2016 41
4.3 Conclusions 43
4.4 Recommendations 44
References : 45
Appendix A : Bangladesh ESP by Service Delivery Channels 47
Appendix B : Coverage Data and Sources of Information for Treatment Inputs by ESP Interventions 66
Appendix C : Cost Per Service of ESP Interventions by Delivery Channels, and Weighted Average Cost Per Service 77
Appendix D : OHT Treatment Inputs at Upazila Health Complex 89
Appendix E : Public Cost Per Beneficiary 135
Appendix E : Public COST PER BENEFICIARY, Weighted Average Cost Per Service 151
Appendix F : Calculated Total Cost of Core ESP Services including Health Systems costs, 2016-2022 (million BDT) 158
Appendix G : ESP Total Costs, 2016-2022 (in Million BDT) including inflation 160
Appendix H : Total ESP Costs Broken Down by Drugs, Supplies and Labour, 2016-2022 (Million BDT), without Inflation 161
Appendix I : icddr,b Study Team, National OHT Resource Pool and External Reviewers 162

List of Tables

Table 1 : Bangladesh ESP Core Services and their Components 2
Table 2 : ESP Delivery Channels in Public Sector by Location 3
Table 3 : Information by Source and OHT Module 9
Table 4 : ESP Total Costs, 2016-2022 in Million BDT), not including inflation 13
Table 5 : Total Costs by ESP Programme Area including medicines, supplies, commodities and labor cost 2016-2022 (in Million BDT) 21
Table 6 : Costs for Maternal Health Interventions, 2016-2022 (in Million BDT) 24
Table 7 : Costs of Neonatal Health, 2016-2022 (in Million BDT) 25
Table 8 : Costs for Child Health and EPI by Sub-Component, 2016-2022 (in Million BDT) 27
Table 9 : Costs for Adolescent Health Interventions by Sub-Component, 2016-2022 (in Million BDT) 29
Table 10 : Costs of FP and RH by Sub-Component, 2016-2022 (in Million BDT) 29
Table 11 : Cost for NCDs by Sub-Component, 2016-2022 (in Million BDT) 31
Table 12 : Drugs, Supplies, and Labour Costs by Duration of Treatment for Diabetes and Hypertension 32
Table 13 : Cost for Management of Other Common Conditions by Sub-Component, 2016-2022 33
Table 14 : Nutrition Interventions by Sub-Components, 2016-2022 (in Million BDT) 35
Table 15 : ESP Cost by Delivery Channel (Drugs/Supplies and Labour Costs), 2016-2022 (in Million BDT) 36
Table 16 : ESP Drugs, Supplies and Labour Cost by Programme Area and Delivery Channels, 2016 (in Million BDT) 38
Table 17 : Per Capita ESP Cost and Comparison with Macro-Economic Indicators 41
Table 18 : Comparison with MOHFW budget, 2015-16 42

List of Figures

Figure 1	:	Percentage Distribution of ESP Total Cost, 2016	14
Figure 2	:	Coverag of Selected ESP interventions and weighted average coverage, 2016-2022	15
Figure 3	:	Average costs per beneficiary	16
Figure 4a	:	Percentage Share of Human Resource Cost, 2016-2022	16
Figure 4b	:	Distribution of Human Resource Salary and Benfit Costs by level, 2016	17
Figure 4c	:	Total Human Resource Costs not including Pre-Service Training, in million BDT 2016-2022	17
Figure 5a	:	Percentage Share of Health Infrastructure Cost, 2016-2022	18
Figure 5b	:	Percentage Share of Infrastructure Capital Cost, 2017	18
Figure 5c	:	Percentage Share of Infrastructure Operating Costs 2017	19
Figure 6	:	Total Costs of Drugs and Supplies with Wastage, 2016-2022 (in Million BDT)	19
Figure 7	:	Percentage Share of ESP Logistics Cost, 2016-202	20
Figure 8a	:	Percentage Distribution of Health Service Costs by Core ESP Programme Areas, 2016	22
Figure 8b	:	Percentage Share of Costs for Components Under Communicable Disease Programme, 2016*	22
Figure 9	:	ESP Costs by Programme Area, 2016-2022 (in Million BDT)	23
Figure 10	:	Percentage Distribution of Costs for Maternal Health, 2016-2022 (in Million BDT)	24
Figure 11	:	Drugs/Supplies and Labour Costs for Maternal Health, 2016-2022 (in Million BDT)	25
Figure 12	:	Percentage Share of Costs for Neonatal Health, 2016-2022 (in Million BDT)	26
Figure 13	:	Percentage Share of Labour Costs and Drugs/Supplies for Neonatal Health, 2016-2022	26
Figure 14	:	Percentage Share of Labour Costs and Drugs/Supplies for Child Health and EPI Interventions, 2016-2022	27
Figure 15	:	Percentage Share of Total Cost of EPI Vaccines, 2016- 2022	28
Figure 16	:	Percentage Share of Total Cost by IMCI Interventions, 2016- 2022	28
Figure 17	:	Labour Costs and Costs of Drugs, Contraceptives/Supplies for FP and RH Interventions, 2016-2022	30
Figure 18	:	Percentage Share of Five Highest Cost Interventions for FP and RH, 2016-2022	30
Figure 19	:	Cost of Drugs/Supplies and Labour for NCD Interventions, 2016-2022 (in Million BDT)	32
Figure 20	:	Percentage Share of Five Highest Cost NCD Interventions, 2016-2022	33
Figure 21	:	Cost of Five Most Expensive Interventions of Other Common Conditions, 2016-2022	34
Figure 22	:	Percentage Share of Labour Cost and Drugs, Supplies of Other Common Conditions, 2016-2022	34
Figure 23	:	Percentage Share of Labour Cost and Drugs, Supplies for Nutrition Interventions, 2016-2022	35
Figure 24	:	Percentage Share of Top Four Highest Cost Nutrition Interventions, 2016-2022	36
Figure 25	:	Percentage Share of ESP Cost by Delivery Channels, 2016-2022	37
Figure 26a	:	Percentage Share of ESP Cost by Delivery Channels, 2016	37
Figure 26b	:	Percentage Share of ESP Cost by Delivery Channels, 2022	37
Figure 27	:	Percentage Share of ESP Programme Cost by Delivery Channels, 2016	38
Figure 28	:	Per Capita Cost of ESP, 2016-2022 (USD)	39
Figure 29	:	Per capita ESP costs: 2001, 2006, & 2016	40

ACRONYMS

ANC	Antenatal Care
ARI	Acute Respiratory Infection
BCC	Behaviour Change Communication
BDHS	Bangladesh Demographic and Health Survey
BDT	Bangladesh Taka
BNHA	Bangladesh National Health Accounts
CHCP	Community Health Care Provider
CRHCC	Comprehensive Reproductive Health Care Centre
CVD	Cardiovascular Disease
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
EPI	Expanded Programme of Immunization
ESP	Essential Service Package
FP	Family Planning
FWC	Family Welfare Centre
FWV	Family Welfare Visitor
HFG	Health Finance and Governance
HR	Human Resource
HTN	Hypertension
I&R	Identify and Refer
IFA	Iron and Folic Acid
IMCI	Integrated Management of Childhood Illnesses
IUD	Intra-Uterine Device
LBW	Low Birth Weight
MCWC	Maternal and Child Welfare Centre
MIS	Management Information System
MNCAH	Maternal, Newborn, Child, and Adolescent Health
MOHFW	Ministry of Health and Family Welfare
NCD	Non-Communicable Disease
OHT	OneHealth Tool
PMMU	Programme Management and Monitoring Unit
PNC	Post-Natal Care
RH	Reproductive Health
SACMO	Sub- Assistant Community Medical Officer
SGBV	Sexual and Gender Based Violence
STI	Sexually Transmitted Infection
TB	Tuberculosis
UHFWC	Union Health and Family Welfare Centre
UHC	Upazila Health Complex
UPHCC	Urban Primary Health Care Centre
USAID	United States Agency for International Development
USD	United States Dollar
USC	Union Sub-Centre
UPHCC	Urban Primary Health Care Centre
WHO	World Health Organization

ACKNOWLEDGMENTS

The authors are indebted to Mr. Md. Ashadul Islam, Secretary of Health Services and former Director General of the Health Economics Unit (HEU) at the Ministry of Health and Family Welfare (MOHFW), as well as Dr. Md. Shahadt. Hossain Mahmud, Director General of the Health Economics Unit (HEU) at the Ministry of Health and Family Welfare (MOHFW), Mr. Md. Nuruzzaman, former Director Research, Dr. Md. Nurul Amin, Deputy Director, Dr. Abul Bashar, Deputy Director, and Dr. Anwar Sadat, Deputy Director, HEU for their guidance and support in conducting this study.

The authors are thankful to Dr. A. E. Md. Muhiuddin Osmani, Joint Chief (Planning), Mr. M. M. Reza, and Mr. A. Waheed Khan of the MOHFW's Programme Management and Monitoring Unit (PMMU) for their valuable feedback during consultative meetings.

The authors appreciate and acknowledge the collaboration of the World Health Organization (WHO) Country Office for Bangladesh in implementing the study. They would like to express their gratefulness especially to Dr. Valeria de Oliveira Cruz, Dr Olivia Nieveras and Dr. Mohammad Touhidul Islam for their practical support and assistance throughout the study period. The authors are grateful for the feedback and comments from Ms. Karin Stenberg (WHO), Mr. Lluis Vinals Torres (WHO) and Dr. Andre Zida (HFG) to finalize this report.

The authors thankfully acknowledge the technical support provided by Ms. Nadia Carvalho, Dr. Mursaleena Islam, Dr. M A Sabur, and Dr. Shamima Akhter from the United States Agency for International Development's (USAID) Health Finance and Governance (HFG) project.

The authors would like to extend their thanks to Professor Rumana Huque, Department of Economics, University of Dhaka, Mr. Md. Azhar Uddin and Mr. Nafiz Iftekhar, Assistant Professors of the Institutes of Health Economics, University of Dhaka for their expert opinion and technical inputs.

The authors appreciate and acknowledge the contribution of the following institutions and individuals who helped the study team during data collection: Director/Line Director of Primary Health Care, Maternal, Newborn, Child and Adolescent Health (MNCAH), Planning and Development, Communicable Disease Control, MBDC, Management Information System (MIS), Essential Service Delivery, Non-Communicable Disease, CMSD, Deputy Director - Communicable Disease Control, Deputy Programme Manager - Mal & VBDC, Deputy Programme Manager - Leprosy, Deputy Programme Manager - Filaria Control Programme of Directorate General of Health Services (DGHS), and Director/Line Directors of Maternal and Child Health Services, Additional Director - Drugs and Stores of Directorate General of Family Planning (DGFP), Chief Engineer - Health Engineering Department, Assistant Chief Architect- Health Engineering Department, Chief Health Officer and Health Officer - Dhaka North City Corporation, Manager Nari Moitree Urban Primary Health Care Centre (UPHCC), Proprietor - Sohag Surgical, Chief Executive Officer- Padma Medical Service, and Proprietor- Medical Fair.

Finally the authors would like to acknowledge collaboration from the office of the Civil Surgeon, Jhenaidah, Superintendent - District Hospital, Deputy Director - Family Planning (FP), Jhenaidah Dr. Md. Shahabuddin- UHFPO, Kotchandpur Upazila Health Complex (UHC), Dr. Md. Jaminur Rashed, Resident Medical Officer, Harinakunda UHC, Medical Officer - Maternal and Child Welfare Centre (MCWC), Upazila FP Officer - Harinakunda and Kotchandpur, and other staff members of these facilities.

EXECUTIVE SUMMARY

In response to a request from the Ministry of Health and Family Welfare (MOHFW), this provider focused cost analysis of the Bangladesh Essential Health Service Package (ESP) was conducted during January to September 2017 by the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) with the funding support from WHO and technical assistance from the USAID-funded Health Finance & Governance (HFG) project. The MOHFW updated the ESP in 2016 for its fourth Health, Nutrition, and Population Sector Programme (HNPSP, 2016-22). The primary objective of this analysis was to estimate the costs of the updated Bangladesh ESP for 2016 to 2022 by interventions and delivery channels in public sector. The results of the study are expected to be used in advocacy for domestic resources required to implement the updated ESP during the target years.

Approach

The One Health Tool (OHT) was used to project resource needs and costs of providing the updated ESP. OHT is used globally to support medium- to long-term (3-10 years) strategic planning in the health sector, and has been used to inform strategic planning processes in over 30 low and middle income countries. It provides a unified framework to strengthen integrated planning by supporting the planning, costing, and budgeting of health sector priorities, including health system strengthening strategies.

The study team adopted a collaborative and consultative approach to engage all partners in the costing process. Key partners included: Health Economics Unit, Programme Management and Monitoring Unit (PMMU), Planning Wing of MOHFW, Directorate General of Health Services (DGHS), Directorate General of Family Planning (DGFP) of the MOHFW, Urban Primary Health Care Service Delivery Programme under the Ministry of Local Government and Rural Development, Institute of Health Economics Dhaka University, and representatives from HFG and WHO.

A seven-member National OHT Resource Pool was formed to develop expertise in cost analysis using the OHT. In addition to the resource pool, an international OHT consultant and an external reviewer from HFG, as well as two external reviewers from WHO, assisted the icddr,b team.

Methodology

The team identified the scope of investments required for ESP implementation, including the costs of services and health system (human resources, infrastructure, and logistics) required to enable this implementation in the public sector health facilities.

The team applied an ingredients-based costing method using OHT. This costing approach was used to cost all ESP services except those for malaria, tuberculosis, HIV/AIDS, and neglected tropical diseases (which were costed using aggregate budget line items obtained from program implementers). The tool was customized for the updated Bangladesh ESP, and members of the OHT resource pool and the study team jointly reviewed the default data in the OHT. The team collected secondary data (e.g., coverage data from the Bangladesh Demographic and Health Survey, etc.), followed by primary data (e.g., required drugs/supplies and provider time for certain interventions for which there were no treatment guidelines) from purposively selected ESP delivery facilities under the MOHFW in Jhenaidah (Kotchandpur and Harinakunda UHCs) and Dhaka North City Corporation (Urban PHC Clinic [UPHCC] and Comprehensive Reproductive Health Care Centre [CRHCC]) under the MOLGRD.

The team collected data through physical inventories and key informant interviews with officials and service providers at the selected public facilities, national and sub-national levels. An exit survey at Jhenaidah District Hospital was also conducted to estimate the proportion of patients receiving the ESP (i.e., the percentage of patients from upazila level and urban areas accessing ESP care at district hospitals). The data input into the OHT to estimate the cost of ESP services was based on current practice, standard treatment protocols, assumptions, and coverage levels in 2016 (see Appendix B). The team also derived assumptions from key informant interviews with qualified physicians/service providers for interventions that were not yet available but planned for the future.

Data inputs used for ESP delivery in 2016 (base year) included those inputs directly associated with ESP service delivery (e.g., medicines, supplies, and health personnel time), in addition to the health system inputs necessary to support these services (e.g., human resources, infrastructure, equipment, logistics etc.). These base year data inputs were also used for 2017-2022 (target years) including any additional health system costs (e.g., construction of new health facilities, purchase of new equipment, vehicle etc.) and program activity costs (e.g., human resource training, supervision, etc.). These were identified, quantified, and valued in local currency (Bangladesh Taka, hereafter referred to as BDT) by delivery channels to estimate the total cost of the ESP in public sector. The quantity and unit price of these inputs were organized into the related OHT modules (health services or health system module). The unit price of material inputs was collected from government and market sources. Staff time, drugs and supplies required per intervention was collected from physicians/supervisors expert opinion. Service coverage data for target years (2017-2022) was derived from the respective Operational Plan and Programme Implementation Plan. Coverage data for the base year (2016) was gathered through document review, using for example, the Health Bulletin, Bangladesh Demographic and Health Survey (BDHS), Bangladesh Health and Morbidity Status survey, Urban Health survey, FP Management Information System (MIS), and other sources (see references). Consultative meetings with government program officials and policy planners were held on monthly basis to validate/cross-check data collected from the field settings.

Using treatment input data (drugs, tests, supplies, & labor cost), the cost per intervention or service per person (unit cost) at public sector delivery channels were estimated for each of the listed ESP interventions. As the cost per service per person varied by delivery channel, a weighted average cost for each intervention was calculated.

In 2016, coverage of ESP services varied from 2.2% (for female sterilization) to 82.5% (for BCG vaccination) by delivery channel, with an estimated weighted average of 20.4% coverage in the public sector. This is consistent with a 2015 Bangladesh national health accounts (BNHA) estimate that approximately 23% of the total healthcare expenditures are borne through the public sector. As ESP services are rolled out from 2017-2022, the estimated weighted average ESP coverage is expected to increase in public facilities to approximately 33% by 2022. The study team calculated an average cost per beneficiary by dividing the total cost of providing ESP in public sector by the population that actually received ESP services during the base year (using the estimated weighted average coverage in 2016) and is expected to receive ESP in the target years (using the estimated weighted average coverage in 2022). For local and international comparisons, the public per capita cost was estimated dividing the total cost of providing the ESP by Bangladesh's total population irrespective of their coverage status.

Key Findings

Based on the 2016 data inputs (i.e., coverage levels, necessary medicines/supplies and labor for interventions, health system costs, etc.), the estimated total cost of the ESP in the public sector in 2016 was BDT 76,195 million. This higher estimated cost of ESP services in 2016 is due to several factors, including the costing approach used, which involved costing ESP interventions as per current practice, as well as using standard protocols and assumptions for those interventions (primarily non-communicable diseases services including hypertension, diabetes, etc.) which were supposed to be available through the ESP but were not found to be fully operational at the time of data collection. The cost of ESP services is expected to increase to BDT 103,194 million in 2022, based on planned increase in service coverage and resources committed for 2017-2022 in Operational Plans, the cost of current and new services, standard protocols and assumptions.

The study team calculated an "average cost per beneficiary (or service user)" in 2016 in public facilities as approximately BDT 2349 (29.8 USD)- which would be reduced to BDT 1805 (22.4 USD) in 2022 due to planned increase in coverage and expected efficiency gain through using fixed assets (Appendix E). This figure does not include inflation, but includes health system costs, it was calculated from the specific ESP interventions that were costed for that particular year at the specified coverage level, and it does not represent the average cost for a single client – who would typically need a mix of these services.

The study team used the OHT to calculate the unit costs of 132 interventions across 10 delivery channels in the public sector. These recurrent costs represent the cost per service per person (including drugs, supplies, and labor cost) for each intervention provided through each delivery channel in public sector. As expected, these costs vary significantly by type of service and delivery channel for difference in service providers and infrastructure. The team therefore; calculated a weighted average cost for each intervention to provide an estimate of the approximate cost of ESP interventions without focusing on the channel at which it is delivered, which is anticipated to be used for overall planning purposes (Appendix C).

The public per capita cost for the ESP was BDT 475 (6.1 USD) in the base year 2016, increasing over the target years to BDT 596 (7.4 USD) in 2022. This per capita cost has been estimated for local and international comparison. In 2001, Tim Ensor et al. showed that the public per capita cost of ESP for 2001 was BDT 115 (inflation adjusted for 2016). Our per capita estimate for 2016 was four times higher than 2001 estimate. However; this increase in per capita cost is attributable to increase in number of services e.g. non-communicable diseases (NCD) under updated ESP and its coverage.

ESP services at district hospitals and upazila health complexes (UHCs) accounted for the highest proportion of total costs in 2016, a trend that continues from 2016 to 2022. This is attributed to several things including that these facilities provide most ESP services, overall accessibility to services at these facilities, the size of the facilities and the required supplies and staffing. MNCAH services were the most costly at UHCs, where the costs of child health and maternal health ranked the highest. Compared to other service delivery channels in public sector, NCD services were the greatest cost contributors at district hospitals, where most NCD services listed under the updated ESP are provided. The cost of ESP services at community clinic level was greater than in urban primary health care clinics in 2016. This is due to the greater number of community clinics and the larger volume of patients receiving ESP services compared to urban primary health care clinics.

RECOMMENDATIONS

- These results provide an estimate of the annual investment required for delivering ESP effectively. Policy planners may consider these estimates and use them to advocate for increased funding for health to match the costs.
- The National OHT Resource Pool should work under an institutional framework of the MOHFW to conduct additional costing exercises, including using standard treatment protocols for all services; these scenarios will be useful for the mid-term review of the 4th HPNSP and for planning of the next sector program. Using these estimates for future development of ESP:
- These estimates should be used by policymakers for further development of a feasible and efficient ESP package and for setting target of the coverage through public delivery channels for next sector programme and also to increase fiscal space for health.
- Future ESP cost estimates should also use standard protocols (normative costs) for all interventions, or WHO guidelines if Bangladesh-specific guidelines are not available, to identify the gap between current practice and protocols, and to provide planners with evidence to advocate for increase funding for the provision of quality ESP services across all relevant delivery channels.
- As the country moves towards UHC by 2030, future analyses should look at the cost of current and projected coverage of ESP by both public and private sector and cost for service delivery by level of care(primary, secondary and tertiary) .That exercise will help the government to plan and extend ESP coverage by both sector in a coordinated approach.
- Further studies should be conducted based on these cost estimates to generate evidence for gaining efficiency and promoting equity in the health sector.

1. INTRODUCTION

1.1 Background

The Government of Bangladesh is mandated to *"provide primary health services to each and every citizen… residing in any geographical location within the territory of Bangladesh"* (National Health Policy, 2011). As part of its Sustainable Development Goal targets, the government is aiming to achieve universal health coverage by 2030. This means providing access to quality essential health services; safe, effective, and affordable essential medicines and vaccines; and protection from financial risk.[A,B,C] With a pluralistic health care system, the population of Bangladesh is covered by public, private, and NGO providers. In 2015, the Bangladesh national health accounts (BNHA) estimated that the largest share (67%) of total health care expenditure comes from out-of-pocket payments by the citizens- while the government bears only 23%.

An essential package of health services provided to citizens in an equitable manner is key to achieving health and financial protection goals.[D] The package should include crucial public health and clinical services provided at primary and/or secondary care levels, reflecting a list of guaranteed minimum health services delivered by the government for its population, and including drugs and diagnostics. [E]

Bangladesh has had an ESP since 1998. [F] Due to changing trends in disease burden and population needs, the MOHFW updated the ESP in 2016 to be implemented from its fourth, five-year health sector strategy, Health, Nutrition and Population Sector Programme (HNPSP, 2017-22). The updated ESP fulfills the Government of Bangladesh's commitment to universal access and *"aims to attain equity and efficiency, universal access, and improve quality of [health, nutrition, and population] services"*. [G] The MOHFW recognized the need for a well-defined, cost-effective, and realistic ESP to ensure equitable access to quality services. Therefore, a quick and approximate costing exercise was conducted in 2016 with support from the WHO to estimate the resource needs for the delivery of the entire ESP in the public sector. [H]

Box 1. Bangladesh ESP

- Five core services + management of common conditions
- Three support services (laboratory, radiology, and pharmacy)
- Integrated behaviour change communication (BCC)
- Provided at nine delivery channels

A WHO (2010). World Health Report: Health Systems Financing: the Path to Universal Coverage.

B WHO. What is Universal Coverage? http://www.who.int/health_financing/universal_coverage_definition/en/ Accessed on 4th April 2017.

C https://sustainabledevelopment.un.org/sdg3

D Wright, J., Health Finance and Governance Project. July 2015. Essential Package of Health Services Country Snapshot Series. Bethesda, MD: Health Finance and Governance Project, Abt Associates Inc. https://www.hfgproject.org/essential-package-of-health-services-country-snapshot-bangladesh/

E WHO. "Essential health packages: What are they for? What do they change?" WHO Service Delivery Seminar Series. DRAFT Technical Brief No. 2, 3 July 2008.

F ibid

G Planning Wing, MOHFW. April 2016. Health, Nutrition and Population Strategic Investment Plan July 2016–June 2021, "Better Health for a Prosperous Society". Dhaka, Bangladesh.

H Xavier Modol, July 2016. Bangladesh Essential Health Service Package (ESP), Final draft. Dhaka, Bangladesh: World Health Organization.

Several other exercises have been conducted to determine the costs associated with components included in the ESP:

- Costing of the National FP Programme (2016-2020)[I]
- Costing of the Emergency Obstetric and Newborn Care Improvement Plan[J]
- Costing of the Bangladesh Every Newborn Action Plan[K]
- Costing of Smiling Sun Clinic Services[L] and Smiling Sun Clinic ESP

1.2 Bangladesh Essential Health Service Package

The Bangladesh ESP (Box 1) defines the health services that the Government of Bangladesh is committed to providing to its citizens. The ESP adopted in 2016 includes five core health services, which are complemented by services to treat and manage several common conditions; each of these core health services includes several components (see Table 1). The ESP identifies the service delivery sites ranging from the community to district hospital level, as well as urban settings. Appendix A contains a detailed list of each service in the Bangladesh ESP by service delivery level.

Table 1: Bangladesh ESP Core Services and their Components

Core Service	Component
Maternal, Neonatal, Child & Adolescent Health (MNCAH)	Maternal and newborn care Child health and immunization Adolescent health
Family Planning	Pre-conception Post-partum Post-abortion Post-menstrual regulation
Nutrition	Child nutrition Maternal nutrition Adolescent nutrition
Communicable diseases	TB Malaria HIV/AIDS Neglected tropical diseases Other communicable diseases
Non Communicable Diseases (NCD)	Hypertension (HTN) Diabetes mellitus NCD screening and management Breast and cervical cancer Other NCDs Mental Health Sexual and Gender-Based Violence (SGBV)
Management of other common conditions	Eye Ear Dental Skin Emergency

[I] Dr. Shakil Ahmed and Dr. Wahidul Islam. December 2015. Costed Implementation Plan for the National Family Planning Programme, Bangladesh 2016-2020. Dhaka, Ministry of Health and Family Welfare (MOHFW), Bangladesh

[J] UNFPA. 2015. The Costed EmONC Improvement Plan. Dhaka, UNFPA and Ministry of Health and Family Welfare (MOHFW), Bangladesh.

[K] Tazeen Tahsina, Sabbir Haider, Mohammad Mehedi Hasan, Sajia Islam, Shams El Arifeen. August 2016. Cost of Implementation of Bangladesh Every Newborn Action Plan (BENAP). Dhaka, icddr, b, Bangladesh.

[L] Hamid, Syed Abdul, March 2016. Costing and Pricing of CWFD Smiling Sun Clinics. Bethesda, MD: Health Finance and Governance Project, Abt Associates Inc.

[M] Wu Zeng, Yara A, Halasa, Marion Cros and Donald S. Shepard, July 2016. Costing the Essential Services Package (ESP) within the Non-Governmental Organization Network of Smiling Sun in Bangladesh. Waltham, MA: Heller School, Brandeis University, USA.

The updated ESP has been tailored to rural and urban areas, and is expected to evolve further in the future. ESP implementation is a gradual and iterative process, starting with a basic affordable package, with the scope of available services to be expanded in the future. As such, it is important to understand the costs of delivering the ESP services.

Table 2: ESP Delivery Channels in Public Sector by Location

Location	Facility*	Number
MOHFW	Upazila Health Complex (UHC): 50 bed (#297), 31 bed (#116), and 10 bed (#11)	424
	Union Sub-Centre (USC)	1,498
	Union Health and Family Welfare Centre (UHFWC)	3,965
	Community Clinic (CC)	13,336
	Maternal & Child Welfare Centre (MCWC)	58
	District Sadar and General Hospital - for referral from rural areas (DH)	64
**MOHFW+ MOLGRD	District Sadar and General Hospital 100 bed (#41), 150 bed (#3), and 250 bed (#20)	
	MCWC	62
	Urban Primary Health Care Centre (UPHCC)	120
	Comprehensive Reproductive Health Care Centre (CRHCC)	32

***Source:** Health Bulletin 2015, DGHS, and Project Office, Urban Primary Health Care Service Delivery Programme, Nagar Bhaban, Dhaka North City Corporation

** MOHFW + Ministry of Local Government and Rural Development (MOLGRD) through the Urban Primary Health Care Service Delivery Programme

In 2016, the MOHFW requested WHO Bangladesh and HFG to jointly support a detailed costing of the ESP using the OHT. In response; this provider-focused cost analysis was conducted by the Health Economics and Financing Research Team of icddr,b with the funding from WHO. The study was carried out from January to September 2017 with technical support from the members of the National OHT Resource Pool, external OHT consultants and reviewers from WHO and HFG.

2. METHODOLOGY

2.1 Study Objectives

The objectives of the costing study were to:

1. Estimate the costs of core services of the Bangladesh Essential Health Services Package(ESP) by interventions and delivery channels in public sector using the OneHealth Tool (OHT); and
2. Develop and strengthen the local capacity of a National OHT Resource Pool through their engagement in the ESP costing process.

2.2 Study Approach

The study team adopted a collaborative approach to engage partner organizations in the ESP costing process. This was initiated through an inception meeting held on 19th January 2017 at icddr,b presided over by the Director General, Health Economics Unit of the MOHFW. The meeting was attended by senior officials from the Health Economics Unit, DGHS, DGFP, Urban Primary Health Care Service Delivery Programme (under the Ministry of Local Government and Rural Development), academics from the Institute of Health Economics at Dhaka University, and representatives from both HFG and WHO. The study team leader presented the methodology and implementation plan. The meeting discussed the study in length, endorsed the work plan, and agreed to extend administrative and technical support to the icddr,b team as and when required.

A seven-member National OHT Resource Pool was formed in consultation with WHO and the Health Economics Unit to help assist the study team and further develop their expertise in costing, using OHT (see Appendix I). All members of the resource pool have had hands-on training on OHT organized by WHO in 2016. They met with the icddr, b team members on weekly basis to facilitate the work. In addition, a series of consultative meetings was held with the senior officials of Health Economics Unit, PMMU/Planning Wing of MOHFW, DGHS, and DGFP to validate the information collected and shared preliminary findings for their feedback. Relevant feedbacks were addressed by the study team.

An external HFG expert (Nadia Carvalho) provided technical support to the study team. WHO and HFG also engaged external reviewers who provided technical feedback on preliminary results and helped finalize the report.

2.3 One Health Tool

The OHT is designed to support medium- to long-term (3 to 10 years) strategic planning in the health sector, and has been used to inform strategic planning processes in over 30 low and middle income countries. It provides a unified framework to support the planning, costing, and budgeting of health sector priorities, including health system strengthening strategies. The OHT facilitates scenario generation and informs priority setting by illustrating the health system implications of scaling up delivery of health interventions, showing the capital investment gap, projecting the achievable health impact and comparing costs with the estimated available financial resources. The tool assesses the costs related to health programme areas, and includes health system modules following the WHO's six building blocks.

How OHT analyzes the cost of health services/interventions. The OHT uses a provider-focused costing perspective – the cost of a health intervention is determined by the number of people receiving the intervention and the quantity of resources required to deliver the intervention per person. Excluded from this costing are opportunity costs and health system inputs (for which costs are estimated in the health systems module). In summary, costs for each health intervention or service in the ESP are calculated by:

# of cases x cost per case per year
Where # of cases = target population size x target population in need of intervention (%) x coverage (%)

The cost per case per year of ESP interventions was determined through ingredients-based costing of medicines and supplies required to deliver the intervention, and a cost per minute of medical personnel required to provide the intervention.

How OHT analyzes the cost of health system components. The OHT's health systems module includes six components covering critical service delivery inputs, as defined by the WHO health system building blocks: infrastructure, logistics, and human resources for health, health information systems, governance, and financing. The cost of each component is driven by the availability of functional inputs (e.g., trained human resources for health, or equipped health facilities), as well as programme management costs (e.g., monitoring, supervision, or advocacy).

2.4 OHT Customization & Costing Methods

The OHT was customized for the Bangladesh ESP. This task was carried out by the icddr,b study team working with members of the national OHT resource pool through a series of weekly meetings. The six core ESP services were categorized into 12 programme areas in the OHT: 1) maternal health, 2) neonatal health, 3) child health and EPI, 4) adolescent health, 5) FP and RH, 6) nutrition, 7) NCDs, 8) management of other common conditions, 9) TB and leprosy, 10) malaria, 11) HIV/AIDS, and 12) neglected tropical diseases (filaria and leishmaniasis) (Box 2). For the sake of reporting cost results, the first four programme areas were further grouped into one of the core ESP programmes, i.e. MNCAH.

Box 2. Customization of OHT

ESP Core Services	OHT Programme
Maternal, neonatal, child and adolescent health	Maternal health
	Neonatal health
	Child health
	Adolescent health
Family planning	Family planning
Nutrition	Nutrition
Communicable Diseases	Tuberculosis
	HIV/AIDS
	Malaria
	Neglected Tropical Diseases
Non-Communicable Diseases	Non-Communicable Diseases
Management of other common conditions	Management of other common conditions

During the review of the document on updated ESP and list of interventions, the study team and OHT resource pool identified duplications or overlap between similar interventions that were either merged into a single intervention or kept separate. After careful review and consultation with programme officials, the updated list of ESP intervention was fine-tuned and finalized with 132 interventions.

The resource pool identified ten existing government delivery channels in urban and rural areas. One addition was made to MOHFW's document, as the team considered HFWC and USCs as separate delivery channel (see Table 2).

The study team applied an ingredients-based costing approach using the OHT. At the outset, the tool was customized to the Bangladesh context (i.e., using ESP service delivery facilities in public sector, creating health programme areas to match the ESP core services, and interventions available in public

sector ESP in Bangladesh). Members of the national OHT resource pool and study team reviewed the OHT defaults, and reviewed the updated MOHFW ESP document. Approval for fieldwork was obtained from icddr,b's research administration, and a support letter was obtained from the Director General of the Health Economics Unit of the MOHFW.

The team collected information from purposively selected ESP delivery facilities (see Table 3 below), officials at national and sub-national levels, and by using existing survey data, reports, and documents. At selected facilities, the team undertook a physical inventory, conducted key informant interviews, and reviewed service statistics. At the national level, the team reviewed survey data, reports, and databases, and held consultative meetings with government officials. An exit survey was conducted at the Jhenaidah district hospital with 968 care seekers to understand the proportion of patients receiving ESP, specifically the percentage of patients from the upazila level and urban areas accessing ESP care at the district hospital.

All ESP delivery inputs were identified, quantified, and valued in local currency (BDT) by delivery channels. The quantity and unit price of inputs (collected from government and market sources) were organized into the relevant OHT modules (health service and health system module). Coverage data of ESP interventions in public facilities for the base year (2016) was gathered through a review of data sources, including the Health Bulletin, BDHS, Bangladesh Morbidity survey, Urban Health survey, and the FP MIS (see Appendix B). Coverage data of each intervention by delivery channel for the target years (2017-22) was obtained from the respective operational plans and programme implementation plans of the MOHFW.

The costing included ESP interventions and services currently being implemented, as well as interventions planned for the future (e.g. NCD services like Diabetes, Hypertension etc. using standard treatment protocols and/or guidelines as these are one of the major contributors to cost).

Where no standard treatment protocol was found, the costing was based on assumptions provided during key informant interviews by qualified physicians and other service providers (SACMO, CHCP, FWV) at each of the delivery channels at selected study sites. The assumptions also related to those ESP services that were supposed to be available at study facilities according to the previous Operational Plan (2011-16), but were not found on the ground at the time of this study.

Programmes such as TB, malaria, HIV/AIDS, and other neglected tropical diseases, are largely funded by external donors and implemented by local non-governmental organizations (e.g., BRAC and Damien) through public-private partnerships. Due to time and budgetary constraints, we did not calculate the cost for individual interventions for these programmes but considered their aggregated cost by budget line items (e.g., human resources, drugs/supplies, training, and behaviour change communication [BCC]). Future costs for these programmes were projected using the rate of change found in the 2017-22 operational plan budgets.

For all other ESP programmes (MNCAH, NCDs, Nutrition, and FP), the costs of interventions currently being implemented were calculated using ingredients-based costing, and some additional programme-related costs (e.g. training, supervision, monitoring, advocacy, awareness campaigns, and BCC) were also included where these costs were found.

The OHT generated a cost per service by delivery channel (unit cost) for each of the ESP interventions in public facilities (Appendix C); these include the drugs and supplies as well as labor costs for each intervention. We also calculated a weighted average cost per service for each intervention (see last column of Appendix C) - as the cost per service per person varied by delivery channel.

Average cost per beneficiary was estimated dividing the total cost of providing ESP in public sector by the number of population based on weighted average of coverage that actually received ESP services.

$$\text{Average cost per beneficiary} = \frac{\text{Total estimated cost of providing ESP in public sector}}{\text{Estimated weighted population to receive ESP}}$$

Where;
estimated weighted population to receive ESP is = *Weighted average of coverage*×*Total population*

$$\%\ \text{weighted average of coverage} = \frac{\sum \textit{Population received ESP}}{\sum \textit{Population in need ESP}} \times 100$$

The weighted average of service coverage was calculated dividing the number of service coverage by percentage of coverage to get the total population in need (PIN) for the specific intervention in each year. Then the sum of service coverage was divided by sum of PIN for all interventions and multiplied by 100 to get the percentage of weighted average of service coverage.

For local and international comparisons, the public per capita cost was estimated dividing the total cost of providing the ESP by Bangladesh's total population irrespective of their coverage status. The study team also developed a scenario to show the ESP costs at 100% coverage.

2.5 Study Sites

At the national level, the team held technical consultations with programme officers from DGHS, DGFP, MOHFW planning wing, PMMU, and the Urban Primary Health Care Service Delivery Programme office at Dhaka North City Corporation. HRM, DHIS, MIS data bases were accessed to derive detail information on human resource, infrastructure and logistics for the whole public sector.

At the sub-national level, rural and urban facilities matching those described in the ESP document were purposively chosen. The main purposes of selecting these facilities were to collect information on treatment inputs (drugs, tests, supplies, staff time) required for each ESP intervention and understanding current treatment practice and resources being used at the point of care in a public sector primary-secondary care settings. In the rural areas of *Kotchandpur* and *Harinakunda*, the team purposively selected 50-bed UHCs, along with one UHFWC, one USC, one MCWC, and one community clinic (included under UHCs). The selection of two UHCs was based on median bed occupancy rate in 2015 as listed in the Health Bulletin, as well as consultation with the Director General of the Health Economics Unit. The two UHCs were also selected for their readiness to provide data. In order to capture data about upward referral from selected UHCs, the Jhenaidah District Hospital was included in the rural ESP category using a patient exit survey.

Based on accessibility and familiarity, two urban primary health care facilities under Dhaka North City Corporation (one UPHCC and one CRHCC), as well as one MCWC in Jhenaidah Sadar, and Jhenaidah District Hospital, were purposively selected for estimation of cost of urban ESP by government delivery channels.

2.6 Data Collection

The team collected and organized data by ESP interventions and delivery channels in line with the health services and systems modules in the OHT. Checklists and interview guidelines were developed for both the physical inventory and key informant interviews to capture details about ESP interventions and programme costs (needed for health system modules). This was deployed for each ESP intervention under MNCAH, FP, nutrition, communicable diseases, NCDs, other common conditions including support services (laboratory, radiology, and pharmacy), and BCC. Finally, consultative meetings were organized with programme managers and experts to validate the information collected.

The following algorithm was used for costing:

- Population in need of ESP intervention = population (demographic projection) × % of population identified as in need of ESP intervention (based on prevalence, incidence, or preventive properties of an intervention)
- Population receiving an ESP intervention = Population in need of an ESP intervention × % coverage
- ESP intervention cost = Population receiving an ESP intervention × unit of resources needed per case × price per unit
- Cost per service delivery channel = Population receiving an ESP intervention × unit need per case × price per unit × % coverage

Programme specific costs were collected for each intervention based on each activity and entered in to the OHT. This included costs for human resources, logistics, training, supervision, monitoring and evaluation, infrastructure and equipment specific to the programme, communication, advocacy, and general management. Earlier; the input data required for ESP costing was thoroughly reviewed and validated with the MOHFW's Health Economics Unit and UPHC project management. This exercise determined which data were already available and which data needed to be collected.

2.7 Data Sources

Table 3: Information by Source and OHT Module

Information	Source	OHT
Human resources	Human Resource Management database: DGHS, DGFP, Urban Primary Health Care Service Delivery Programme	Human resource module
Logistics	DHIS-2, DGFP	Logistics module
Infrastructure	Physical inventory at study facilities	Infrastructure module
Treatment inputs	Standard treatment guidelines Consultative meetings with programme officials/experts and service providers	Health service module
Drugs and supplies (prices, quantities, etc.)	Key informant interviews with service providers and store keepers at study sites, Essential Drug Company Limited, OPs, Expanded Programme of Immunization (EPI) head office, DGHS, ESD price list, IPH, MOHFW's diagnostic test price list, and market prices	Health service module
Average staff time per service provided	Key informant interviews with service providers and supervisors at study sites	Health service module
Coverage data (base year coverage)	Document review: Health Bulletin, BDHS reports, BDHS dataset, morbidity survey, urban health survey, literature search, and FP-MIS.	Health service module
Target year coverage	Operational and programme implementation plans for 2017-22	Related OHT modules
Programme cost data	Consultative meetings with BRAC, LD-TB, malaria, HIV, LD-MNCAH, LD-CDC, OPs	Programme costing section under health services module

At the national level, a series of consultative meetings was held with Line Directors, Programme Managers, and their Deputies at DGHS, DGFP, and the UPHC project to determine priority ESP interventions by delivery channel, including NCDs. These meetings facilitated access to different data sources.

Sources of input data at the national level included: Health Bulletin 2016; the Health Management Information System; Community Clinic project; DGFP MIS database; UPHC project quarterly performance report; treatment protocols; findings of completed studies; Essential Drug Company Limited; logistics

documents; Bangladesh National Health Accounts (BNHA) 1997-2015; Health Economics Unit; Human Resource Management unit; Line Directors for MNACH, CDC, NCD, procurement and supply, finance, and Human Resource Management; and the Health Engineering Department.

In addition to the above, further information and clarifications were derived from health and FP authorities in the study areas, such as the Civil Surgeon's office and office of the DD-FP, Jhenaidah, office of the UHFPO, UFPO of Kotchandpur and Horinakunda upazila.

2.8 Training of Data Collectors

Prior to data collection, all members of the study team participated in a week-long training session organized at icddr,b. This included: an orientation to the updated rural and urban ESP; overview of the proposed costing methodology; review of checklists and guidelines; work plan; setting meetings with programmes; and familiarization with the OHT. The team leader facilitated the sessions along with the representatives from the Health Economics Unit, WHO, HFG, and OHT experts. Seven OHT-trained persons were selected in consultation with the Health Economics Unit and WHO to form the national OHT resource pool for this task.

HFG's International OHT expert provided an outline of data collection checklist, which was modified and adapted for the Bangladesh ESP. After completing the ESP configuration in the OHT (i.e. identifying ESP programme areas, interventions, and delivery channels), the data collection checklists were adopted.

2.9 OHT's Health Services Module

The health services module estimates input costs that vary by the number of interventions/service recipients. Recurrent inputs include drugs and supplies consumed, investigations, and staff time required. Data was collected from selected study facilities through key informant interviews with doctors and other service providers, and extrapolated in the OHT based on treatment coverage of the population in need. The input unit cost was collected from government and market sources. The quantity of drugs and supplies was estimated based on the reported percentage of prescriptions, standard daily dosage, and treatment duration. The average time spent by each cadre of staff involved was collected through key informant interviews with service providers and their supervisors.

Information on target populations, populations in need (i.e., the proportion of target populations that should be receiving an intervention), percentage coverage of intervention, and government delivery channels, were specified for this module. For preventive interventions, 100% of the target population was considered "in need", while for treatment, current disease prevalence was used to estimate the population in need. As already mentioned base year ESP coverage by intervention was collected from different data sources and adjusted for the government ESP delivery channels.

We had to make assumptions for some NCD related primary care services, such as mental health, breast cancer, and cervical cancer. These interventions were supposed to be available but were not found to be actually being implemented during the study. Distribution of ESP interventions by delivery channels was based on availability of interventions and percentage of services provided through specific delivery channels in public facilities.

2.10 OHT's Health Systems Module

The health systems module consists of several sub-modules including: infrastructure, human resources, logistics, information systems, financing and governance. We used infrastructure, human resources, and logistics modules to estimate the total cost and unit cost of ESP interventions by delivery channels.

Infrastructure module: Data was gathered about the costs of building construction, vehicles (purchase, maintenance, and operational costs), equipment, furniture, and communications technologies (purchase and maintenance) in public facilities. Baseline information was gathered about the number of institutions (from the 2016 Health Bulletin), cost of construction per square foot (from the Health Engineering Department), average floor space, and utility costs (from study facility records). Targets for infrastructure development, vehicles, and communication technologies for 2017-22 were derived from the corresponding operational plans.

Human resource module: The study team collected data on staff salaries and benefits, increment patterns, and pre- and in-service training for different types of staff cadres. The baseline numbers by cadre and different levels of care were obtained from the Human Resource Management database of DGHS, DHIS-2 and DGFP sources. The human resource targets for 2017-22 were identified from the operational plans. Usually the OHT calculates cost of medicines-supplies and HR separately. However; we considered labor cost as a major treatment input in service delivery in addition to medicines & supplies- while estimating cost per ESP service. For this; we used an option in the tool named "cost labor and visit by disease". In the health service module of OHT, salary and benefits data were then used to generate a cost per minute for each type of health cadre, to arrive at a labor cost for ESP interventions for which personnel time had been allocated. Remaining staff cost of service providers and other management and support staff (i.e. not captured in the cost per service estimation)-were included in the human resource sub-module under health system module.

Logistics module: The costs incurred for logistics activities included: warehouses (construction, maintenance, and utilities), drugs and supplies with wastage, transport (vehicle purchase, maintenance, operational costs, and third party contracts), and warehouse workers (e.g., managers, store keepers, clerks, drivers, and manual labourers). These were collected from national and sub-national sources.

2.11 Data Entry

After tool development and OHT configuration, trained team members entered data on health services and systems into the specified OHT format. The data was then entered into locked projections and reviewed. The locked data files were loaded into a master projection. The master projection was reviewed by the team, as well as by national and international OHT experts for gaps, errors, duplications, and inconsistencies. Inflation rates for the target years 2016-2022 (based on the World Economic Outlook Database, 2016) were input for necessary adjustment. The BDT to United States Dollar (USD) exchange rate was taken from the Bangladesh Bank's Annual Report (2015-16).

2.12 Assumptions and Estimates

1. For costing purposes, we assumed each pregnant woman received four ANC visits.
2. We assumed all ESP services were available according to the 2011-16's Operational Plan for the base year 2016.
3. We assumed all listed medicines and investigations were available.
4. We included the basic salary and allowances (housing, festival, medical, and education) according to the grade of each individual staff member at the time of this study, excluding the CHCP's monthly salary which is fixed.

5. In cases where coverage data by delivery channels was not available, nationwide coverage data (see Appendix B) for the base year was adjusted /estimated. For example, according to the 2014 morbidity survey, 28% of all services were delivered by public facilities. From this, we excluded tertiary and specialized care facilities using Health Bulletin service statistics for in- and out-patients. Using the BDHS dataset and other sources, we estimated ESP service coverage by delivery channels.
6. Cost for ESP interventions were estimated using an ingredients-based costing approach; data inputs were based on a combination of current practice for 2016, standard protocols, and assumptions (see Appendix B). We used standard protocols for those ESP services for which treatment guidelines were available. If guidelines were not available, we interviewed qualified physicians about their current practice to collect information on staff time, and required drugs and supplies. Assumptions were used for those planned ESP services (e.g. mental health, treatment of Hypertension, Diabetes) which were not currently being delivered.
7. National level ESP expenditure data (DGHS, DGFP office) was allocated to ESP using BNHA (2015) estimates by delivery channels.
8. National level ESP expenditure data was allocated in proportion to the population in urban and rural areas using 2011 census data.
9. Weighted average of bed capacity for UHCs (50 and 31 bed) and District Hospitals (100, 150, 250 bed) was considered.
10. Programme costs for 2016 (e.g. supervision and training) were included for some ESP health programme areas, including child health/EPI, nutrition, FP/RH, but not those where no programme costs were identified for 2016 (e.g. for maternal health).
11. Cost estimations were based on coverage targets for 2017 to 2022 for ESP interventions as detailed in the Operational Plan.

Costing assumptions can be found in Appendices B, C, D and E. Additional details and other costing assumptions are available from the authors.

2.13 Limitations

1. This study focused on mainstream ESP delivery channels in the public sector only. Some MOHFW facilities were excluded, such as government outdoor dispensaries (#35), school health clinics (#23), and alternative care providers. Similar programmes run by the non-governmental organizations (e.g. Smiling Sun Franchise, BRAC's health program, Manoshi, or Marie Stopes clinic) were not included due to time and resource constraints.
2. MOHFW's maternal voucher scheme was not included in this cost estimation.
3. Only filled positions in public facilities were included in the base year calculations, while data on sanctioned but vacant posts were included for future projections (2017-2022).
4. ESP service cost was estimated using 2016 current practice, available standard protocols, or assumptions (Appendix B). As such, projected ESP costs for 2022 might not reflect any changes to current practice as new protocols are developed.
5. Standard treatment protocols were not available for all ESP interventions. For these interventions (without standard treatment protocols), the study team estimated the cost of the intervention through interviews with service providers capturing their current practice.
6. Due to time and budgetary constraints, programme costs for TB, leprosy, malaria, HIV/AIDS, and neglected tropical diseases were considered using their aggregated budget line items (e.g., drugs/supplies, human resources, training, and BCC)- instead of specific treatment inputs. Future programme costs were projected using the rate of change found in Operational Plan budgets. These programme costs therefore cannot be compared directly with other ESP programme areas where the actual interventions were costed. In addition, the application of a historical rate of change for future HIV,TB, malaria and neglected tropical disease programmes may not reflect anticipated policy or implementation changes which would affect future costs.

3. RESULTS

Below we summarize the total costs of the Bangladesh ESP by base year (2016), target years (2017-22), programme area, and delivery channels in public sector. Details of costs per service (for drugs/supplies and labor) by delivery channel are available in Appendix C. Costs were calculated by health service and health system components separately, along with programme costs (training, BCC, supervision, and monitoring and evaluation).

3.1 ESP Total Costs: 2016 - 2022

As shown in Table 4, the total cost of delivering the ESP was BDT 76,195.1 million in 2016 based on the actual coverage data and assumptions for that year. This was the total cost of delivering 132 interventions across 10 delivery channels in public sector. The weighted average coverage of these interventions across delivery channels in 2016 was 20.4%. The total cost (without inflation) increases to BDT 103,194 million in 2022 with a weighted average coverage of 33% of the population in need. These calculations considered the cost of current and new services, assumptions, and targets per year in the operational plans of the fourth Health, Nutrition, and Population Sector Programme (2017-22). Please see Appendix G for ESP total costs with inflation.

Table 4: ESP Total Costs, 2016-2022 in Million BDT), not including inflation

Cost component	2016	2017	2018	2019	2020	2021	2022	Total
Human resources	44,001.2	45,895.9	47,932.1	50,120.6	52,471	54,995.9	57,711.9	353,128.5
Medicine & supplies*	19,956.9	21,693.9	23,355.5	24,726.8	26,544.3	28,373.1	30,264.8	174,915.4
Infrastructure	5,082.9	9,228.7	7,218	7,320.8	7,505.6	7,411.2	7,401.9	51,168.9
Logistics	81.6	118.3	118	120.8	124.1	148.8	143.6	855.3
TB/leprosy, Malaria, HIV/AIDS, Neglected tropical diseases** & general programme management costs***	7,072.5	7,108.6	7,170.5	7,257.4	7,369.4	7,507.2	7,671.9	51,157.4
Grand total (BDT)	**76,195.1**	**84,045.4**	**85,794.1**	**89,546.4**	**94,014.3**	**98,436.1**	**103,194**	**631,225.5**
Per capita (BDT)	475.2	517.2	521	536.8	556.5	575.4	596	-
Per capita (USD)	6.1	6.4	6.5	6.7	6.9	7.1	7.4	-

* Without labor cost

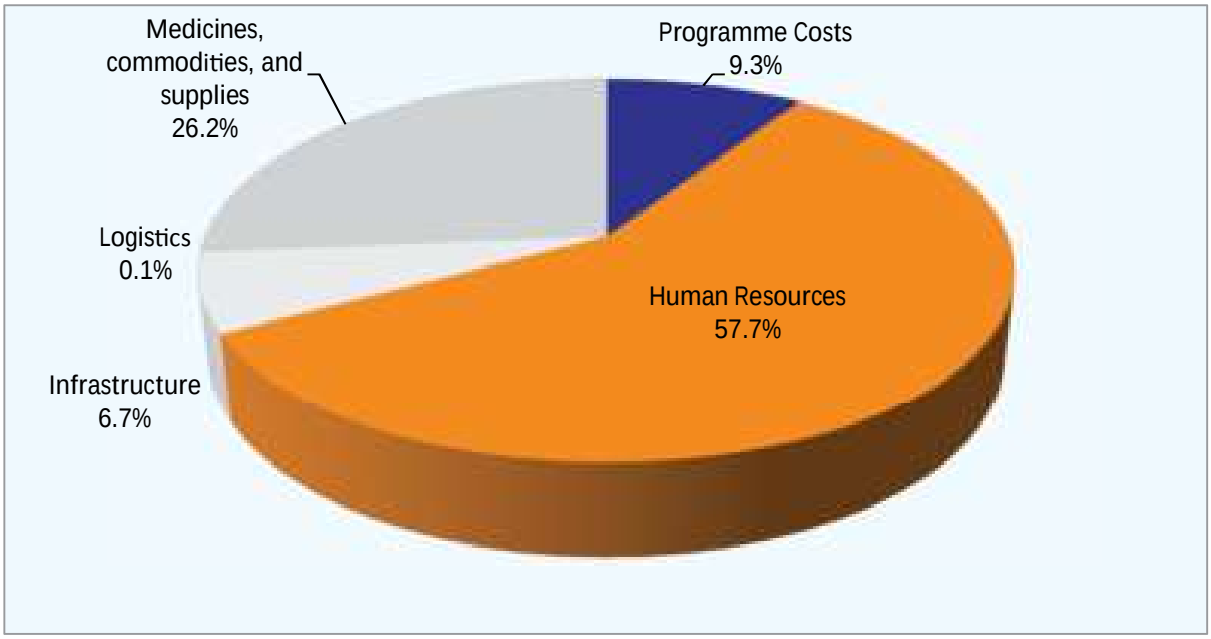
* * these ESP programme areas were costed through aggregated budget costs (i.e., by budget line items for drugs/supplies, human resources, training, and behavior change communication, etc.)

* ** these include the costs of programme-related training, meetings, communication, media, advocacy, and monitoring and evaluation) for the other core ESP services.

Note : exchange rate used in 2016: USD 1 = BDT 78.3; 2017-2022: USD 1 = BDT 80.57

Figure 1 shows that in the base year (2016), human resources accounted for the highest proportion of the total cost (58%), followed by drugs and supplies (26%). For these two health system components, an increasing trend is observed (Table-4) throughout the target years (2017-2022). This increase is attributable to the proposed recruitment of new staff, and the expected increase in service coverage over the target years as detailed in the operational plans.

Figure 1: Percentage Distribution of ESP Total Cost, 2016



3.2 Cost per Service (Unit Cost)

The study generated the cost per service for each of the 132 interventions across the 10 delivery channels (see Appendix C). These represent the cost per person of the intervention through each delivery channel, and include the drugs, supplies, and labor costs required for providing the intervention. Appendix D illustrates the drugs and supplies required for interventions at the Upazila Health Complex delivery channel. These costs vary significantly by type of service and type of delivery channel as service providers vary. ANC ranged from 157 taka at the domiciliary level to 1,724 taka at the district hospital level. Newborn care ranged from 14 at the domiciliary level to 126 taka at the district hospital, 137 at the MCWC and 157 at the CRHCC level. Among the child health interventions, ARI and IMCI had the greatest cost per service at the district hospital (1,294 taka and 1,789 taka respectively) and at the Upazila Health Complex (1,211 taka and 1,701 taka respectively).

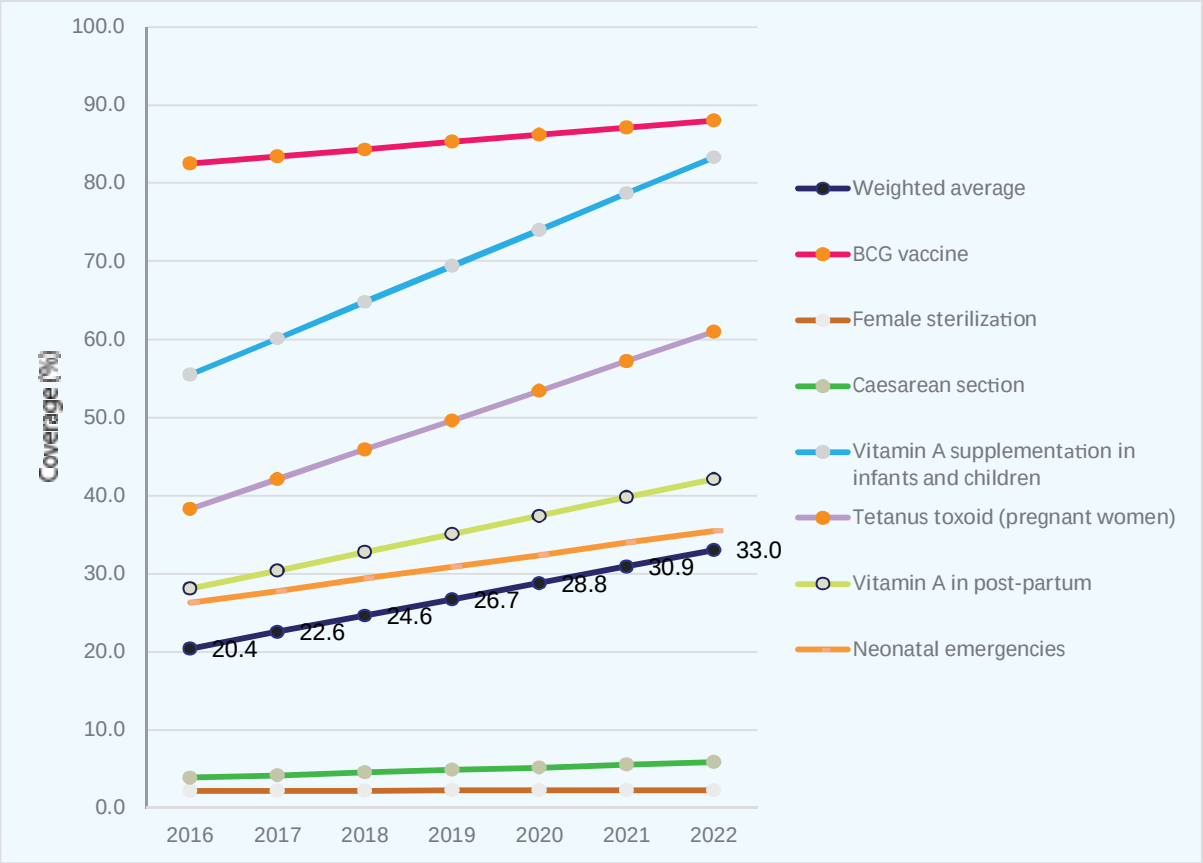
Therefore; we calculated a weighted average cost per service for each ESP intervention (last column Appendix C). This weighted average cost per service considers the costs of drugs and supplies and labor required for the intervention, but not the health systems costs. They reveal the variation in intervention costs per service. For example, within Maternal Health, the weighted average cost per service of ANC was 1,366 taka, compared to 678 taka for normal delivery, while the cost per service of obstetric emergencies ranged from 157 taka for obstructed labor to 4,454 for c-section.

This calculation of a weighted average cost per service was done to determine an approximate cost of each ESP intervention, regardless of delivery channel, and allows for a quick identification of high-costing interventions. It was only calculated for those ESP interventions for which costs were estimated based on ingredients-based costing (i.e. excluding HIV, TB, NTD and malaria interventions). It is anticipated that this weighted average cost per service will be used for future ESP planning purposes.

3.3 Public Cost per Beneficiary

In 2016, coverage of ESP services varied from low (e.g. 2.2% for female sterilization) to higher population coverage (e.g. 82.5% for BCG vaccination) and by delivery channel, with an estimated weighted average of 20.4% population coverage in the public sector (Figure 2 and for calculation see Appendix E).This is consistent with a 2015 Bangladesh national health accounts (BNHA) estimate that showed approximately 23% of total health expenditures are borne by the public sector.

Figure 2: Coverage of Selected ESP interventions and weighted average coverage, 2016-2022



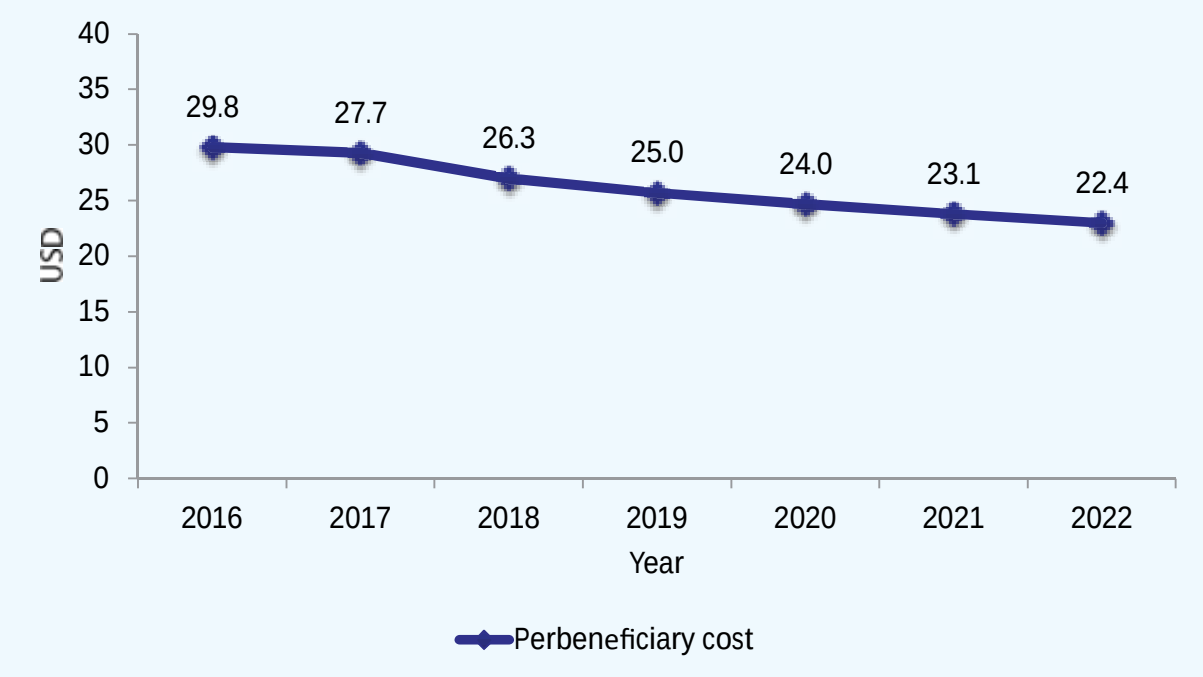
This calculated weighted average coverage is weighted based on the number of services needed for each intervention, but not on the delivery channel at which the intervention is delivered.The weighted average coverage calculation also includes coverage of TB, HIV, NTD and malaria interventions, for which intervention costs were not estimated using ingredients-based costing.This was done to ensure and accurate estimate of the coverage of ESP services by year, including those health areas for which the costs were estimated differently.

The study team calculated an average cost per beneficiary by dividing the total cost of providing ESP in public sector by the population that actually received ESP services (20.4%) during the base year (see Figure 2) and is expected to receive ESP in the target years (using the weighted average coverage in 2017-22). In 2016, the calculated average cost per beneficiary was BDT 2,349 (USD 29.8); this calculated average cost per beneficiary gradually decreases to BDT 1,805 (USD 22.4) in 2022 (Figure-3) due to planned coverage increases and expected efficiency gains through using fixed assets (Appendix E).

This cost per beneficiary was calculated based on recommendations from the MOHFW and HEU, and is expected to be used in determining reimbursement to providers, as well as in discussions around the health protection scheme for the ultra-poor. It is also useful to have when considering the costs of ESP services to be scaled up in future years.

Note that the cost per beneficiary does not include inflation. The cost includes both health service and health system costs. It only applies to those specific ESP interventions costed for that particular year at the specific coverage, and that it doesn't represent a single client, who would typically need a mix of these services.

Figure 3: Average costs per beneficiary

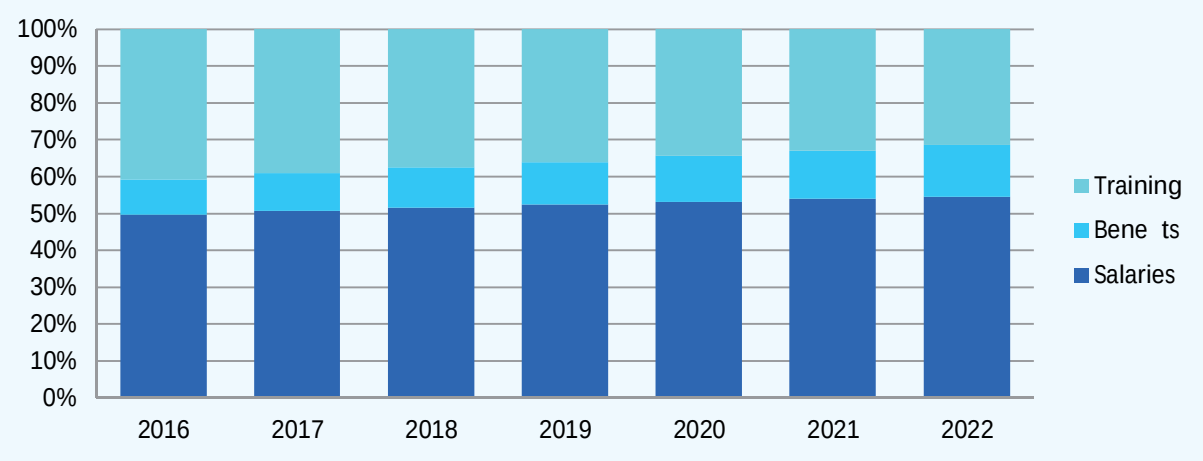


3.4 Human Resource Cost

The current ratio of doctors, nurses and paramedics in Bangladesh is much lower (1:1:2) compared to WHO standard (1:3:5). Although Bangladesh has shortage in HR – it accounts for 58% of the total ESP cost (Figure-1).

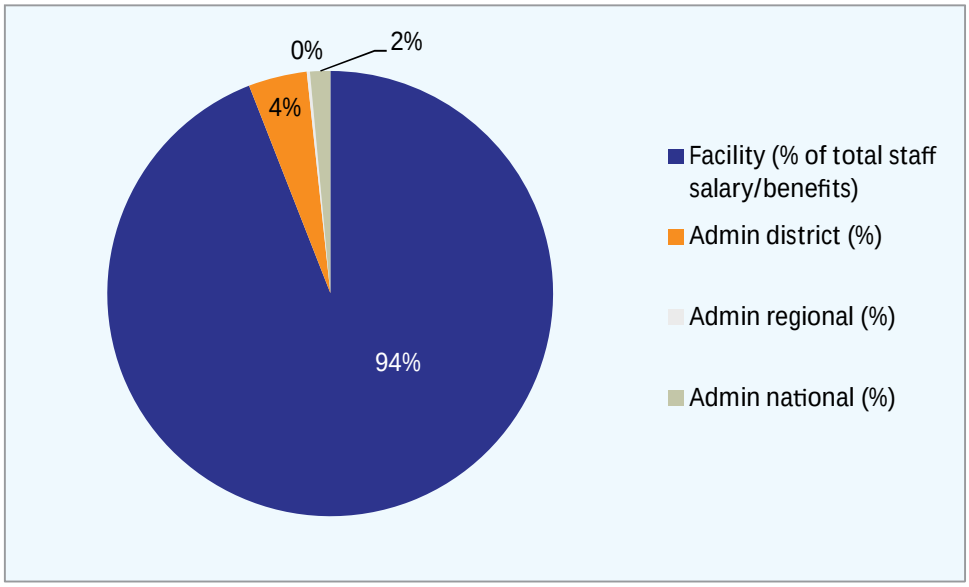
Staff salaries and allowances accounted for approximately 50% of the total human resource cost in 2016 (see Figure 4a), and would increase progressively to around 55% in 2022 due to the above-mentioned planned staff recruitments (e.g. senior consultants, medical officer, nurse, field worker, SACMO, pharmacist, medical technologist, FWV and management & support staff). The next highest cost driver in human resources is staff training (both in-service and pre-service).

Figure 4a: Percentage Share of Human Resource Cost, 2016-2022



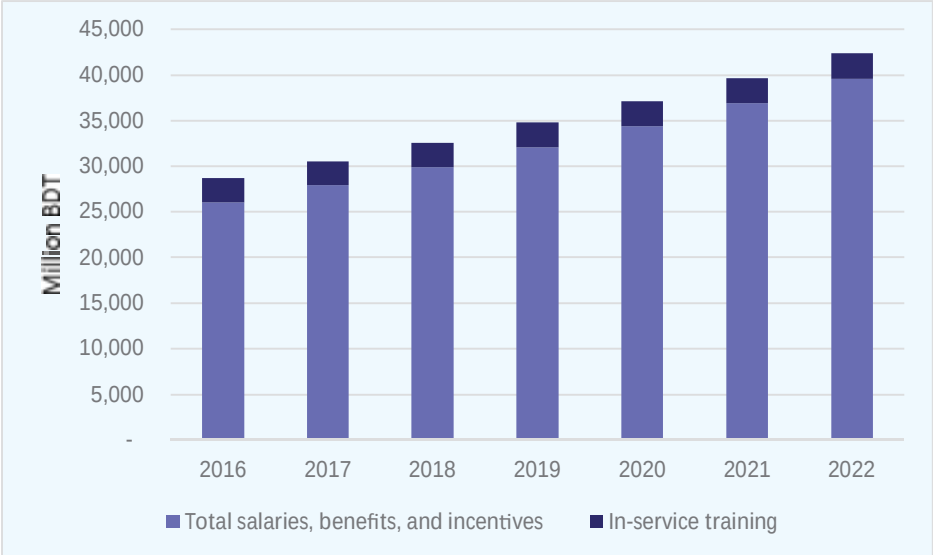
Human resource salaries and benefits were calculated for service providers at the health facility level, and for administrative staff at the district, regional and national levels. In 2016, salaries and benefits for staff at the facility level accounted for approximately 94% of total salary/benefit costs (see Figure 4b); this same distribution continues from 2017-2022. At the health facility level, staffing levels of service providers varied, with the following cadres having the greatest staffing per 10,000 population from 2016-2022: Family Welfare Assistant (1.5 per 10,000 population); Community Health Care Providers and Health Assistants (each at 0.8 per 10,000 population); Sub-Assistant Community Medical Officer (0.4 per 10,000 population) and Family Welfare Visitors (0.3 per 10,000 population).

Figure 4b: Distribution of Human Resource Salary and Benfit Costs by level, 2016



While pre-service training for medical professionals (government-run medical colleges, nursing training centres, health technology institutes, medical assistant training schools etc.) in Bangladesh is funded through the MOHFW budget, it is separate from the ESP budget line item. Therefore, we calculated total human resource costs without these pre-services costs (see Figure 4c). In 2016 human resource costs are estimated at BDT 28,663 million, which is expected to increase to BDT 42,374 in 2022.

Figure 4c: Total Human Resource Costs not including Pre-Service Training, in million BDT 2016-2022

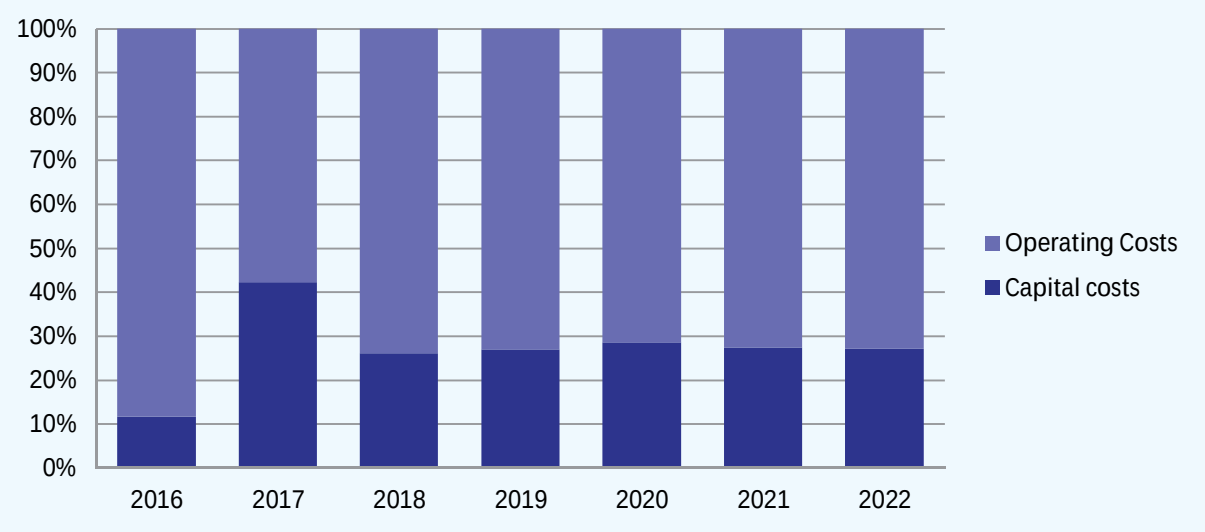


3.5 Infrastructure Cost

Bangladesh has a large physical infrastructure that is being used as ESP delivery channels (Table-2) - but maintenance/rehabilitation of these facilities needs further improvement. Infrastructure costs went from BDT 5,082.9 in 2016 to BDT 7,401.0 in 2022; these included both operating and capital costs.

Figure 5a shows that operating costs (including facility operating costs, communications technology maintenance, vehicle maintenance and repair, fuel, and driver salaries) are the highest cost driver for infrastructure, followed by capital costs (construction, equipment, furniture, vehicle purchase, and communications technology purchase). There is a sharp rise in capital costs in 2017 compared to 2016, which is attributable to the purchase of vehicles (including ambulances, jeeps, cars, motorbikes, and bicycles) planned for different ESP programmes in 2017 and beyond.

Figure 5a: Percentage Share of Health Infrastructure Cost, 2016-2022



Figures 5b and 5c below show the percentage share of capital and operating costs, including the biggest cost drivers in 2017; this percent distribution is consistent from 2017-2022.

Figure 5b: Percentage Share of Infrastructure Capital Cost, 2017

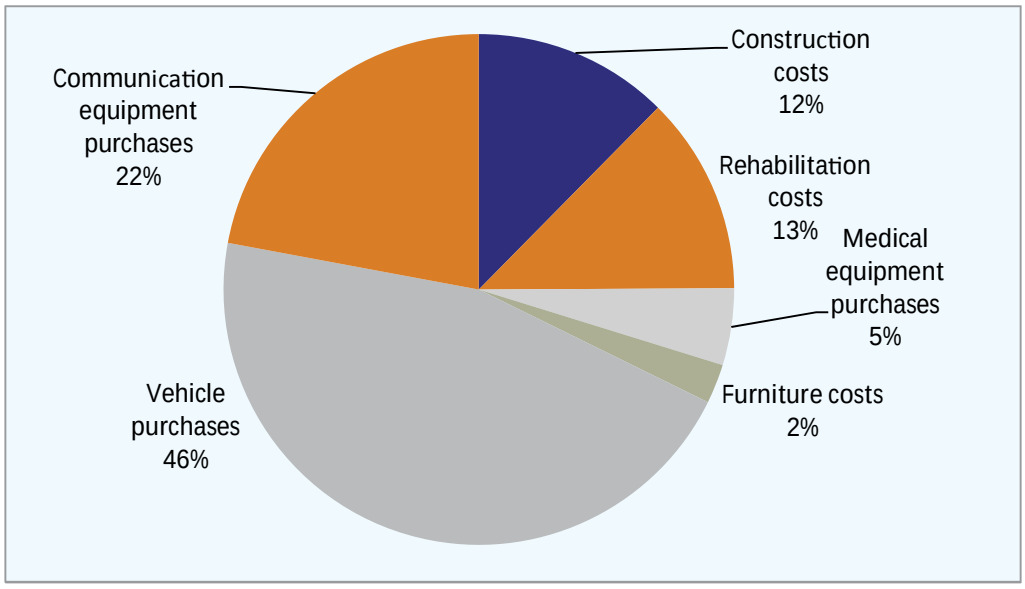
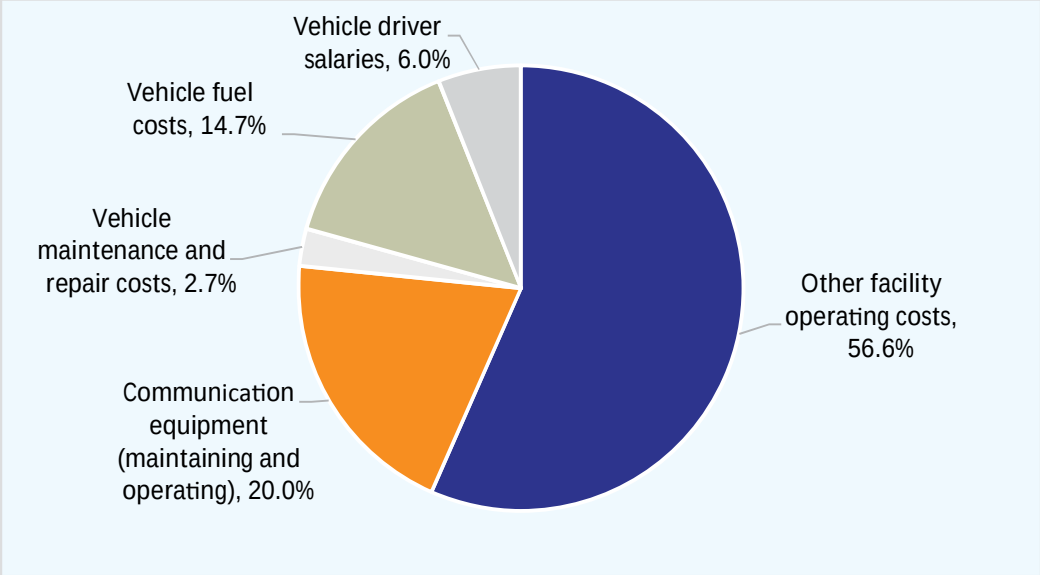


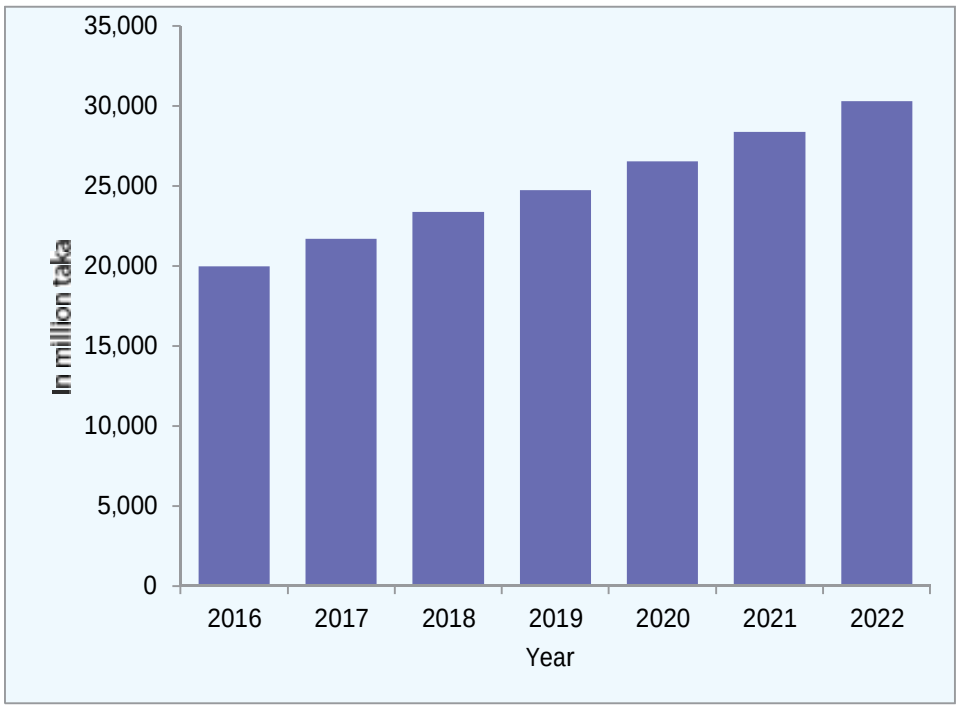
Figure 5c: Percentage Share of Infrastructure Operating Costs 2017



3.6 Logistics Cost

Figure 6 depicts the total cost of drugs and supplies, including wastage and used drugs (consumption), for the base and target years was estimated, and shows a consistently increasing cost. This can be attributed to the planned introduction of new interventions and/or expanded coverage.

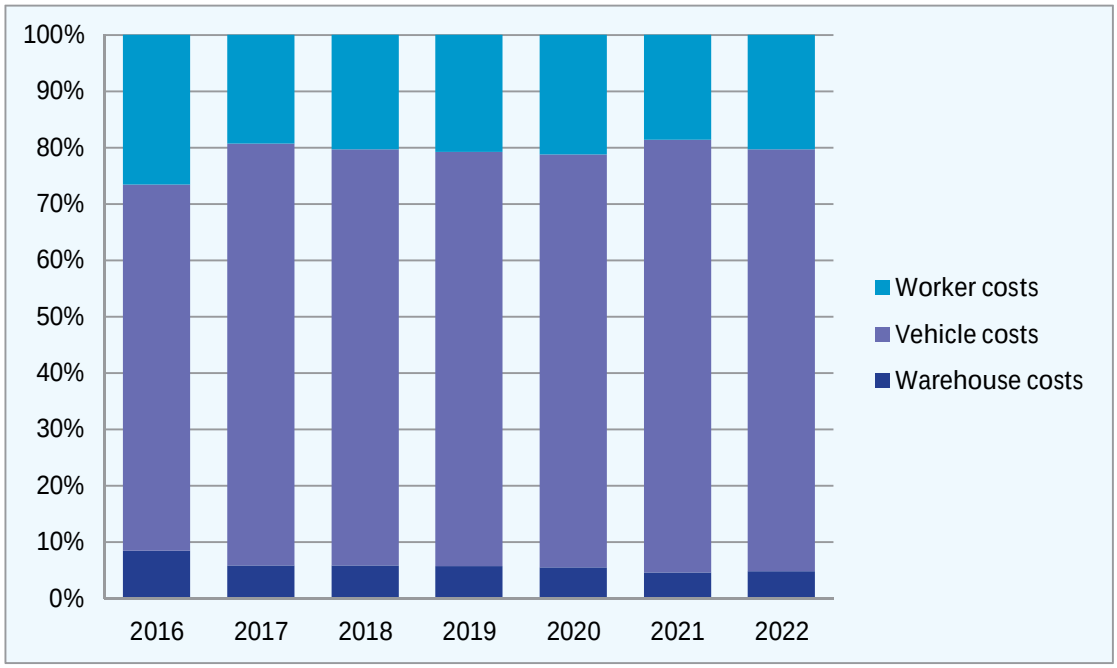
Figure 6: Total Costs of Drugs and Supplies with Wastage, 2016-2022 (in Million BDT)



We used the logistics module to estimate the costs of warehouse related vehicles (i.e. purchase, maintenance, and fuel), warehouse operating costs, and warehouse worker costs.

Figure 7 shows the cost of procuring 25 additional vehicles (i.e. trucks, pick-ups), in addition to the maintenance and fuel costs for existing and new vehicles. These costs when combined together constituted the largest cost component (compared to warehouse operating costs and related staff costs).

Figure 7: Percentage Share of ESP Logistics Cost, 2016-202



3.7 Total Cost of ESP Core Services

This section presents the total cost of ESP core services, including the required drugs, commodities, supplies, and labor costs (see Appendix H for ESP core service costs broken down by drugs, commodities, supplies and labor).

With respect to all six core services included in the Bangladesh ESP, MNCAH services accounted for 57% of the total cost during the base year (see Figure 8a). Within MNCAH, spending for child health and EPI was the greatest (see Table 5). The projected cost of MNCAH care remains highest during the target years compared to other services due to the expected increase in coverage.

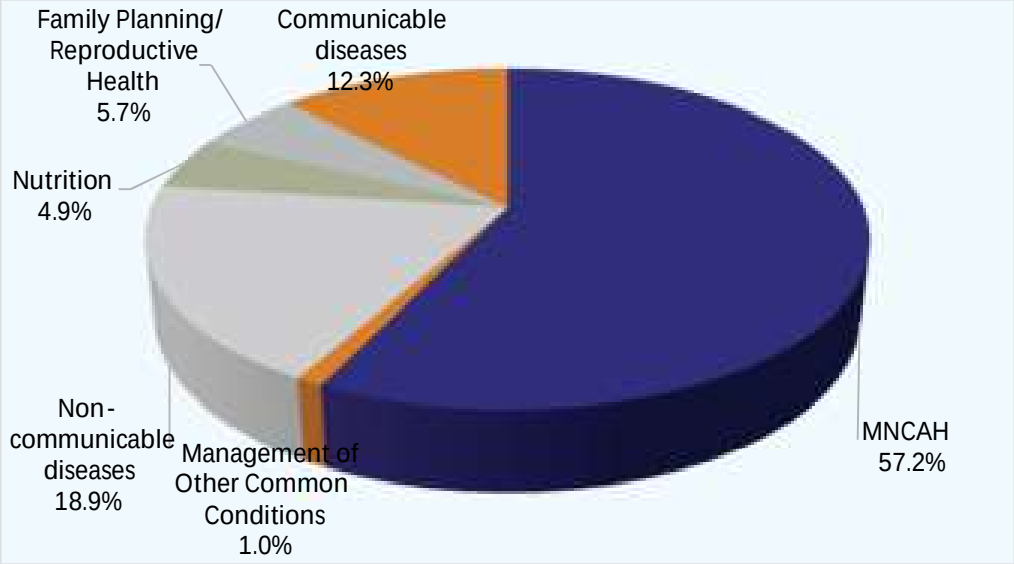
Table 5: Total Costs by ESP Programme Area including medicines, supplies, commodities and labor cost 2016-2022 (in Million BDT)

ESP Programme Area	2016	2017	2018	2019	2020	2021	2022	Total
Maternal health	3,172.8	3,507.9	3,853.2	4,207.7	4,571.4	4,943.7	5,324	29,580.7
Neonatal health	144.8	159.9	175.7	192.1	209	226.6	244.7	1,352.8
Child health and EPI	14,137.2	14,448.2	14,650.8	14,522	14,796.7	15,035.1	15,313.6	102,903.6
Adolescent health	247.5	278.7	311.5	346	382.4	421	459.2	2,446.4
Subtotal for MNCAH	***17,702.3***	***18,394.7***	***18,991.2***	***19,267.8***	***19,959.6***	***20,626.4***	***21,341.6***	***136,283.6***
FP/RH	1,751.7	2,015.6	2,297.4	2,597	2,914.1	3,249	3,602.1	18,427
Nutrition	1,514.9	1,717.1	1,918.7	2,134.8	2,358.2	2,584	2,826.2	15,054
NCDs	5,842.8	7,141.1	8,530.8	10,016.1	11,601.6	13,291.5	15,089.2	71,513.1
Management of other common conditions	319.6	349.7	381.2	414.2	448.8	485	522.9	2,921.4
TB and leprosy*	1,933	2,100.1	2,281.7	2,478.9	2,693.3	2,926.1	3,179.1	17,592.2
Malaria*	1,028.9	1,024.7	1,020.5	1,016.3	1,012.1	1,008	1,003.8	7,114.4
HIV/AIDS*	254.1	262.6	271.4	280.5	289.9	299.7	309.7	1,968
Neglected tropical diseases*	592.7	602.2	611.9	621.7	631.7	641.9	652.2	4,354.4
Subtotal	***13,237.9***	***15,213.2***	***17,313.6***	***19,559.7***	***21,949.8***	***24,485.1***	***27,185.2***	***138,944.4***
Total	**30,940.1**	**33,607.8**	**36,304.8**	**38,827.5**	**41,909.4**	**45,111.5**	**48,526.8**	**275,228**

* Includes aggregated programme cost by budget line items (human resources, drugs/supplies, training, and BCC)

Figure 8a shows that NCDs ranked second highest for spending in the base year, at around 19% of the total cost.

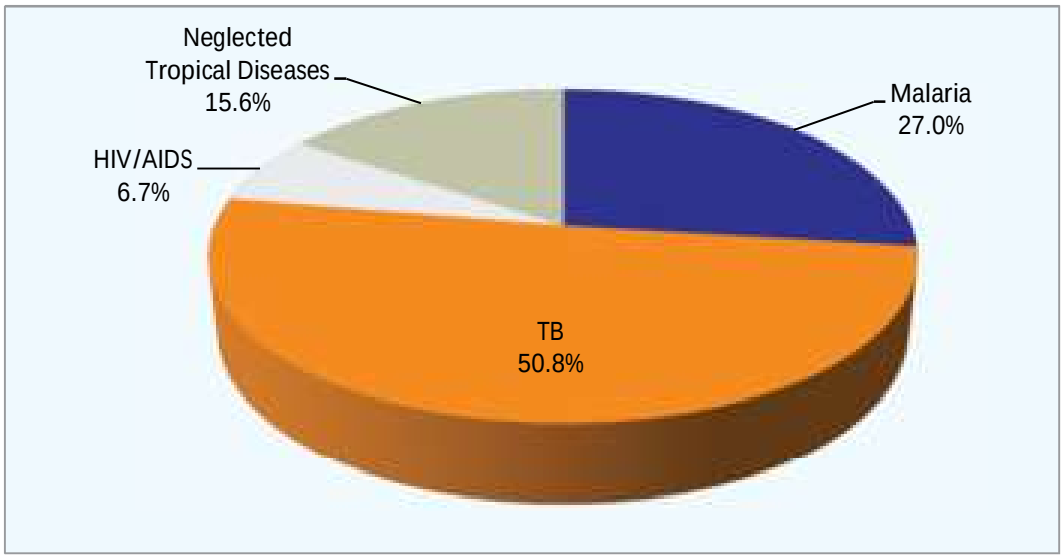
Figure 8a: Percentage Distribution of Health Service Costs by Core ESP Programme Areas, 2016



During 2016, primary care for NCDs was initiated. Due to the planned expansion of NCD coverage over the target years, the cost is expected to increase progressively until 2022 – see Table 8 and Figure 8a.

The cost for communicable diseases (TB/leprosy, malaria, HIV/AIDS and neglected tropical diseases) shown in Figure 8b was calculated based on aggregated programme cost by budget line items, while MNCAH, NCDs, FP, nutrition, and other common conditions, were calculated by costing each intervention (i.e., estimating the drugs/supplies and labour costs for each intervention), and any associated programme management costs

Figure 8b: Percentage Share of Costs for Components Under Communicable Disease Programme, 2016*



* Aggregated programme cost by budget line items (human resources, drugs/supplies, training, and BCC)

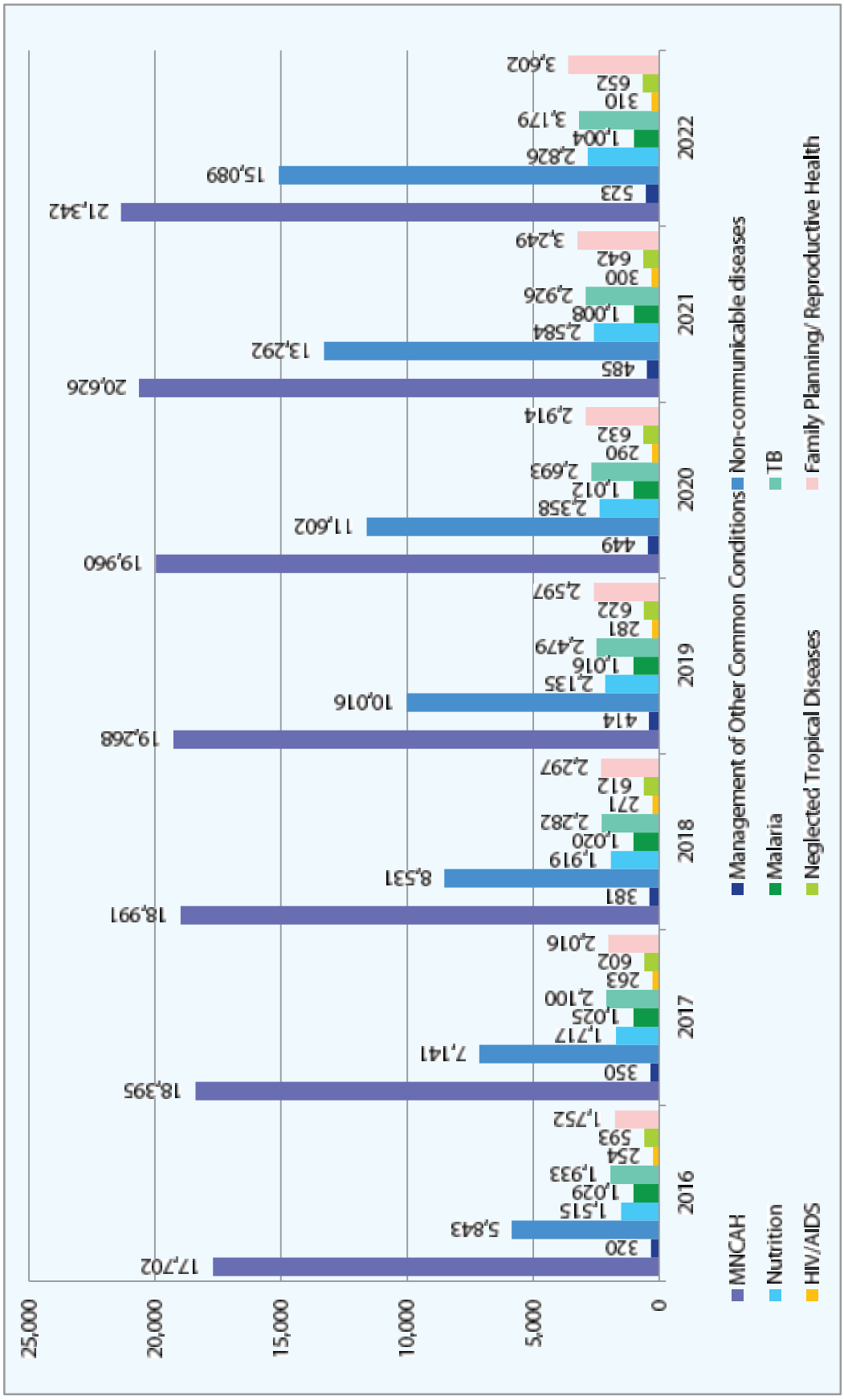


Figure 9: ESP Costs by Programme Area, 2016-2022 (in Million BDT)

3.8 Maternal Health

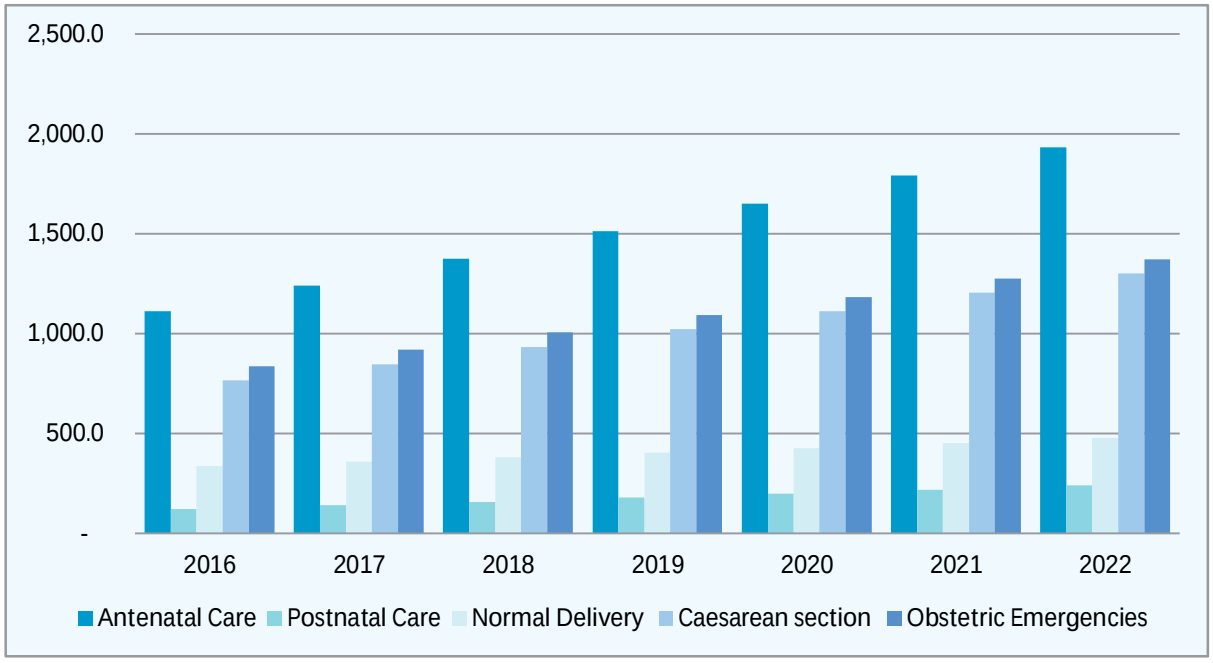
As shown in Table 6, the maternal health programme includes multiple interventions- of which

Table 6: Costs for Maternal Health Interventions, 2016-2022 (in Million BDT)

Maternal Health	2016	2017	2018	2019	2020	2021	2022
Antenatal care (ANC)	1,112	1,242	1,375.1	1,510.8	1,649	1,789.6	1,932.1
Postnatal care (PNC)	121.7	140.4	159.6	179.2	199.4	219.9	240.8
Normal delivery	337.7	358.9	381	404.1	428	452.9	478.6
Caesarean section	764.8	847.2	932.7	1,020.8	1,111.8	1,205.4	1,301.6
Obstetric emergencies	836.6	919.4	1,004.9	1,092.8	1,183.2	1,276	1,371
Total	**3,172.8**	**3,507.9**	**3,853.2**	**4,207.7**	**4,571.4**	**4,943.7**	**5,324**

the cost of ANC was the greatest, accounting for approximately 35% of all maternal health costs in 2016, and demonstrating similar increasing cost percentages for 2017-2022. ANC covers services throughout the pregnancy period via four contacts with pregnant women, and can include obstetric emergencies when required. Services include counseling, laboratory investigations, iron and folic acid (IFA) supplementation, zinc supplementation, calcium supplementation, tetanus toxoid injections, ultra-sonogram, and management of pregnancy complications if any. These are made available to women for a longer period of time compared to the period covered by normal delivery or other conventional maternal health services. Within ANC, IFA supplementation and laboratory tests are the two main cost drivers.

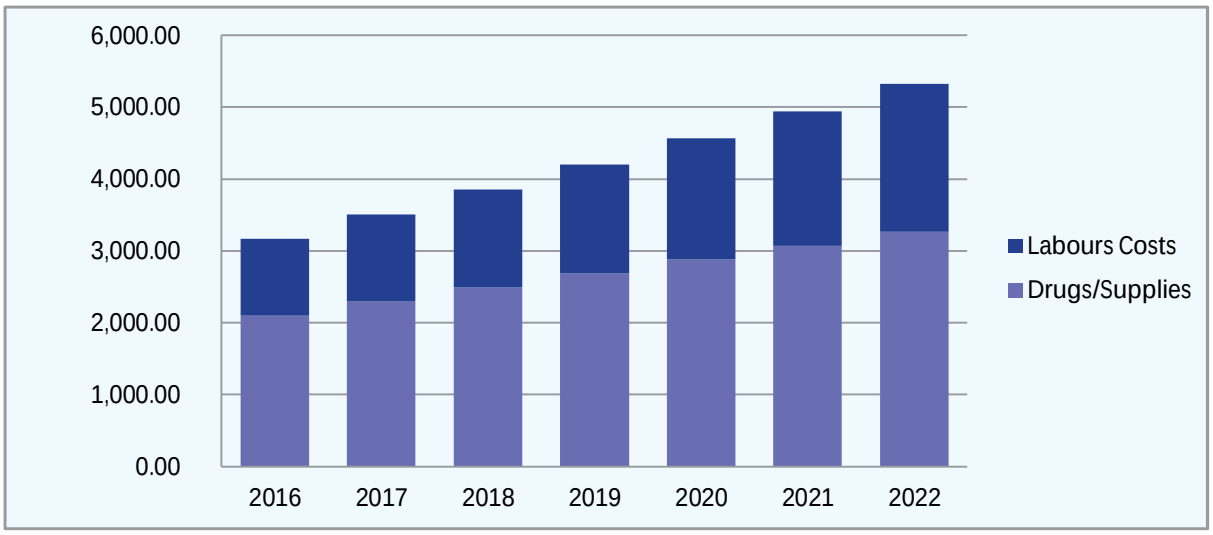
Figure 10: Percentage Distribution of Costs for Maternal Health, 2016-2022 (in Million BDT)



Emergency obstetric care consumed the second highest amount of the total maternal health costs in the base year, and continues to increase over the target years in alignment with targets in the operational plan (see Table 9 and Figure 10).

Although both the estimated costs of drugs/supplies and labor for maternal health services increased across the target years, the rate of increase for drugs/supplies is higher than labor (see Figure 11).

Figure 11: Labour Costs and Drugs/Supplies for Maternal Health, 2016-2022 (in Million BDT)



3.9 Neonatal Health

Table 7: Costs of Neonatal Health, 2016-2022 (in Million BDT)

Neonatal Health	2016	2017	2018	2019	2020	2021	2022
Immediate newborn care	12.9	15.4	18	20.7	23.4	26.3	29.1
Newborn care after delivery	4.3	6.4	8.7	11.1	13.7	16.5	19.5
Neonatal emergencies	127.6	138.1	149	160.3	171.9	183.8	196.1
Total	144.8	159.9	175.7	192.1	209	226.6	244.7

Neonatal emergencies (i.e. management of breathing problems, omphalitis, low birth weight (LBW), and neonatal jaundice) consumed the largest proportion (88%) of the total cost of neonatal care in the base year, and is projected to incur increasing costs across the target years (see Table 10 and Figure 12). Both the estimated costs of drugs and supplies (i.e., paediatric formulation of medicines, investigations, and medical/surgical accessories), and labour costs for neonatal health care increased over the target years, with the rate of increase in labour costs slightly higher in 2020-22 compared to drugs and supplies (see Figure 13). This reveals that services which are labor-intensive will see a relatively larger increase in coverage compared to those which have a large commodity cost component.

Figure 12: Costs for Neonatal Health, 2016-2022 (in Million BDT)

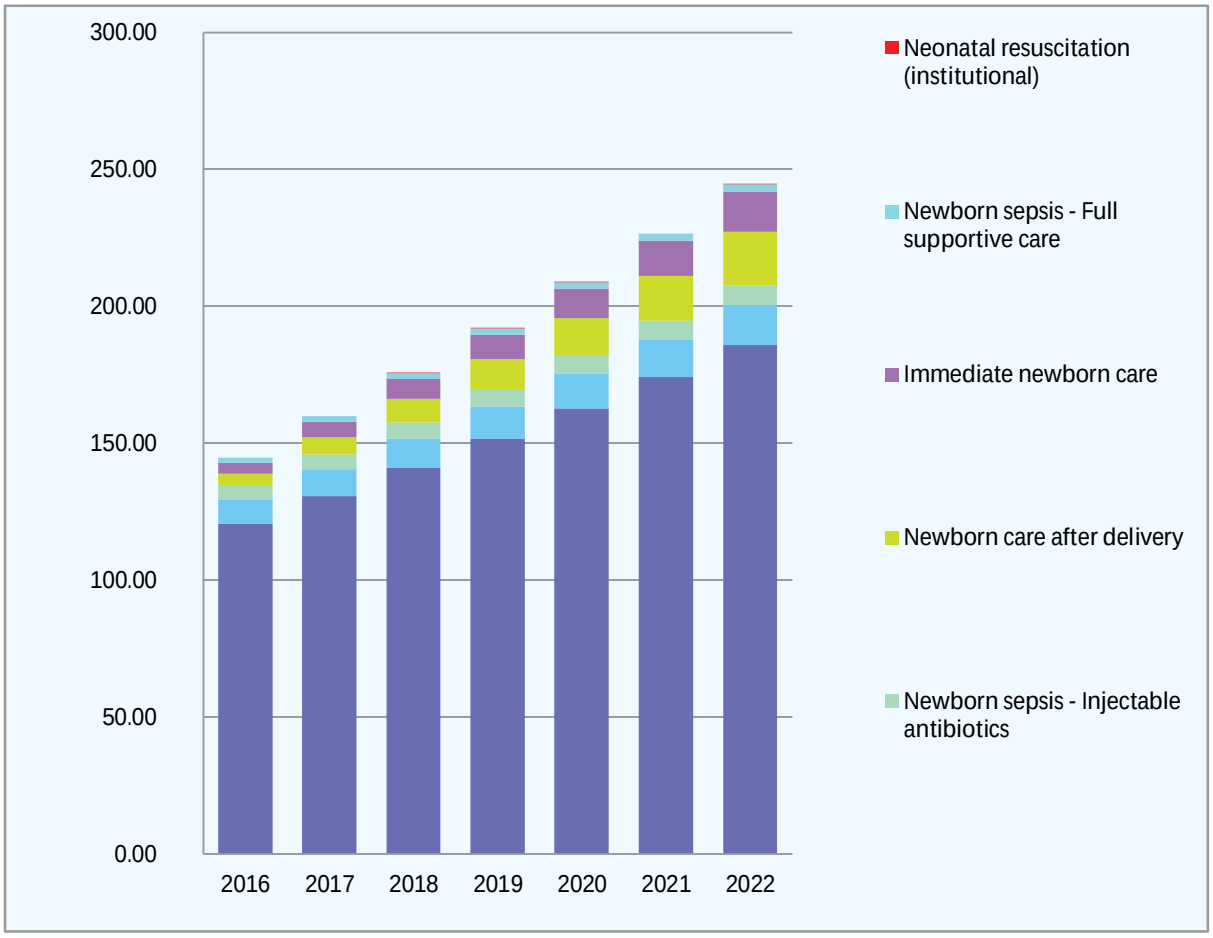
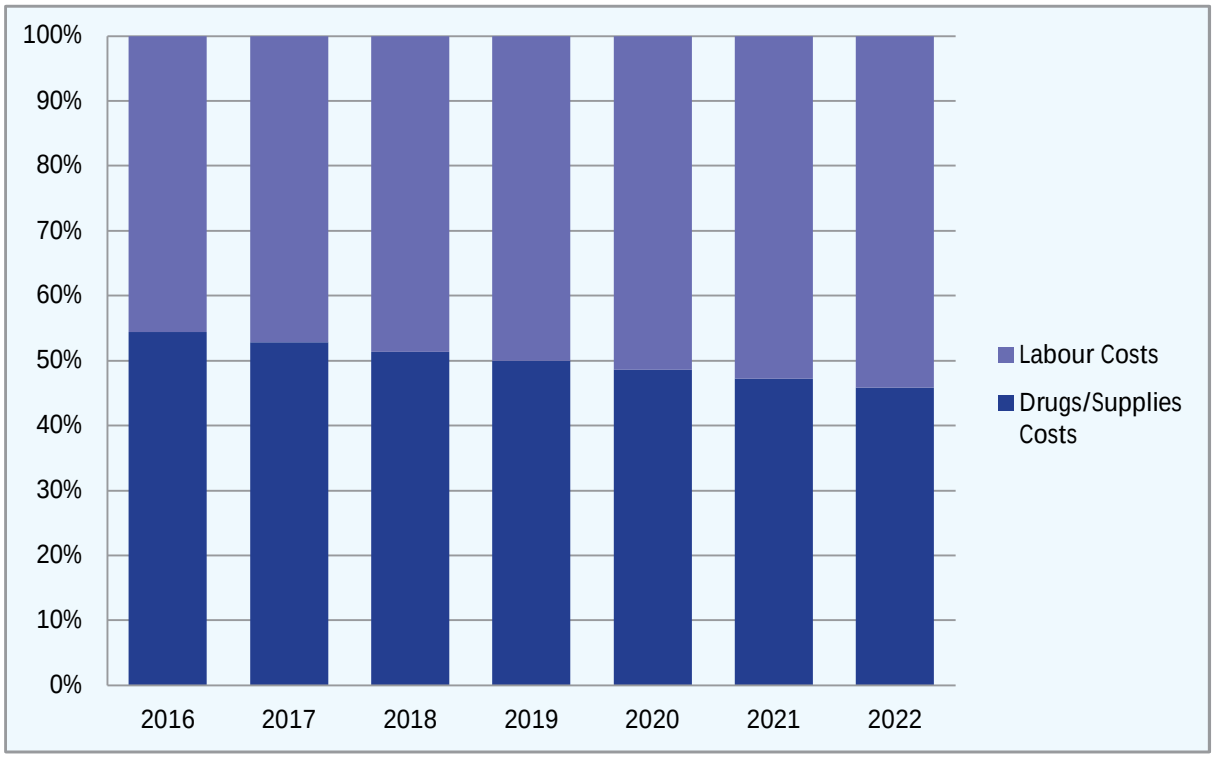


Figure 13: Percentage Share of Labour Costs and Drugs/Supplies for Neonatal Health, 2016-2022



3.10 Child Health and EPI

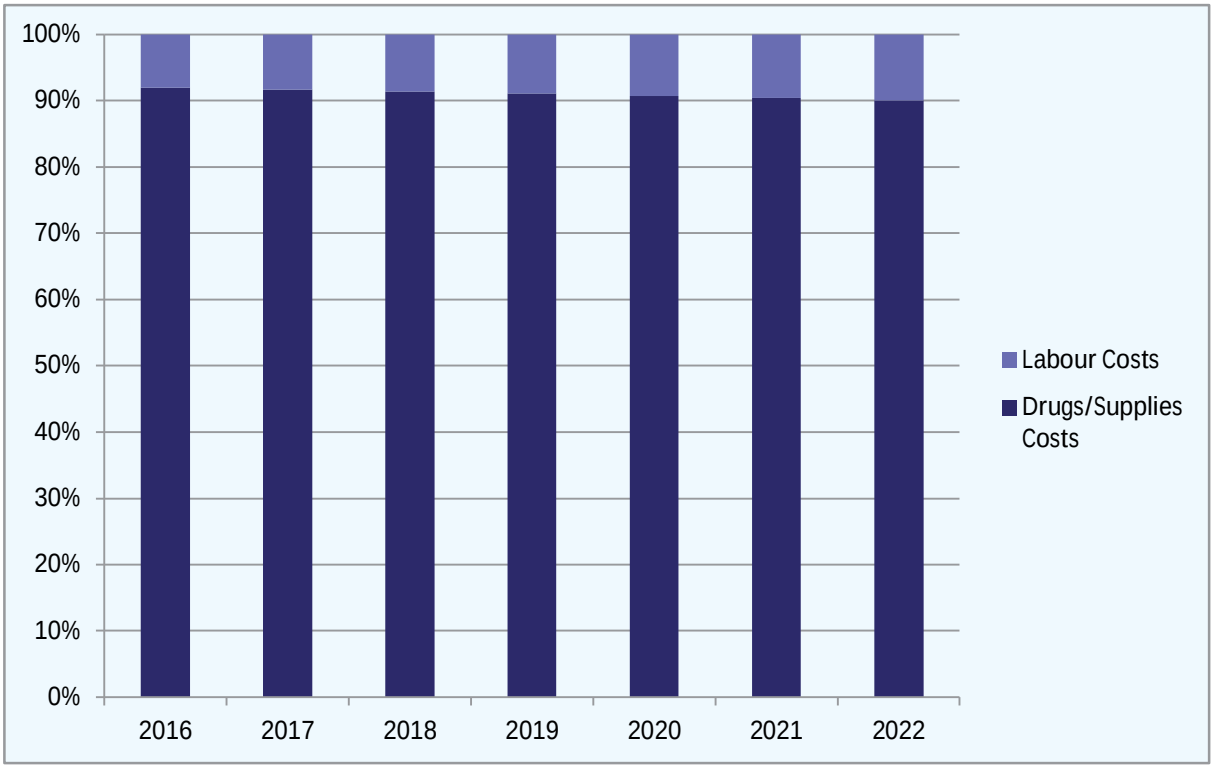
Table 8: Costs for Child Health and EPI by Sub-Component, 2016-2022 (in Million BDT)

Child health and EPI	2016	2017	2018	2019	2020	2021	2022
Integrated management of childhood illnesses (IMCI)	1,513.1	1,609	1,701.1	1,791.5	1,875.7	1,924.8	2,017.1
EPI	10,458	10,801	11,032	10,925.9	11,223	11,512.5	11,793.1
Subtotal (drug/supplies, and labour cost only)	11,971.2	12,410.1	12,733	12,717.4	13,098.7	13,437.4	13,810.2
Programme costs	2,166	2,038.1	1,917.8	1,804.5	1,698	1,597.7	1,503.4
Total	14,137.2	14,448.21	14,650.77	14,521.94	14,796.69	15,035.14	15,313.6

EPI consumed the largest proportion (87%) of the total cost of child health in all years. Although this trend continued in 2017, it is expected to reduce by two percent (to 85%) by 2022. IMCI consumed the remaining 13% of the total cost in 2016, and is expected to remain the same until 2018. The cost of IMCI is estimated to increase by 2% in 2022 (see Table 8). These changes are linked to EPI and IMCI coverage targets.

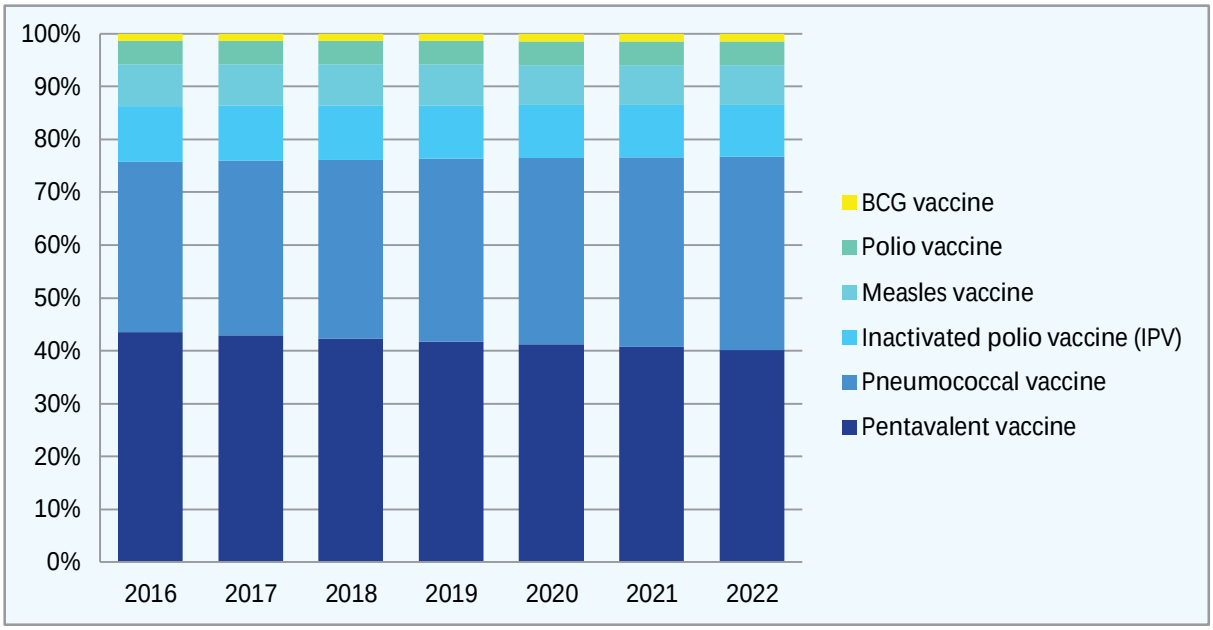
EPI vaccines and supplies consumed the largest share of the total cost of child health care, and are around five times higher than labor costs (see Figure 14).

Figure 14: Percentage Share of Labour Costs and Drugs/Supplies for Child Health and EPI Interventions, 2016-2022



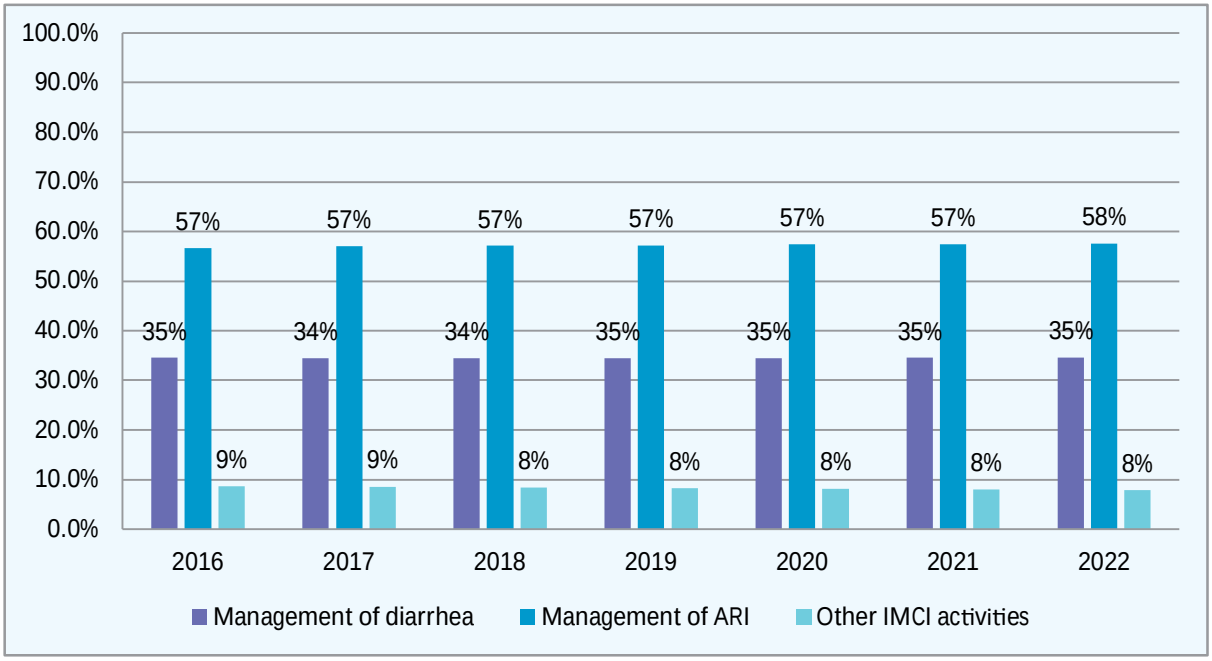
As shown in Figure 15, pentavalent and pneumococcal vaccines consumed the highest proportion of the total cost of EPI vaccines.

Figure 15: Percentage Share of Total Cost of EPI Vaccines, 2016- 2022



Management of acute respiratory infections (ARI) consumed around 57% of the total cost of IMCI, while diarrhoea management consumed 35% of the total cost. ARI is estimated to increase by around 1% by the end of the target years due to an increase in population and coverage (see Figure 16).

Figure 16: Percentage Share of Total Cost by IMCI Interventions, 2016- 2022



3.11 Adolescent Health

Table 9: Costs for Adolescent Health Interventions by Sub-Component, 2016-2022 (in Million BDT)

Adolescent Health	2016	2017	2018	2019	2020	2021	2022
Counselling on puberty, safe sexual behaviour, prevention of early marriage, mental health, HIV/AIDS, substance abuse.	131.3	147.6	164.8	182.8	201.8	221.9	241.8
Screening for sexually transmitted infections (STIs)	1	1.1	1.2	1.4	1.5	1.6	1.7
Syndromic management of STIs	0.6	0.6	0.7	0.7	0.8	0.9	0.9
Etiologic management of STIs	1.3	1.4	1.5	1.6	1.8	1.9	2
FP information and provision	113.3	127.9	143.3	159.5	176.6	194.7	212.8
Total	**247.5**	**278.7**	**311.5**	**346**	**382.4**	**421**	**459.2**

BCC costs accounted for approximately 53% of the total cost of adolescent health programmes, which is driven by the population in need of this service. The next highest cost component was FP information and commodity supply, which are linked to high rates of married adolescent girls in the communities. Other intervention costs were estimated based on educated guesses and/or assumptions by doctors and other service providers (see Table 9). Screening and syndromic or etiologic management of STIs among adolescents were not perceptible during this study, and therefore the cost of these interventions was lower than expected.

3.12 Family Planning and Reproductive Health

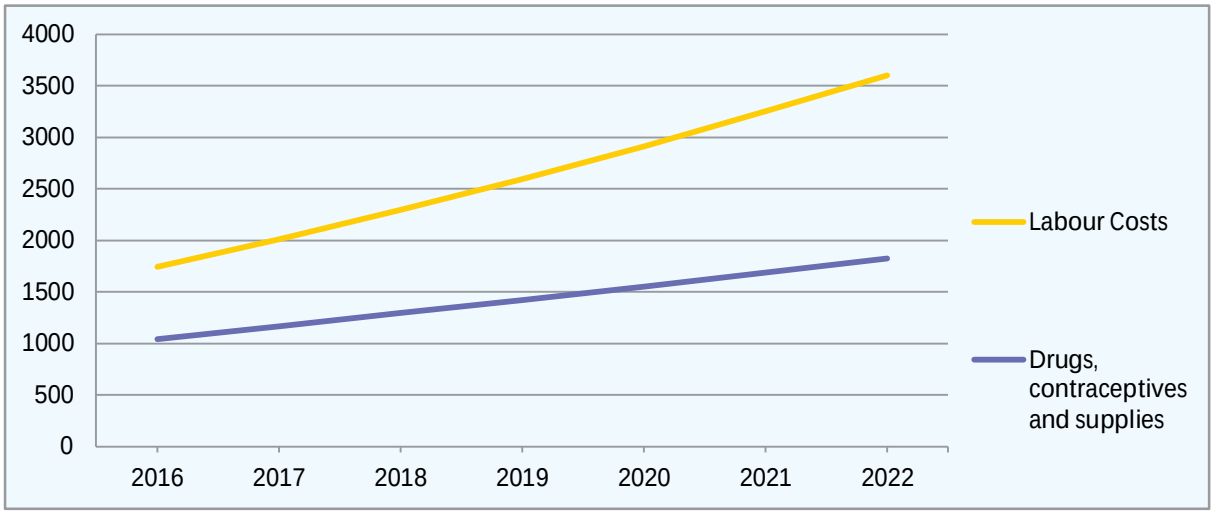
Table 10: Costs of FP and RH by Sub-Component, 2016-2022 (in Million BDT)

FP and RH	2016	2017	2018	2019	2020	2021	2022
Pre-conception care	355.7	513.4	681	858.8	1,047.2	1,246.7	1,457.5
FP	1,386	1,497.9	1,614.6	1,737.4	1,866.5	2,002.1	2,144.6
Subtotal (drugs/supplies, and labour cost only)	**1,741.7**	**2,011.2**	**2,295.5**	**2,596.2**	**2,913.8**	**3,248.8**	**3,602.1**
Programme costs	10	4.4	1.9	0.8	0.4	0.2	0.1
Total	**1751.7**	**2015.6**	**2297.4**	**2597**	**2914.2**	**3249**	**3602.2**

Pre-conception care in the ESP mainly deals with immunizing all women of reproductive age with five doses of Tetanus Toxoid, counselling on prevention of STIs and HIV, malnutrition, and best practices during pregnancy. FP services include counselling on birth control/spacing, contraception (pill, condom, injectable, intra-uterine device [IUD], implant, and sterilization), management of FP complications, and menstrual regulation. FP consumed 80% of the total cost of FP and RH care in 2016 (see Table 10). Both the costs of preconception and FP care are expected to increase over the target years due to the corresponding coverage estimate, which is based on historical trend analysis using the BDHS.

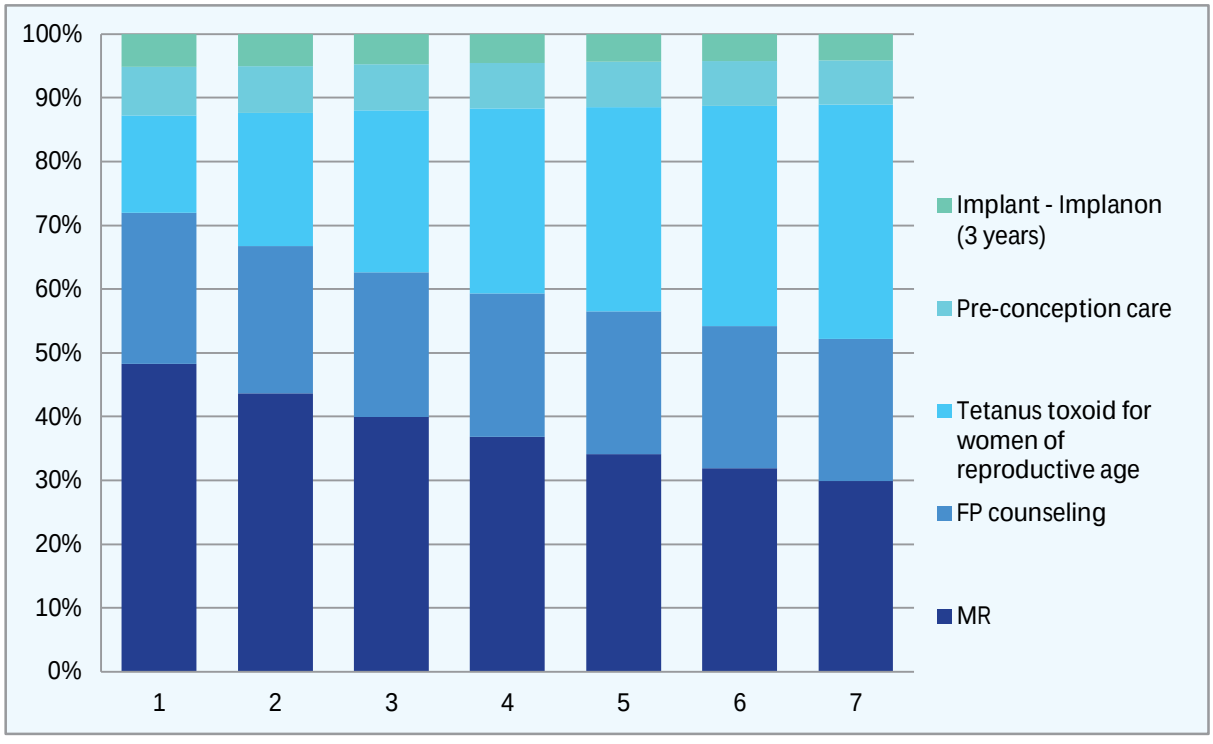
Figure 17 shows gradual increase in labour costs over the target years – the costs of drugs, contraceptives, and supplies are not expected to increase as much as labour costs.

Figure 17: Labour Costs and Costs of Drugs, Contraceptives/Supplies for FP and RH Interventions, 2016-2022



The percentage cost share for tetanus toxoid immunization is gradually increasing over time in alignment with tetanus toxoid coverage targets for the period 2017-2022. In comparison, the percentage cost share for menstrual regulation (MR) is gradually decreasing over the target years (see Figure 18).

Figure 18: Percentage Share of Five Highest Cost Interventions for FP and RH, 2016-2022



3.13 Non-Communicable Diseases

NCD interventions were only partially available at the study facilities, with some investigations and screening services available but not necessarily supported by required medicines and supplies. The team therefore took into account assumptions and/or expert-informed assumptions based on interviews with doctors and consultants – the interviewees shared their experiences of managing common NCD conditions privately, which was very close to the standard treatment. However, those interviewed had little or no exposure to dealing with mental health problems.

Among the listed NCD interventions, management of diabetes mellitus consumed highest proportion (62%) of the total cost of NCDs in all years. It is expected that this will continue to increase over the target years. Costs of sexual and gender based violence (SGBV) management ranked second (see Table 11). These interventions were more commonly available at district hospitals and health complexes than other ESP delivery channels in public sector.

Table 11: Cost for NCDs by Sub-Component, 2016-2022 (in Million BDT)

NCDs	2016	2017	2018	2019	2020	2021	2022
Diabetes mellitus	2,936.4	3,792.8	4,702.7	5,668.1	6,690.9	7,773.1	8,916
Breast cancer	167.9	221.4	280.2	344.7	415.2	492	575.6
Cervical cancer	32	42.4	53.9	66.6	80.6	95.9	112.7
Chronic Obstructive Pulmonary Disease (COPD)	113.1	149.7	190.1	234.7	283.8	337.8	396.5
Sexual and Gender Based Violence (SGBV)	864.5	1,051	1,251.3	1,466.1	1,696.1	1,942	2,204.7
NCD screening and management based on total risk assessment	1.5	2.1	2.8	3.5	4.3	5.2	6.2
Arsenicosis	27.7	33.6	39.9	46.6	53.9	61.7	70
Hypertension (HTN)	714.9	869.8	1,037.8	1,220	1,417.4	1,630.7	1,860.7
Subtotal (drugs/supplies, and labour costs only)	**4,858**	**6,162.8**	**7,558.7**	**9,050.3**	**10,642.2**	**12,338.4**	**14,142.4**
Programme costs	984.8	978.4	972.1	965.8	959.5	953.3	947.2
Total	**5,842.8**	**7,141.2**	**8,530.8**	**10,016.1**	**11,601.7**	**13,291.7**	**15,089.6**

Table 11 shows the costs of medicine and labour by different duration of medication for patients suffering from diabetes and HTN. This calculation is indicative of the cost burden for these two conditions, both of which require long-term treatment using relatively expensive medicines. The required medicines and dosages were taken from the National Guidelines for Management of Hypertension and Diabetes. We estimated the cost of the medicine using assumptions about the proportion of patients by type, and the duration of medication. For example, we assumed 100% of Type II Diabetes patients would require tab. Metformin, while 50% would require Inj. Insulin. This assumption was then considered for different durations of medication (7 days, 30 days, 1 year, etc.). For Type I Diabetes patients, we assumed 100% would receive both Inj. Insulin and tablet Metformin as suggested in the guidelines. Similar assumptions were also made about the duration of medication for HTN.

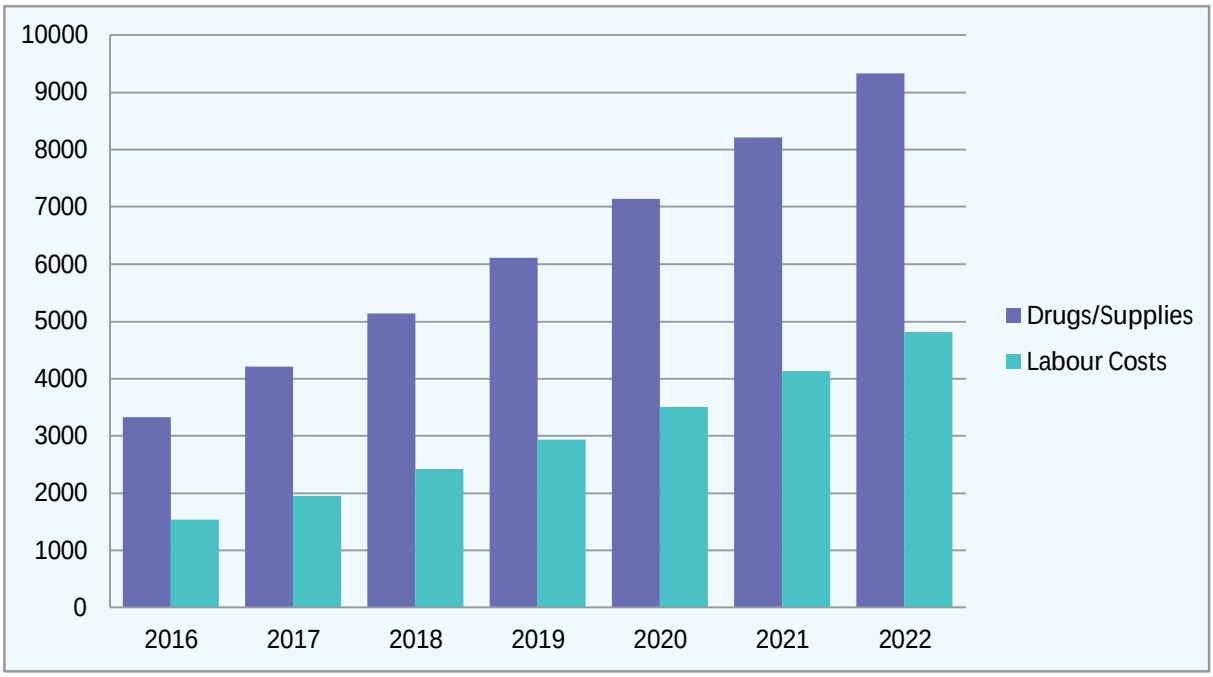
Table 12: Drugs, Supplies, and Labour Costs by Duration of Treatment for Diabetes and Hypertension

Duration of Medication	Drugs, supplies, and labour cost per person (BDT)		
	Management of Type II Diabetes Mellitus	Management of Type I Diabetes Mellitus	Management of HTN
7 Days	293.5	534.4	100.8
30 Days	1,208.2	2,241.8	383.5
1 Year	14,535.4	27,110.4	4,500.5
5 Year	72,618.1	1,35,493	22,443.2

Management of Type II Diabetes Mellitus: Tab Metformin, Insulin
Management of Type I Diabetes Mellitus: Tab Metformin, Insulin
Management of HTN: Stage 1 HTN: Tab Amlodipine/ Tab Amdocal/ Tab Nifedipine; Stage 2 HTN: Tab Labetalol HCL

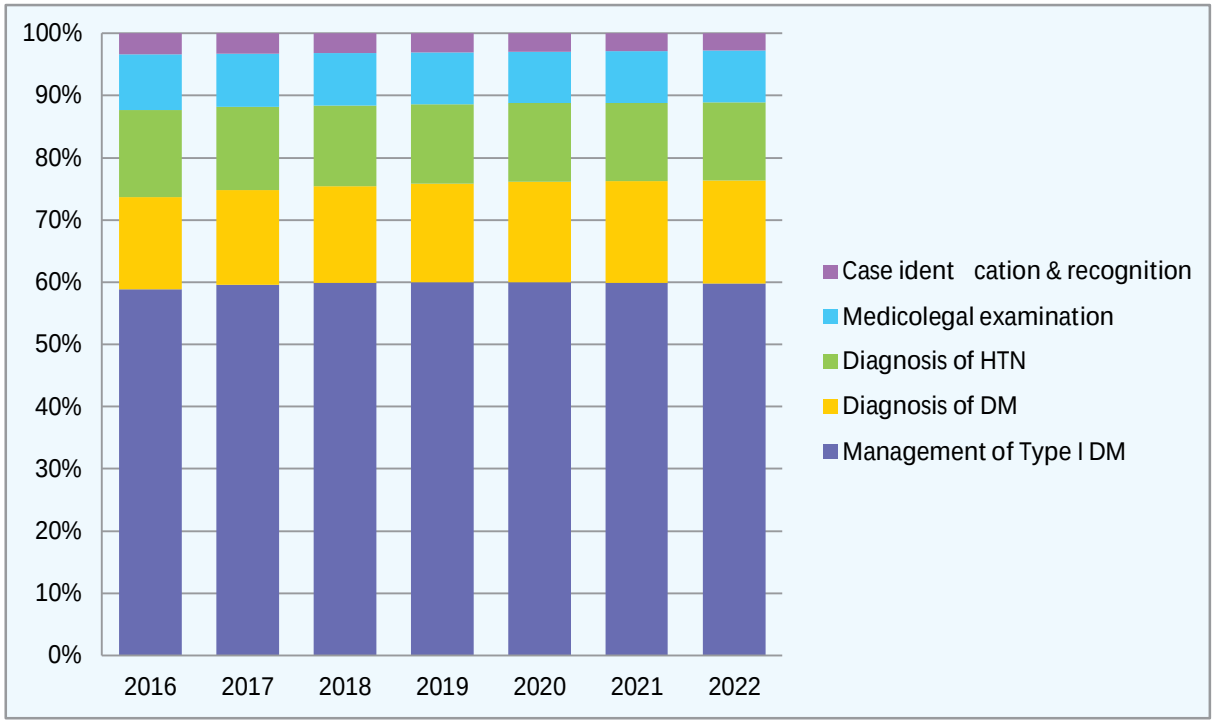
Figure 19 shows that the estimated cost of NCD drugs and supplies, including investigations, was much higher than the labour costs during the base year. Similar trends are expected to continue across the target years due to the expected gradual increase of coverage, higher drug prices, and longer duration of treatment.

Figure 19: Cost of Drugs/Supplies and Labour for NCD Interventions, 2016-2022 (in Million BDT)



Management of Type I Diabetes consumed the largest share of the total cost of the top five most expensive NCD interventions (see Figure 20).

Figure 20: Percentage Share of Five Highest Cost NCD Interventions, 2016-2022



3.14 Management of Other Common Conditions

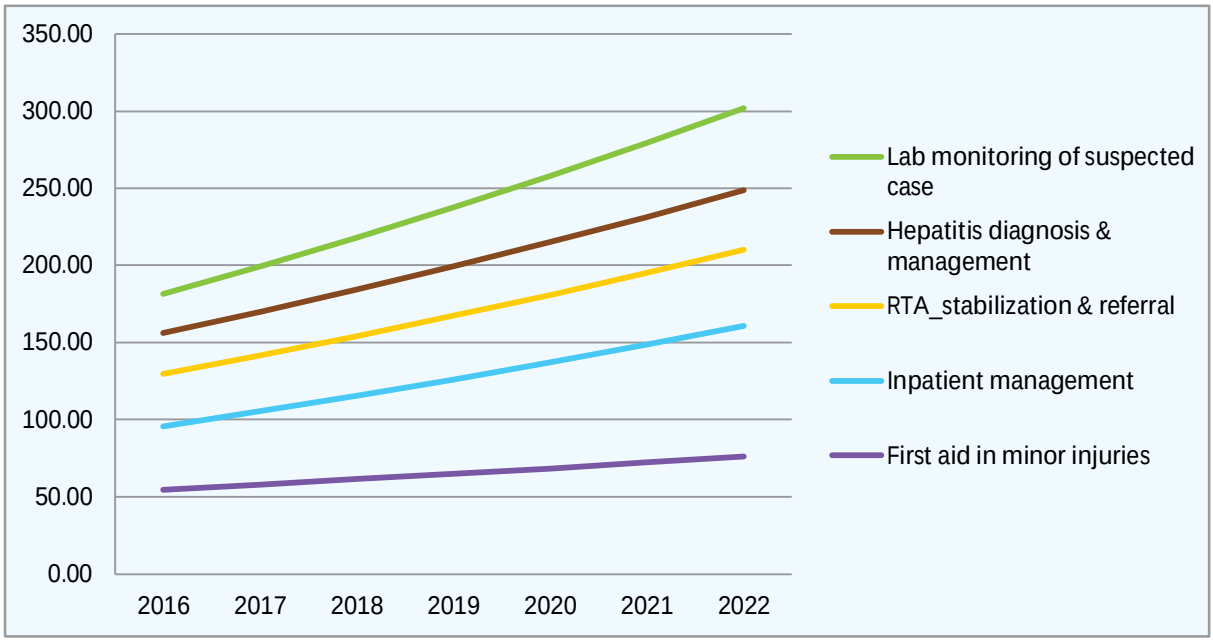
Among other common conditions, emergency care consumed around 30% of the total cost in the base year, followed by dengue (24%), and emerging communicable diseases (18%). All these costs are expected to increase gradually over time in the target years due to an increase in population size and additional investment for care (see Table 16).

Table 13: Cost for Management of Other Common Conditions by Sub-Component, 2016-2022

Other Common Conditions	2016	2017	2018	2019	2020	2021	2022
Eye care	31.2	35.3	39.5	44.1	49	54.1	59.7
Ear care	2.4	2.7	3.1	3.4	3.8	4.2	4.6
Dental care	19.2	20.2	21.2	22.3	23.4	24.6	25.8
Treatment of common skin diseases	18.7	19.1	19.5	19.8	20.3	20.7	21.1
Emergency care	93.7	99.6	105.7	112	118.6	125.4	132.4
Other communicable diseases (hepatitis, typhoid, diarrhea, and dysentery)	56.5	60.2	64.1	68.1	72.3	76.7	81.2
Dengue	75.9	87.6	100	113.1	126.9	141.4	156.7
Rabies	22	25	28.1	31.3	34.6	37.9	41.4
Total	**319.6**	**349.7**	**381.2**	**414.2**	**448.8**	**485**	**522.9**

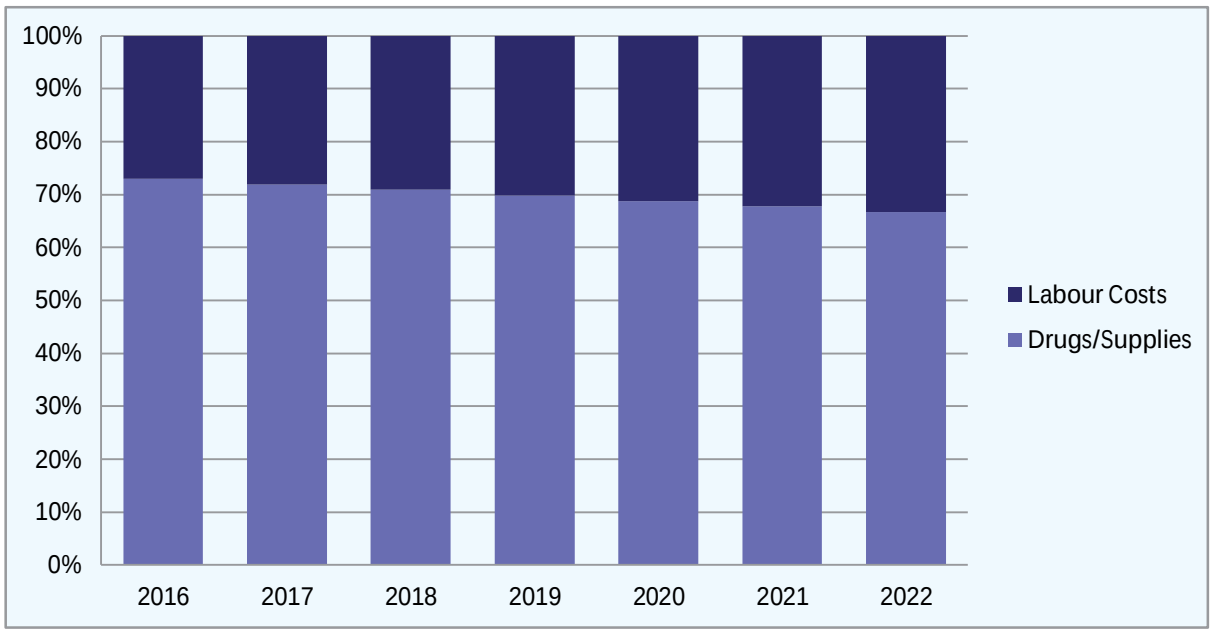
Figure 21 represents the cost of the five most expensive interventions under other common conditions. Among these, first aid and inpatient care for Dengue consumed more than 50% of the total cost.

Figure 21: Cost of Five Most Expensive Interventions of Other Common Conditions, 2016-2022



The proportion of costs for drugs and supplies in this programme exceeded 70% in the base year, but is expected to reduce over time during the target years (see Figure 22).

Figure 22: Percentage Share of Labour Cost and Drugs, Supplies of Other Common Conditions, 2016-2022



3.15 Nutrition

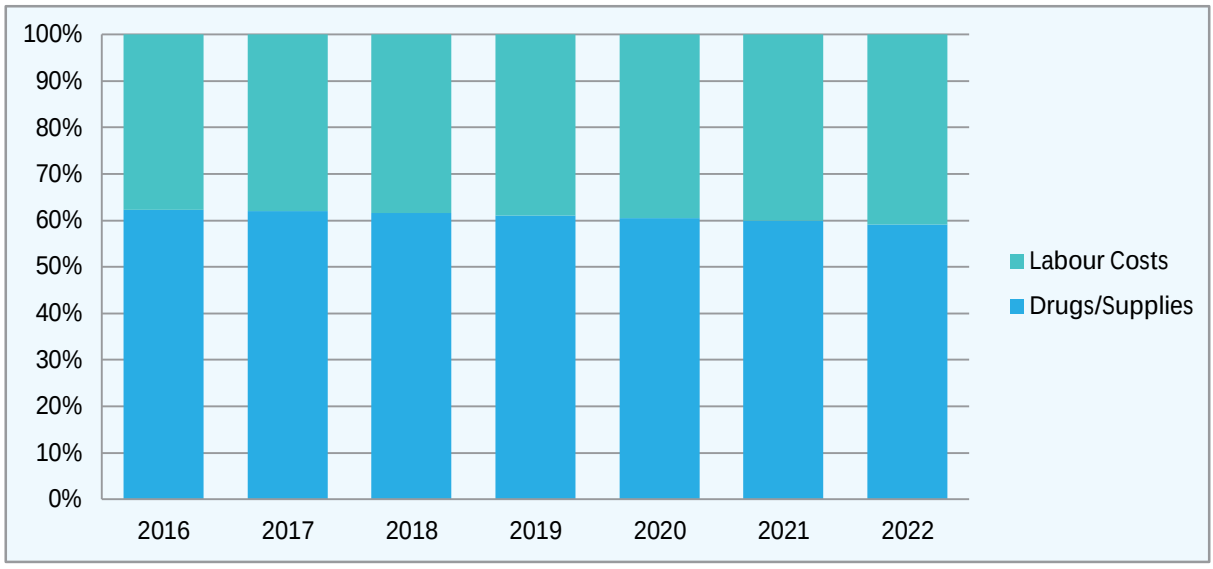
Adolescent nutrition interventions were not found on the ground during this study, except iron supplementation for some pregnant adolescents. Assumptions and/or expert-informed assumptions were therefore made based on interviews with doctors and other experts about standard practices for listed adolescent nutrition interventions. Maternal nutrition interventions consumed the highest proportion (59%) of the total cost of the nutrition programme in the base year, and are estimated to double by 2022. Child nutrition interventions consumed only 18% of the total cost in the base year, and their rate of increase over the target years is lower than maternal nutrition (see Table 14).

Table 14: Nutrition Interventions by Sub-Components, 2016-2022 (in Million BDT)

Nutrition	2016	2017	2018	2019	2020	2021	2022
Child nutrition	307.3	351.9	388.7	432.6	476	513.8	560.9
Adolescent nutrition	121.5	132.1	143.2	154.7	166.7	179.4	191.7
Maternal nutrition	724.3	803.4	885.4	970.2	1,057.9	1,148.4	1,241.7
IFA supplementation among women 10-49 years	258.8	331.6	408.2	488.6	573.2	662.2	755.6
Subtotal (drugs/supplies, and labour staff costs only)	**1,411.9**	**1,619.1**	**1,825.4**	**2,046.1**	**2,273.8**	**2,503.7**	**2,749.8**
Programme costs	103	98	93.2	88.7	84.4	80.3	76.4
Total	**1,514.9**	**1,717.1**	**1,918.6**	**2,134.8**	**2,358.2**	**2,584**	**2,826.2**

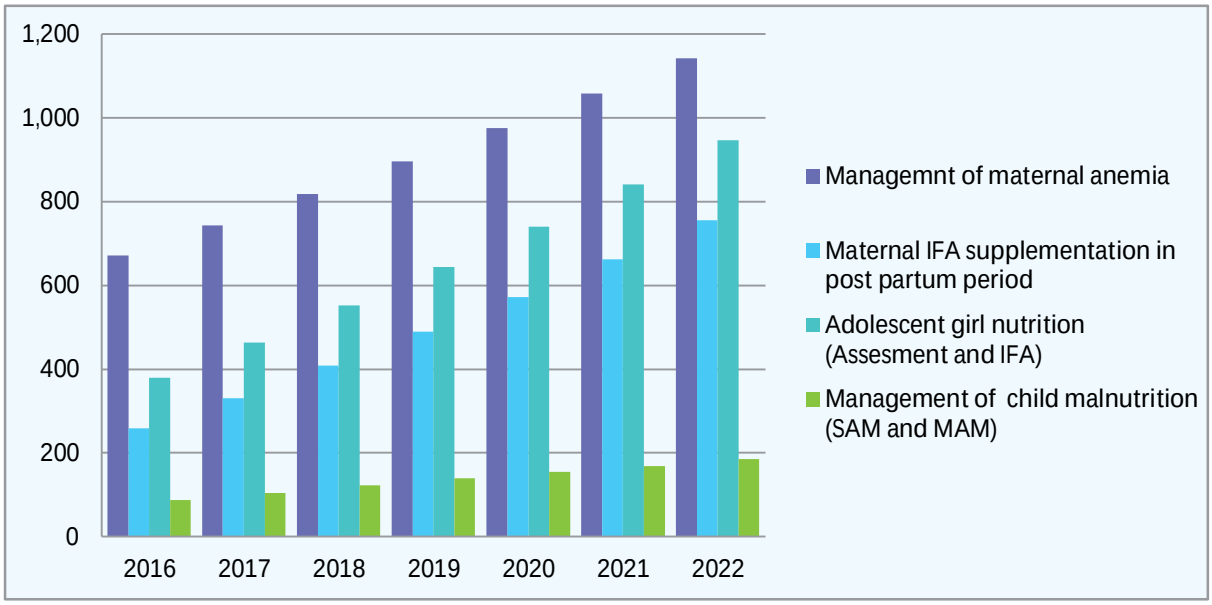
Costs of drugs and supplies used in nutrition interventions in the base year were higher (61%) than labour costs, and estimated to remain almost the same over the target years (see Figure 23). This is mostly linked to the management of severe anaemia with blood transfusion, iron syrup, IFA, management of severe acute malnutrition with a wide range of drugs, routine de-worming, and vitamin A supplementation.

Figure 23: Percentage Share of Labour Cost and Drugs, Supplies for Nutrition Interventions, 2016-2022



Management of maternal anaemia consumed the largest share of the total cost for the top four most expensive nutrition interventions. This is linked to the high prevalence of anaemia among mothers (50%).

Figure 24: Percentage Share of Top Four Highest Cost Nutrition Interventions, 2016-2022



3.16 ESP Cost by Public Sector Delivery Channels

Table 18 and Figure 25, 26 show that district hospitals and UHCs consumed the highest proportion of the total ESP cost in the base year, and this trend is expected to continue over the target years. This could be attributed to several factors including the larger size of these facilities, greater availability of a range of ESP services, and greater availability of drugs/supplies and medical personnel.

Table 15: ESP Cost by Delivery Channel (Drugs/Supplies and Labour Costs), 2016-2022 (in Million BDT)

Delivery channels	2016	2017	2018	2019	2020	2021	2022
Community clinic	2,426	2,561	2,692	2,793	2,955	3,126	3,307
USC	1,096	1,130	1,160	1,167	1,207	1,248	1,293
Family Welfare Center (FWC)	1,181	1,216	1,247	1,257	1,299	1,342	1,389
UHC	9,454	10,175	10,900	11,575	12,402	13,251	14,166
MCWC	2,540	2,611	2,671	2,683	2,764	2,847	2,935
District hospital	11,059	12,440	13,867	15,305	16,905	18,578	20,356
CRHCC	1,167	1,323	1,485	1,658	1,833	2,013	2,205
PHCC	2,017	2,152	2,283	2,390	2,545	2,706	2,876
Total	30,940	33,608	36,305	38,828	41,909	45,112	48,527

Figure 25: Percentage Share of ESP Cost by Delivery Channels, 2016-2022

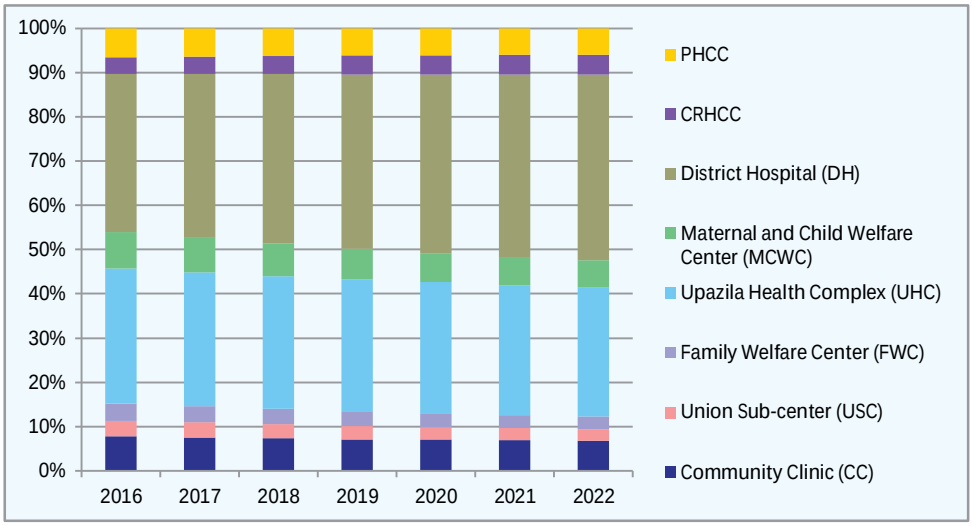


Figure 26a: Percentage Share of ESP Cost by Delivery Channels, 2016

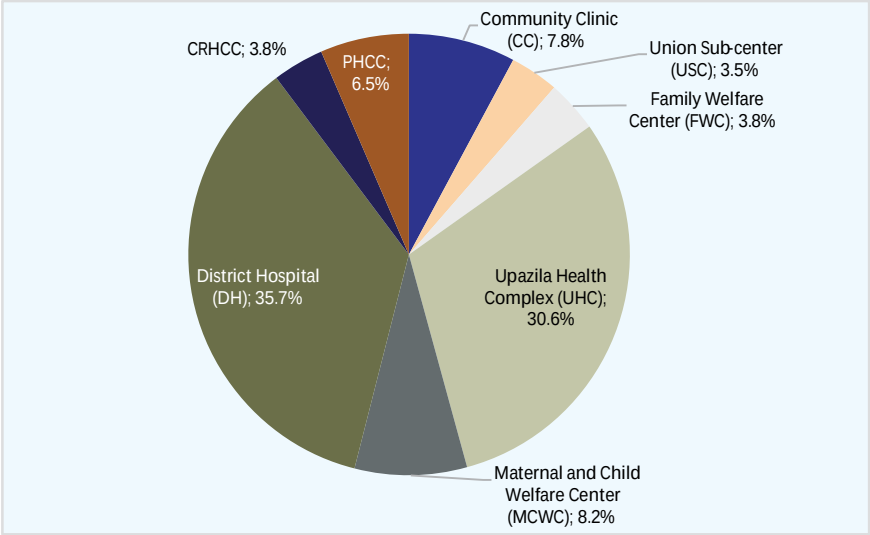
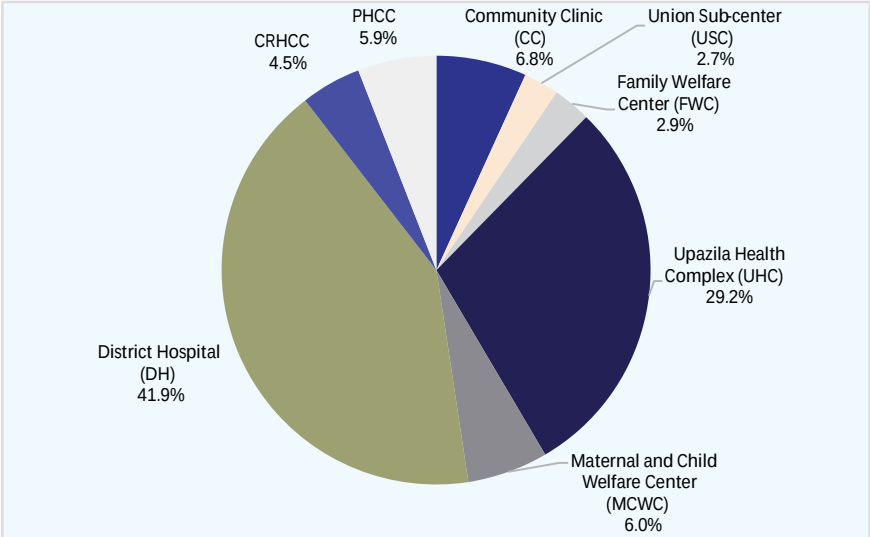


Figure 26b: Percentage Share of ESP Cost by Delivery Channels, 2022



3.17 ESP Cost by Programme Area and Delivery Channels

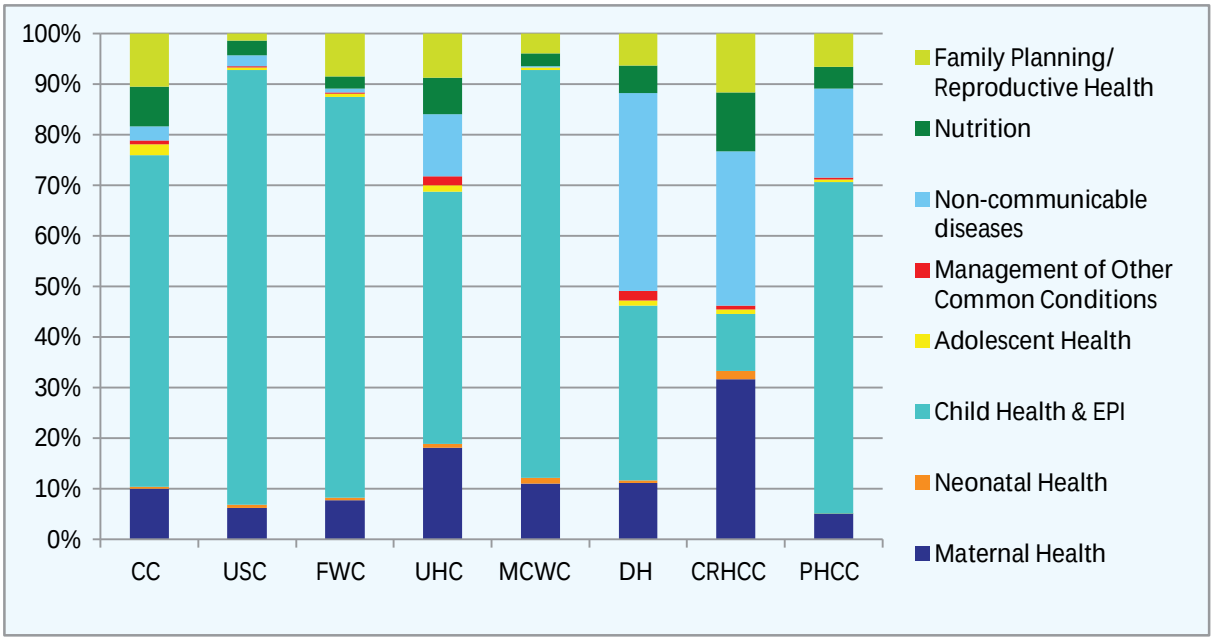
Table 16 and Figure 27 show that child health and EPI accounted for the highest proportion of the total ESP costs at all the public sector delivery channels except at district hospitals and CRHCCs. This is due to fewer EPI activities in CRHCCs and district hospitals. MNCAH services consumed the most costs at UHCs, where child health and maternal health were the two highest cost centres. NCDs consumed the highest costs at district hospitals, indicating that district hospitals can provide relatively better NCD services than elsewhere. Community clinics spent more in the base year compared to urban PHC clinics, possibly due to higher number of patients receiving ESP from community clinics.

Table 16: ESP Drugs, Supplies and Labour Cost by Programme Area and Delivery Channels, 2016 (in Million BDT)

Programme area	Delivery channels (2016)							
	CC	USC	FWC	UHC	MCWC	DH	CRHCC	PHCC
Maternal health	188.2	52.4	70.8	1,327	217.5	951.9	285.7	79.5
Neonatal health	5.1	5.1	4.8	52.8	19.8	42.1	14.9	0.05
Child health and EPI	1,229	727.4	721.3	3,638.7	1,579.9	2,953.7	101.2	1,019.9
Adolescent health	40.8	3.7	6.1	89.2	10.9	81.9	7.4	7.5
Management of other common conditions	13.2	2.2	2.1	129.3	-	159.3	7.2	6.4
NCDs	53.5	18.1	7.1	890.3	4.6	3,336.8	275	272.7
Nutrition	144.9	24.3	21.4	532.6	49.3	468.5	104.4	66.4
FP/RH	196.5	12.2	77.6	632.9	77.3	537	104.9	103.3
Total*	1,871.3	845.4	911.1	7,292.8	1,959.5	8,531.2	900.5	1,555.8

* Excluding TB, malaria, neglected tropical diseases, and HIV/AIDS programmes

Figure 27: Percentage Share of ESP Programme Cost by Delivery Channels, 2016



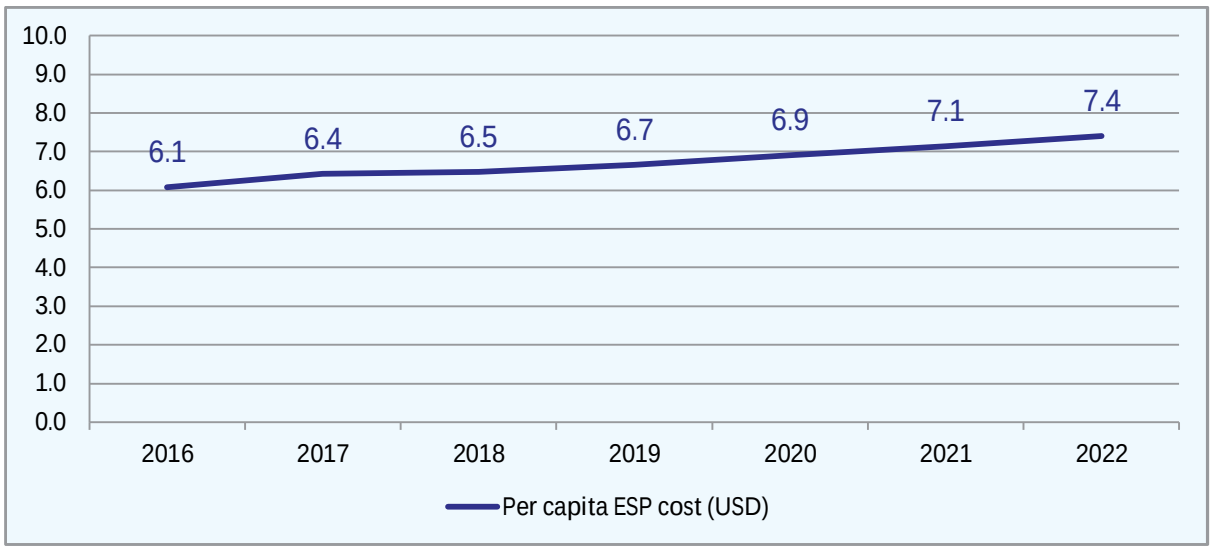
3.18 Public Cost Per Capita for ESP

The OHT calculates cost per capita incurred upon the government for providing ESP by dividing the total cost calculated for ESP provision by the total population in a given year in Bangladesh. Figure 28 shows the per capita cost of the ESP – or the cost of current ESP coverage per inhabitant; this is useful for local and international comparisons.

The per capita cost of the ESP in 2016 was USD 6.1(without inflation); this calculation is based on the estimated Bangladeshi population in 2016 (160.34 million), and the total cost of providing the ESP to that population based on 2016 data, assumptions, coverage levels and population in need The Bangladeshi population is projected to increase gradually to approximately 173.15 million by 2022 (according to the OHT default projection). The per capita cost would therefore increase to USD 7.4 in 2022. Please see Annex G for per capita cost with inflation.

This ESP per capita cost is not meant to indicate the cost of providing the ESP with 132 interventions at 100% coverage to all citizens in Bangladesh; it is merely a measure of the cost of current coverage with the ESP package divided by the entire population of Bangladesh. The per capita ESP cost increases approximately 3% each year. The upward rise from 2016-2017 is due to increasing coverage and planned purchase of vehicles and equipment in 2017, as documented in operational plans. Beyond that, the per capita cost increases from 2016 to 2022 in alignment with the increase in population and service coverage.

Figure 28: Per Capita Cost of ESP, 2016-2022 (USD)

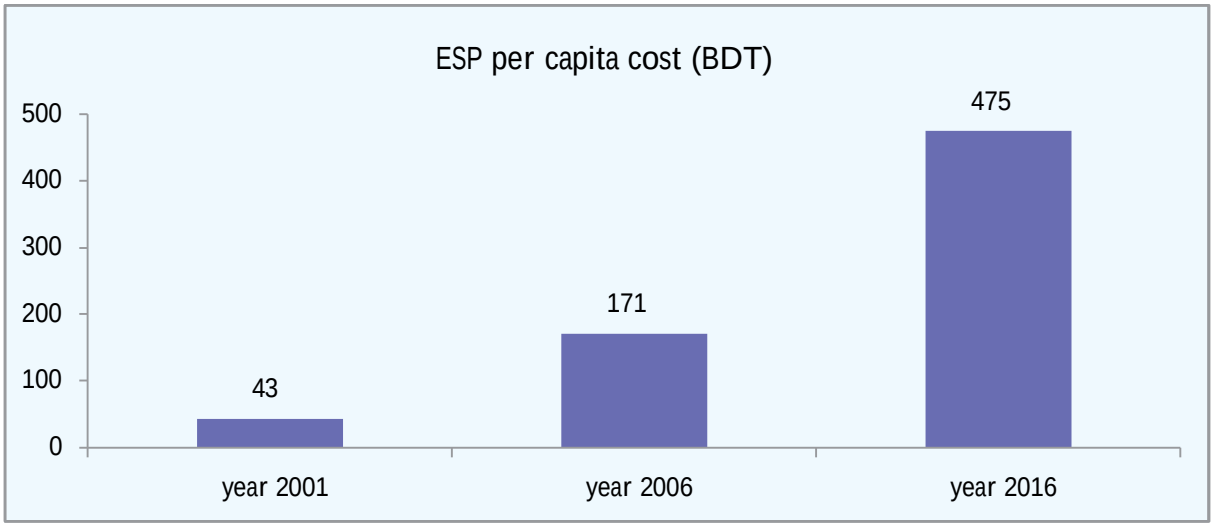


Note: USD exchange rate at 2016 is 1 USD= 78.3 BDT, from 2017-22 1 USD= 80.57 BDT

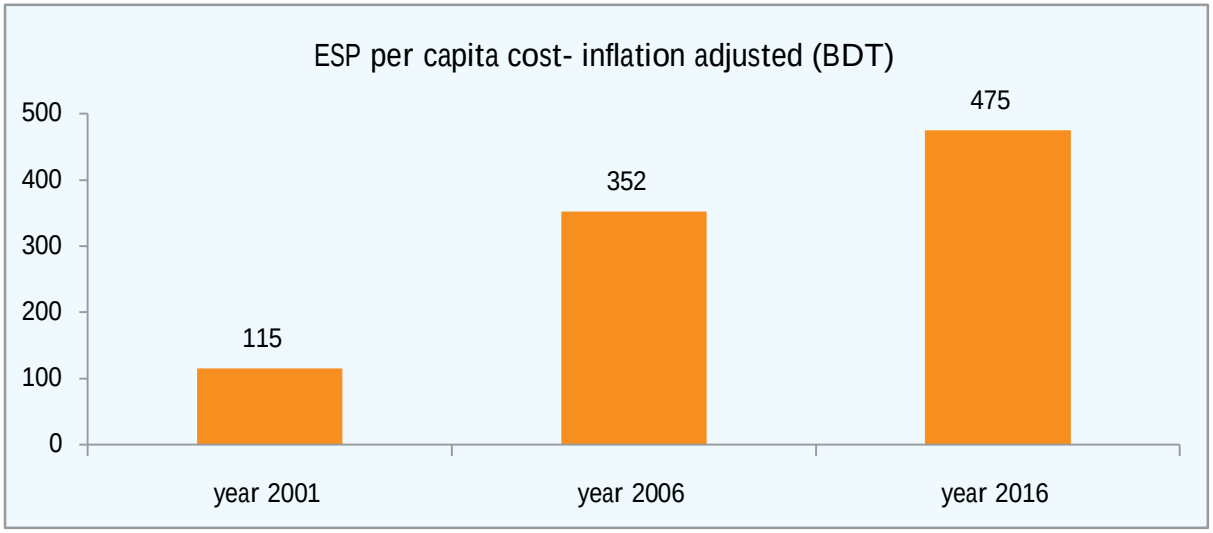
3.19 Comparison of Public Cost Per Capita for ESP

One of the previous ESP costing studies of HEU conducted by Ferdousi S.A. revealed that the costs of providing ESP services at upazila and below in is approximately BDT 43 per capita in 2001. Tim Ensor et al state that *"This estimate is likely to under-estimate the "true" cost of ESP service delivery (…) first, ESP does not yet cover the entire rural population, second the service provided are not yet an adequate level of quality, and third many of the costs of ESP are, according to surveys, borne by consumers"*. Tim Ensor et al. showed that these costs are expected to increase to BDT 171 per capita in 2006. Our estimate of per capita cost for 2016 is Tk. 475 - which is four times higher compared to 2001 estimate (see Figure 29). This increase in per capita cost is attributable to several things, including that the costing study conducted by Tim Ensor et al. only estimated the costs of family planning, maternal health, child health, and a limited number of curative care and communicable disease services, while this study costs a significantly greater number of ESP services available through the updated ESP in 2016, at greater coverage assumptions.

Figure 29: Per capita ESP costs: 2001, 2006, & 2016



Note: Year. 200: estimate by Ferdousi S.A. Year. 2006: estimate by Tim Ensor Year. 2016: estimate by icddr,b



4. DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

4.1 Public ESP Cost and Macroeconomic Indicators

Table 20 compares the per cost allocation of ESP with macro-economic indicators. According to the our study using 2016 data, the total estimated ESP cost for the base year was BDT 76,195 million (see Appendices B, C, and D). We also calculated government expenditure for health by adjusting BNHA estimates for ESP delivery channels for the same year, which was BDT 106,968 million. These figures suggest that if government would have ideally provided all services within allocated budget (see *2.12.Assumptions and Estimates*), around 71% of total government health expenditure would be required for ESP delivery in 2016 and ESP cost as share of GDP would be 0.5%.

By extrapolating intervention costs from 2016, combined with coverage estimates, the cost of delivering ESP services in 2022 is expected to be BDT 103,194 million (Appendix B). This calculation shows that cost of approximately BDT 555,030 million (an average of BDT 92,505 million per year) will be required from 2017 to 2022 to achieve weighted average target coverage of for the respective years (Table 17) among the population in need of these services through public sector. These figures suggest that on average 75% of total government health expenditure is required for ESP implementation with estimated weighted coverage (Table 20) in the 4th sector programme (2017-2022) through public delivery channels. This includes the health system targets outlined in the operational plans (e.g., human resources to deliver additional services, and infrastructure required).

Table 17: Per Capita ESP Cost and Comparison with Macro-Economic Indicators

Macro-economic indicators	2016	2017	2018	2019	2020	2021	2022
Weighted average ESP coverage (%) by public delivery channels	20.4	22.6	24.6	26.7	28.8	30.9	33.0
Total ESP cost in million BDT (2016 input data and coverage levels in Appendices B and C)	76,195.1	84,045.4	85,794.1	89,546.4	94,014.3	98,436.1	103,194
Government expenditure in health in million BDT*	106,967.9	111,635.8	116,303.7	120,971.6	125,639.5	130,307.4	134,975.3
ESP cost as % of government expenditure of health	71.23	75.29	73.77	74.02	74.83	75.54	76.45
ESP cost as % of GDP**	0.5	0.5	0.4	0.4	0.4	0.4	0.4

* Authors calculation using BNHA 1997-2015
** GDP estimates from IMF staff report 2017

4.2 ESP Total Cost and MOHFW Budget 2015-2016

The total ESP cost incurred by MOHFW in 2016 was BDT 73,011 million. This excludes the total ESP cost incurred by the Ministry of Local Government and Rural Development urban primary health care programme (BDT3,184 million). The MOHFW budget for 2015-16 was BDT 127,256 million, and the percentage share of ESP was 57% of this total health budget (see Table 21).

Table 18: Comparison with MOHFW budget, 2015-16

	Total ESP cost 2016	Total ESP cost excluding CRHCC and PHCC of urban primary health programme	MOHFW budget (2015-16)
ESP total cost (in million BDT)	76,195	73,011	127,256
ESP total cost as % of MOHFW budget	-	57	

4.3 Conclusions

- The estimated total cost of ESP in the base year 2016 was BDT 76,195 million for the public sector for coverage of approximately 20.4% of the population in need (see Appendix B for intervention coverage). The total cost will increase to BDT 103,194 million in 2022 covering approximately 33% of the population in need. This calculation takes into account the cost of current and new services, as well as assumptions, and is based on targets in the operational plans for the fourth Health, Nutrition, and Population Sector Programme (2017-22).

- Unit costs were calculated for each of the ESP interventions across 10 delivery channels (see Appendix- C). These represent the costs per service per person for each intervention through each delivery channel. These costs vary significantly by type of service and type of delivery channel for different service providers. Therefore; a weighted average of cost per service (drugs, supplies & labor cost only) was calculated separately (see last column of Appendix C).

- Dividing the ESP total costs (2016 -2022) by the population covered/to be covered (20.4% to 33%) during these years by the public facilities, the average cost per beneficiary in 2016 stood at around BDT 2349 (30 USD) - which would gradually reduce to BDT 1805 (22.4 USD) in 2022 due to planned increase in coverage and efficiency gain using fixed assets (infrastructure, equipment, logistics etc). We determined the percentage of the population covered in 2016 and 2022 by calculating a weighted average coverage of all ESP interventions for each year.

- The public cost per capita for ESP stood at USD 6.1 (BDT 475) in 2016, and will increase over the target years to USD 7.4 (BDT 596) in 2022. The rate of increase in per capita cost per year is approximately 3%.

- District hospitals and UHCs accounted for the highest proportion of the total ESP cost in the base year, and this trend is expected to continue over the target years. This is attributable to the larger size of the facilities, the supplies and human resources, and the greater volume of service coverage.

- MNCAH services accounted for the highest cost at UHC, where child and maternal health ranked the highest two costs centres.

- NCDs accounted for the highest cost at district hospitals compared to other service delivery channels, indicating that these hospitals deliver more NCD services listed under the ESP than other delivery channels.

- ESP service costs at community clinics (n=13,336) were greater in the base year compared to urban primary health clinics (n=120), possibly due to the greater number of community clinics and the larger volume of patients receiving ESP interventions from community clinics.

4.4 Recommendations

Using these estimates for planning and advocacy:

- These results provide an estimate of the annual investment required for delivering ESP effectively. Policy planners may consider these estimates and use them to advocate for increased funding for health to match the costs.
- The National OHT Resource Pool should work under an institutional framework of the MOHFW to conduct additional costing exercises, including using standard treatment protocols for all services; these scenarios will be useful for the mid-term review of the 4th HPNSP and for planning of the next sector program. A detailed ingredients-based costing of TB, malaria, HIV/AIDS and Neglected tropical diseases (NTDs) interventions should be undertaken.

Using these estimates for future development of ESP:

- These estimates should be used by policymakers for further development of a feasible and efficient ESP package and for setting target of the coverage through public delivery channels for next sector programme and also to increase fiscal space for health. However, it would be the first step for implementing the package. Other governance, supply-side system readiness and operational issues should be addressed for realizing the meaningful implementation of the ESP.
- Future ESP cost estimates should also use standard protocols (normative costs) for all interventions, or WHO guidelines if Bangladesh-specific guidelines are not available, to identify the gap between current practice and protocols, and to provide planners with evidence to advocate for increase funding for the provision of quality ESP services across all relevant delivery channels.

Using these estimates to generate evidence on efficiency, equity and effectiveness in primary health care delivery systems

- As the country moves towards UHC by 2030, future analyses should look at the cost of current and projected coverage of ESP by both public and private sector and cost for service delivery by level of care(primary, secondary and tertiary) .That exercise will help the government to plan and extend ESP coverage by both sector in a coordinated approach.
- Further studies should be conducted based on these cost estimates to generate evidence for gaining efficiency and promoting equity in the health sector.

REFERENCES

1. WHO. (2015). Success Factors for Women's and Children's Health. Switzerland.
2. MOHFW. (2017). Operational Plan (2017-22): Maternal, Child, Reproductive, and Adolescent Health. Dhaka.
3. NIPORT, Mitra and Associates, and ICF International. (2014). Bangladesh Demographic and Health Survey 2014. Dhaka.
4. DGHS. (2015). EPI Coverage Evaluation Survey 2015. Dhaka.
5. UNICEF. (2015). Elimination of Parent-To-Child Transmission of HIV and Syphilis in Asia and the Pacific in 2015 and Beyond. Thailand.
6. MOHFW. (2017). Operational Plan (2017-22): National Nutrition Services. Dhaka.
7. NIPORT, MEASURE Evaluation, UNC-CH, and icddr.b. (2012). Bangladesh Maternal Mortality and Health Care Survey 2010. Dhaka.
8. Impact Module. (n.d.). One Health Tool.
9. UNICEF. (2015). Bangladesh Statistics. Retrieved from https://www.unicef.org/infobycountry/bangladesh_bangladesh_statistics.html
10. WHO. (2016). Immunization coverage: Fact Sheet. Retrieved from http://www.who.int/mediacentre/factsheets/fs378/en/
11. MOHFW. (2016). Operational Plan (2017-22): Communicable Disease Control. Dhaka.
12. BBS. (2013). Health and Morbidity Status Survey 2012, 1–225.
13. MOHFW. (2017). Operational Plan (2017-22): Tuberculosis-Leprosy and AIDS STD Programme. Dhaka.
14. DGHS. (2016). Health Bulletin 2016. Dhaka.
15. WHO. (2017). Preventive Chemotherapy to Control Soil-Transmitted Helminth Infections in At-Risk Population Groups. Geneva.
16. icddr,b, UNICEF Bangladesh, GAIN, and Institute of Public Health and Nutrition. (2013). National Micronutrients Status Survey 2011-12: Final report, (January), 47.
17. de Pee, S., Flores-Ayala, R., and Elena Jefferds, M. (2013). Home Fortification with Micronutrient Powders (MNP). Sight and Life, 25–26. doi:10.9734/EJNFS/2014/7804
18. Choudhury, N., Ahmed, T., Hossain, I., Mandal, B. N., Mothabbir, G., Rahman, M., … Rahman, E. (2014). Community-Based Management of Acute Malnutrition in Bangladesh: Feasibility and Constraints, 35(2), 277–285.
19. Aremu, O., Lawoko, S., and Dalal, K. (2010). Childhood Vitamin A Capsule Supplementation Coverage in Nigeria: A Multilevel Analysis of Geographic and Socioeconomic Inequities. The Scientific World JOURNAL, 10, 1901–1914. doi:10.1100/tsw.2010.188
20. WHO. (2014). Non-Communicable Diseases Country Profiles. Genève: WHO Press, 2014., 1–210. doi:10.1111/jgs.12171
21. MOHFW. (n.d.). Operational Plan (2017-22): Non Communicable Disease Control. Dhaka.
22. Rising Prevalence of Type 2 Diabetes in Rural Bangladesh: A Population BasedSstudy. (2007). Diabetes Research and Clinical Practice, 77(2), 300–305. doi:10.1016/J.DIABRES.2006.11.010
23. BBS. (2016). Violence against Women (VAW) Survey 2015. Dhaka.
24. UNICEF. (2010). Towards an Arsenic Safe Environmnet in Bangladesh, 20.

25. Milton, A. H., Hore, S. K., Hossain, M. Z., and Rahman, M. (2012). Bangladesh Arsenic Mitigation Programs: Lessons from the Past. Emerging Health Threats Journal, 5(1), 1–7. doi:10.3402/ehtj.v5i0.7269

26. NIPORT, Mitra and Associates, and ICF International. (2011). Bangladesh Demographic and Health Survey 2011. Dhaka.

27. Sigma, A., Bajrachrya, A., and Reichenbach, L. (2016). Adolescents in Bangladesh: Programmatic Approaches to Sexual and Reproductive Health Education and Services, Situation Analysis Brief. Population Council, Evidence Project, (January).

28. MOHFW, Government of Bangladesh. (2010). A Situation Analysis : Neglected Tropical Diseases in Bangladesh, (December). Retrieved from http://pdf.usaid.gov/pdf_docs/pnady849.pdf

29. Hossain, M. (2016). Elimination of Lymphatic Filariasis from Bangladesh: Current Status, 14(1), 14–15.

30. MOHFW. (n.d.). Porgram Implementation Plan (2017-22):Volume-I.

31. MOHFW. (2017). Operational Plan (2017-22): Maternal Neonatal Child and Adolescent Health. Dhaka.

32. The Incidence of Menstrual Regulation in Bangladesh Declined Substantially Between 2010 and 2014 | Guttmacher Institute. (n.d.). Retrieved from https://www.guttmacher.org/news-release/2017/incidence-menstrual-regulation-bangladesh-declined-substantially-between-2010-and

33. Dineen, B. P. (2003). Prevalence and Causes of Blindness and Visual Impairment in Bangladeshi Adults: Results of the National Blindness and Low Vision Survey of Bangladesh. British Journal of Ophthalmology, 87(7), 820–828. doi:10.1136/bjo.87.7.820

34. MOHFW. (2017). Operational Plan (2017-22): National Eye Care. Dhaka.

35. Hossain, M. J., Biswas, A., Mashreky, S. R., Rahman, F., and Rahman, A. (2017). Epidemiology of Adulthood Drowning Deaths in Bangladesh: Findings from a Nationwide Health and Injury Survey. F1000Research, 6(May), 589. doi:10.12688/f1000research.10980.1

36. MOHFW. (n.d.). Project Implementation Plan: 2016-2022. Dhaka.

37. DGHS. (2017). Operational Plan (2017-22): Hospital Service Management. Dhaka.

38. Sharmin, S., Viennet, E., Glass, K., and Harley, D. (2015). The Emergence of Dengue in Bangladesh: Epidemiology, Challenges and Future Disease Risk. Transactions of the Royal Society of Tropical Medicine and Hygiene, 109(10), 619–627. doi:10.1093/trstmh/trv067

39. https://extranet.who.int/sree/Reports?op=Replet&name=/WHO_HQ_Reports/G2/PROD/EXT/TBCountryProfile&ISO2=BD & out type=pdf

40. Ensor T, Ferdousi S, Hossain A. Projecting the cost of the Essential Service Package. Working Paper 26, Health Economics Unit- MoHFW, Dhaka 2001.

APPENDIX A: Bangladesh ESP by Service Delivery Channels[N]

Notes: Y: yes, S: selected facilities, I&R: identify and refer, Scr: screening, P: prevent, BCC: behavior change communication, Blank cell = intervention not currently available

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
MATERNAL, NEONATAL, CHILD, AND ADOLESCENT HEALTH CARE									
MATERNAL AND NEWBORN CARE									
MATERNAL HEALTH CARE									
PRE-CONCEPTION CARE									
Promote health, FP, nutrition, child survival and safe motherhood	Y	Y	Y	Y	Y	Y	Y	Y	Y
Screening for malnutrition	Y	Y	Y	Y	Y	Y	Y	Y	Y
IFA supplementation	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tetanus toxoid		Y	Y	Y	Y	Y	Y	Y	Y
FP counselling	Y	Y	Y	Y	Y	Y	Y	Y	Y
Prevent/identify HIV/AIDS, STIs, and congenital anomalies	BCC	BCC	Y	Y	Y	Y	Y	Y	Y

[N] MOHFW. 2016. Bangladesh Essential Health Service Package, MOHFW, Dhaka

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
ANC									
Identification/diagnosis of pregnancy		Y	Y	Y	Y/lab	Y/lab	Y	Y	Y
Registration of pregnancy	Y	Y	Y	Y	Y	Y	Y	Y	Y
Information and counselling on nutrition, pregnancy complications, post-partum FP	Y	Y	Y	Y	Y	Y	Y	Y	Y
Clinical history		Y	Y	Y	Y	Y	Y	Y	Y
Obstetric and foetal assessment-Maternal weight-Blood pressure measurement –Oedema-Fundal height-Foetal heartbeat		Depends on privacy	Y	Y	Y	Y	Y	Y	Y
Urinalysis				Y	Y	Y	Y	Y	Y
Hb estimation		Y	Y	Y	Y	Y	Y	Y	Y
Blood grouping and Rh typing					Y	Y	Y	Y	Y
Testing for HIV, syphilis					Y	Y	Y	Y	Y
Blood sugar			Y	Y	Y	Y	Y	Y	Y
Ultrasonogram (refer cases for suspicion of low foetal growth)					S	Y	Y	Y	Y
Identify and manage pregnancy complications:- Anaemia –Malaria-Urinary tract infection-HTN – Diabetes –STIs-HIV/AIDS (counselling and testing)			Moderate anaemia, malaria & UTI	Anaemia, malaria, urinary tract infection, STIs, others I&R	Y	Y	Y	Y	

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
Identify and manage obstetric emergencies (isolation or as part of basic/emergency obstetric care)-Pre/eclampsia-Ante-partum haemorrhage-Abdominal pain-Premature rupture of membranes	I&R		I& R	Pre/eclampsia: stabilize and refer I&R	Y	Y	Y	Y	
External version after 36 week				S	Y	Y	Y	Y	
Worm disinfestations		Y	Y	Y	Y	Y	Y	Y	Y
Supply of IFA and other micronutrients		Y	Y	Y	Y	Y	Y	Y	Y
Tetanus toxoid		Y	Y	Y	Y	Y	Y	Y	Y
Birth preparedness plan:-Identification of SBA/referral hospital -Setting aside money-Identification of transport means-Identification of blood donor-Clean kit for home delivery	Y	Y	Y	Y	Y	Y	Y	Y	Y
NORMAL DELIVERY									
Personal and obstetric history	CSBA		S	Y	Y	Y	Y	Y	
Examination-Foetal position-Foetal heartbeat	CSBA		S	Y	Y	Y	Y	Y	
Monitor labour progression: partograph			S	Y	Y	Y	Y	Y	
Labour induction				Y	Y	Y	Y	Y	
Conduct normal delivery	CSBA		S	Y	Y	Y	Y	Y	
Controlled cord traction			S	Y	Y	Y	Y	Y	
Oral misoprostol shortly after delivery	Y		Y				Y	Y	

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
Episiotomy				Y	Y	Y	Y	Y	
Identify and manage obstetric emergencies (isolation or basic or emergency obstetric care)- obstructed labour- pre/eclampsia – haemorrhage-pre-term labour, including administration of antenatal corticosteroids	I&R		I& R	I&R	Y	Y	Y	I&R	I&R
Management of prolapsed cord	I&R		I& R	I&R	Y	Y	Y	I&R	
Management of shoulder dystocia	I&R		I& R	I&R	Y	Y	Y	I&R	
Bi-manual compression to stop uterus atony	CSBA		S	S	Y	Y	Y	Y	
Manual removal of placenta	I&R		I& R	I&R	Y	Y	Y	I&R	
Removal of retained products	I&R		I& R	S?	Y	Y	Y	I&R	
Repair vaginal and cervical tears, episiotomy	I&R		I& R	S (vaginal)	Vaginal/ cervical	Vaginal/ cervical	Vaginal/ cervical	I&R	
Intravenous fluids, antibiotics, anticonvulsants, oxytocin				S	Y	Y	Y	I&R	
Blood transfusion					Y	Y	Y		
Caesarean section and other obstetric operations					Y	Y	Y		
Prevention of mother-to-child transmission (PMTCT) if HIV+ selected sites						Y	Y	S	

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
PNC									
Counselling on PNC, including breastfeeding.	Y	Y	Y	Y	Y	Y	Y	Y	Y
Post-natal clinical history (pain, fever, haemorrhage)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Identification and management of post-natal complications:-Anaemia-Puerperal psychosis	I&R	I&R	I& R	Y	Y	Y	Y	Y	Y
Identification and management of obstetric complications:-Haemorrhage-Puerperal infection/sepsis	I&R	I&R	I& R	I&R	Y	Y	Y	I&R	I&R
Supply of IFA	Y	Y	Y	Y	Y	Y	Y	Y	Y
Counselling and provision of FP methods	Y	Y	Y	Y	Y	Y	Y	Y	Y
PMTCT if HIV+ selected sites						Y	Y	S	
Early management of obstetric fistula	P, I&R	P, I&R	P,I&R	P, I&R	P, I&R	Y (off ESP)	Y (off ESP)		
Management of genital prolapse	I&R	I&R	I& R	I&R	I&R	Y (off ESP)	Y (off ESP)		
Early management of obstetric fistula	P, I&R	P, I&R	P,I&R	P, I&R	P, I&R	Y (off ESP)	Y (off ESP)		

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
NEONATAL CARE									
IMMEDIATE NEWBORN CARE									
Promotion of essential newborn care practice and newborn danger signs for early care seeking	Y	Y	Y	Y	Y	Y	Y	Y	Y
Clean cord cutting and tying	CSBA		S	Y	Y	Y	Y	Y	
Single application of chlorhexidine 7.1% to the cord	CSBA		S	Y	Y	Y	Y	Y	
Prevention and management of hypothermia -Drying & wrapping -Skin-to-skin contact -Delayed bathing (after 72 hours)	CSBA		S	Y	Y	Y	Y	Y	
Identification and management of breathing problems (digital stimulation, bag and mask resuscitation)	I&R		S	Y	Y	Y	Y	Y	
Breastfeeding within one hour after delivery	Y		S	Y	Y	Y	Y	Y	
Prevention of newborn conjunctivitis			S	Y	Y	Y	Y	Y	
Special care of pre-term or LBW neonate, including Kangaroo Mother Care	I&R		I& R	I&R	Y	Y	Y	I&R	

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
NEWBORN CARE AFTER DELIVERY									
Counselling about breastfeeding, nutrition, immunization.	Y	Y	Y	Y	Y	Y	Y	Y	
Birth registration	Y	Y	Y	Y	Y	Y	Y	Y	
Breastfeeding	Y	Y	Y	Y	Y	Y	Y	Y	
Weighing, temperature management,and cord care	Y	Y	Y	Y	Y	Y	Y	Y	
Identification and management of sepsis	I&R		I& R	Y	Y	Y	Y	I&R	
Identification and management of omphalitis	I&R		I& R	Y	Y	Y	Y	I&R	
Identification and management of LBW babies (refer < 1,800)	I&R		S	Y	Y	Y	Y	I&R	
Identification and management of neonatal jaundice	I&R		I& R	I&R	Y	Y	Y	I&R	
Identification and management of breastfeeding problems	I&R		I& R	I&R	Y	Y	Y	I&R	
Newborn immunizations		Y	Y	Y	Y	Y	Y	Y	
Preventive anti-retroviral treatment if HIV+ mother selected sites						Y	Y	S	
Screening for congenital problems			I& R	I&R	Y	Y	Y		
OBSTETRIC AND NEONATAL EMERGENCIES									
Basic obstetric andneonatal emergencies (all 7 services):-Parenteral antibiotics-Parenteral anticonvulsants-Parenteral uterotonics-Manual removal of placenta-Removal or retained products (manual				S	Y	Y	Y		

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
Vacuum aspiration -Assisted vaginal delivery -Resuscitation of the newborn									
Complete obstetric andneonatal emergencies (all 9 services) -Basic emergence obstetric and newborn care + -Surgical capacity (caesarean section and others) -Blood transfusion					S	Y	Y		
CHILD HEALTH AND EPI									
IMCI									
Counselling to parents on danger signs, nutrition of the sick child.	Y	Y	Y	Y	Y	Y	Y	Y	Y
Identification of danger signs and referral: -Inability to drink or breastfeed -Vomits everything -Has/had convulsions -Lethargic or unconscious	Y	Y	Y	Y			Y	Y	Y
Management ARI -Cough/cold -Fast breathing (pneumonia) -Severe pneumonia -Wheeze			Mil d	Moderate	Severe	Severe	y	Y	Y
Management of diarrhoea: -No dehydration -Mild dehydration -Severe dehydration -Persistent diarrhoea			Mil d	Moderate	Severe	Severe	Y	Y	Y

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
-Dysentery -Laboratory diagnosis									
Management of ear problems: -Acute ear infection -Chronic ear infection -Mastoiditis				Y	Y	Y	Y	Y	Y
White pupil reflex (leukocoria)					I&R	Y (off ESP)			
Management of anaemia and malnutrition (in nutrition)	Covered under nutrition programme area								
Identification and management of autism spectrum disorder (in mental health)	Covered under mental health subgroup under NCD program area								
EPI									
Counselling parents on immunization and adverse effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Registering eligible children	Y	Y	Y	Y	Y		Y	Y	Y
Follow-up of defaulters	Y	Y	Y	Y	Y		Y	Y	Y
Permanent (daily) vaccination site					Y	Y	Y	Y	
Outreach vaccination site		Y	Y	Y				Y	Y
National immunization days and other campaigns	Y	Y	Y	Y	Y	Y	Y	Y	Y
Surveillance of vaccine-preventable diseases				Y	Y	Y	Y	Y	Y
Follow-up to identify adverse effects					Y	Y	Y	Y	Y
Counselling mothers regarding FP	Y	Y	Y	Y	Y	Y	Y	Y	Y
ADOLESCENT HEALTH									
Counselling on puberty, safe sexual behaviour, prevention of early marriage, mental health, HIV/AIDS, substance abuse.	Y	Y	Y	Y	Y	Y	Y	Y	Y
Screening for STIs				Y	Y	Y	Y	Y	Y
Syndromic management of STIs				Y	Y	Y	Y	Y	Y
Etiologic management of STIs					Y	Y	Y	Y	Y

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
Screening for HIV selected sites						Y	Y	Y	Y
Distribution of condoms	Y	Y	Y	Y	Y	Y	Y	Y	Y
FP information and provision	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adolescent nutrition (assessment, IFA)	Y	Y	Y	Y	Y	Y	Y	Y	Y
FP									
Counselling on birth spacing, methods, and adverse effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Advocacy and awareness development on post-partum FP and post menstrual regulation/PAC -FP	Y	Y	Y	Y	Y	Y	Y	Y	Y
Screening according to medical eligibility criteria for contraceptive use	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pre-conception FP	Y	Y	Y	Y	Y	Y	Y	Y	Y
Condoms	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oral contraceptives	Y	Y	Y	Y	Y	Y	Y	Y	Y
DMPA injection starting				Y	Y	Y	Y	Y	Y
DMPA injection continuation	Y	Y	Y	Y	Y	Y	Y	Y	Y
Intrauterine devices				Y	Y	Y	Y	Y	Y
IUD post-partum				Y	Y	Y	Y	Y	Y
Implant					Y	Y	Y	Y	Y
Male and female sterilization					Y	Y	Y	Y	
Menstrual regulation				Y	Y	Y	Y	Y	Y
Post-abortion FP				Y	Y	Y	Y	Y	Y
Post-partum FP				Y	Y	Y	Y	Y	Y
Post-menstrual regulation FP				Y	Y	Y	Y	Y	Y
Management of contraceptive complications					Y	Y	Y	Y	Y
								Y	Y

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
NUTRITION CHILD NUTRITION									
Counselling parents about breastfeeding and best feeding practices	Y	Y	Y	Y	Y	Y	Y	Y	Y
ASSESSMENT NUTRITION STATUS									
Growth monitoring		Y	Y	Y	Y	Y	Y	Y	Y
Community-level screening	Y	Y	Y					Y	Y
PREVENTION OF MALNUTRITION									
Promotion of infant and young child feeding : -Breastfeeding within an hour of birth -Exclusive breastfeeding for 6 months -Breastfeeding until 23 months of age -Appropriate complementary feeding	Y	Y	Y	Y	Y	Y	Y	Y	Y
Deworming	Y	Y	Y	Y	Y	Y	Y	Y	Y
Micronutrient supplementation	Y	Y	Y	Y	Y	Y	Y	Y	Y
MANAGEMENT OF ACUTE MALNUTRITION									
Management of moderate acute malnutrition	Y		Y	Y	Y	Y		Y	Y
Management of severe acute malnutrition, uncomplicated	Y		Y	Y	Y	Y		Y	Y
Management of severe acute malnutrition, complicated					Y	Y			
Management of anaemia			Mild	Mild/moderate	Moder/severe	Severe		Y	Y
Management of underlying causes				Y	Y	Y		Y	Y

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
MATERNAL NUTRITION									
Counselling on best practices during pregnancy	Y	Y	Y	Y	Y	Y	Y	Y	Y
Assessment of nutritional status during ANC	Y	Y	Y	Y	Y	Y	Y	Y	Y
Supplementation of IFA, Calcium	Y	Y	Y	Y	Y	Y	Y	Y	Y
Deworming	Y	Y	Y	Y	Y	Y	Y	Y	Y
Management of anaemia			Mil	Mild/mod	Moder/se	Severe	Y	Y	Y
			d	erate	vere				
Vitamin A in post-partum	Y	Y	Y	Y	Y	Y	Y	Y	Y
ADOLESCENT NUTRITION									
Assessment of nutritional status	Y	Y	Y	Y	Y	Y	Y	Y	Y
Distribution of IFA	Y	Y	Y	Y	Y	Y	Y	Y	Y
COMMUNICABLE DISEASES									
TB									
Education on causes, prevention and control of TB and other communicable diseases	Y	Y	Y	Y	Y	Y		Y	Y
Case detection Smear (+)				Y	Y	Y			
Chemotherapy including DOTS	Y	Y	Y	Y	Y	Y		Y	Y
Diagnostic and management of Smear (-)					Y	Y			
Active case finding in outpatient department/community				Y	Y	Y			
Preventive therapy of contacts				Y	Y	Y			
Diagnosis of multi-drug resistant TB						TB hosp			
Treatment of multi-drug resistant TB						TB hosp			
Inpatient care of severe/complicated cases					Y	Y			

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
MALARIA (selected districts)									
BCC	Y	Y	Y	Y	Y	Y		Y	Y
Distribution of long-lasting insecticidal nets	Y	Y	Y	Y	Y	Y		Y	Y
Indoor residual spraying					Y	Y			
Diagnostic of malaria	RDT	RDT	RD T	RDT	RDT &lab	RDT &lab		Y	Y
Treatment of uncomplicated malaria – first line	Y	Y	Y	Y	Y	Y		Y	Y
Treatment of uncomplicated malaria – alternative lines					Y	Y		Y	Y
Management of severe/complicated malaria					Y	Y		Y	Y
HIV/AIDS (selected areas and/or population groups)									
BCC	Y	Y	Y	Y	Y	Y			
Prevention of HIV infection at health facilities			Y	Y	Y	Y			
Etiologic management of STIs					Y	Y		Y	
Syndromic management of STIs				Y	Y	Y		Y	Y
Referral for counselling and testing	Y	Y	Y	Y	Y	Y		Y	Y
HIV testing and counselling (HTC)						Y			
PMTCT of HIV						Y		S	
Anti-retroviral treatment						Y		S	
Prevention and treatment of opportunistic infections						Y			
Laboratory diagnosis and follow up of anti-retroviral treatment						Y			

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
NEGLECTED TROPICAL DISEASES									
KALA-AZAR									
Insecticide indoor residual spraying					Y	Y			
Rapid diagnostic test					Y	Y			
Laboratory (slit skin smear) confirmation – only tertiary care									
DOTS oral treatment	Y	Y	Y	Y	Y	Y			
LYMPHATIC FILARIASIS									
Mass drug administration of population at risk	Y	Y	Y	Y	Y	Y			
Clinical diagnosis				Y	Y	Y			
Laboratory diagnosis						Y			
Management of acute attacks					Y	Y			
Medical management of lymphedema			Y	Y	Y	Y			
Surgical treatment of hydrocele					Y	Y			
LEPROSY									
Clinical diagnoses				Y	Y	Y		Y	Y
Skin smear examination						Y			
Active case detection among contacts				Y	Y	Y		Y	Y
MDT Treatment				Y	Y	Y		Y	Y
Management of acute and chronic complications (specialized centre)									
DENGUE									
Laboratory monitoring of suspected case					Y	Y			
Outpatient department management					Y	Y			
Inpatient management					Y	Y			

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
RABIES									
Post-exposure treatment					Y	Y			
INTESTINAL PARASITES									
National deworming days for children 6-12 years	Y	Y	Y	Y	Y	Y		Y	Y
Deworming of pregnant women during ANC	Y	Y	Y	Y	Y	Y		Y	Y
OTHER COMMUNICABLE DISEASES									
Hepatitis diagnosis and management					Y	Y			
Typhoid diagnosis and management					Y	Y			
Diarrhoea and dysentery				Y	Y	Y			
NCDs									
HTN									
Promote healthy lifestyle for HTN and other NCD control	Y	Y	Y	Y	Y	Y		Y	Y
Diagnosis of HTN			Scr	Y	Y	Y		Y	Y
Management of HTN				Y	Y	Y		Y	Y
Lab follow-up of HTN cases					Y	Y		Y	Y
I&R cardiovascular disease (CVD)	Y		Y	Y	Y	Y		Y	Y
DIABETES MELLITUS									
Diagnosis of diabetes mellitus			Scr		Y	Y		Y	Y
Management of Type II diabetes mellitus					Y	Y		Y	Y
Management of Type I diabetes mellitus						Y			
Identification and referral of long-term complications			Y	Y	Y	Y		Y	Y

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
NCD SCREENING AND MANAGEMENT BASED ON TOTAL RISK ASSESSMENT (WHO PEN APPROACH)									
Screening for risk factors of CVD:-Family history of CVD/diabetes mellitus/kidney disease -High blood pressure –Smoking – Overweight-High total cholesterol-High blood sugar		Clinica l	Cli nic al	Clinical	Clinical & lab	linical & lab		Y	Y
Determine risk of CVD in next 10 years		Partial & refer	Partial & refer	Partial & refer	Y	Y		Y	Y
Manage conditions and I&R complications				Y	Y	Y		Y	Y
CANCER									
Counselling on screening of cervical and breast cancers	Y	Y	Y	Y	Y	Y		Y	Y
BREAST CANCER									
Teaching of breast self-examination	Y	Y	Y	Y	Y	Y		Y	Y
Clinical breast examination			Y	Y	Y	Y		Y	Y
Mammography						Y (off ESP)			
Lumpectomy and mastectomy						Y (off ESP)			
CERVICAL CANCER									
Screening for cervical cancer (visual examination acetic acid)					Y	Y			
Colposcopic examination (excision and biopsy) and cryotherapy						MC (off ESP)			

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
OTHER NCDs									
ARSENICOSIS									
Counselling on the consumption of safe water	Y	Y	Y	Y	Y	Y		Y	Y
Identify, treat skin conditions and refer					Y	Y		Y	Y
Case management with antioxidants at tertiary level									
CHRONIC OBSTRUCTIVE PULMONARY DIEASES									
Counselling on smoking cessation	Y	Y	Y	Y	Y	Y			
Diagnosis and management of ambulatory cases				Y	Y	Y			
Diagnosis and management of inpatient cases					Y	Y			
MENTAL HEALTH									
Counselling on identification and support to mental health cases, including fighting stigma	Y	Y	Y	Y	Y	Y		Y	Y
Identification of signs of mental health conditions and referral			Y	Y				Y	Y
Diagnosis of priority conditions:					Y	Y		Y	Y
-Autism and neurodevelopmental disorders –Epilepsy-Common disorders:-Depression-Psychosis -Anxiety-Substance abuse									
Management of priority, common mental health conditions					Y	Y		Y	Y
Inpatient care for acute, severe cases						Y			
Support for rehabilitation of mental health patients				Y	Y	Y		Y	Y

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
SGBV									
Case identification and recognition	Y	Y	Y	Y	Y	Y	Y	Y	Y
First-point counselling				Y	Y	Y	Y	Y	Y
Prevention of pregnancy: emergency contraception				Y	Y	Y	Y	Y	Y
Treatment of minor injuries				Y	Y	Y	Y	Y	Y
Prophylaxis for STIs				Y	Y	Y	Y	Y	Y
Prophylaxis for HIV									
Psychological support					Y	Y	Y	Y	
Medico-legal examination					Y	Y	Y	Y	Y
MANAGEMENT OF OTHER COMMON CONDITIONS									
EYE CARE									
Treatment of acute conjunctivitis			Y	Y	Y	Y		Y	Y
Treatment of corneal ulcer					Y	Y		Y	Y
Detection of cataract and visual impairment			Y	Y	Y	Y		Y	Y
Management of cataract and visual impairment						S (off ESP)			
EAR CARE									
Awareness on prevention of hearing impairment	Y	Y	Y	Y	Y	Y		Y	Y
Management of acute suppurative otitis media			Y	Y	Y	Y		Y	Y
Management of chronic otitis media					Y	Y		Y	Y
Identification and management of hearing impairment			Ref er	Refer	Refer	Y (off ESP)			

Component and sub-component	Community			Union		Upazila	District	Urban	
	Dom.	SC/O R	CC	UHFWC/ USC	UHC	DH	MCW C	CRHCC	PHCC
DENTAL CARE									
Promotion of oral hygiene	Y	Y	Y	Y	Y	Y			
Treatment of common dental diseases (e.g., gingivitis, caries)				Y	Y	Y			
Tooth extraction					Y	Y			
SKIN CARE									
Treatment of common skin diseases:-Scabies-Ringworm			Y	Y	Y	Y		Y	Y
-Impetigo -Dermatitis									
EMERGENCY CARE									
Road traffic-related injuries and trauma care									
-Stabilization and referral					Y	Y			
-Management of complex trauma cases						Y (off ESP)			
Awareness on child injury and drowning prevention measures	Y	Y	Y	Y	Y	Y		Y	Y
Drowning			Y	Y	Y	Y		Y	Y
First aid in minor injuries			Y	Y	Y	Y		Y	Y
Poisoning and snakebite					Y	Y			

APPENDIX B: COVERAGE DATA AND SOURCES OF INFORMATION FOR TREATMENT INPUTS BY ESP INTERVENTIONS

Notes: Information on current practice, standard protocol, or assumptions for interventions are for drug supply only. Personnel time for providing the intervention or inpatient day/outpatient department information is not included here.

√* Indicates intervention considering staff time for counselling, promotion, assessment, or identification.

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Maternal health							
ANC							
Daily IFA supplementation	Pregnant women	100	18.6 [1]	30 [2]		√	
Calcium supplementation	Pregnant women	100	10.5 [3]	17 [2]		√	
Tetanus toxoid	Pregnant women	100	38.3 [4]	61 [2]		√	
Screening, diagnostic tests, and counselling for four ANC visits	Pregnant women	100	10.5 [3]	17 [2]	√*	√	
Identify and manage HTN in pregnancy	Pregnant women	100	10.5 [3]	17 [2]		√	
Identify and manage pregnancy complications (anaemia, urinary tract infection, diabetes, abdominal pain, STIs)	Pregnant women	100	10.5 [3]	17 [2]	√*	√	
Syphilis detection and treatment	Pregnant women	0.6 [5]	18.6 [5]	30 [2]	√	√	
Micronutrientsupplements (vitamin B complex)	Pregnant women	100	15 [3, 6]	20 [3, 6]	√		

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Normal Delivery							
Institutional normal delivery (personal and obstetric history, examination - foetal position and heartbeat, partograph, bi-manual compression to stop uterus atony, institutional delivery, and episiotomy)	Pregnant women	100	7.8 [3]	9 [2]		√	
Third stage of labour management	Pregnant women	100	8.8 [3]	10 [2]		√	
Domiciliary normal delivery	Pregnant women	100	8.2 [3]	10 [2]		√	
Induction of labour (beyond 41 weeks)	Pregnant women	5	14.2 [3]	17 [2]		√	
Identify and refer obstetric emergencies (identify and refer obstetric emergencies (shock, HTN, or heavy bleeding, antibiotics for complete/septic abortion, severe pre-eclampsia, or eclampsia)	Pregnant women	2.3	59.5 [3]	89 [2]		√	
Obstetrical Emergencies							
Management of obstructed labour	Pregnant women	13.8	15 [7]	23 [2]		√	
Caesarean section	Pregnant women	23	3.9 [7]	5.9 [2]	√		
Management of preterm premature rupture of membranes	Pregnant women	7.3 [8]	22.1 [3]	26 [2]		√	
Antenatal corticosteroids for preterm labour	Pregnant women	10	14 [7]	16 [2]		√	
Management of pre-eclampsia	Pregnant women	13.6	15 [7]	23 [2]		√	
Management of eclampsia	Pregnant women	0.79	14.2 [7]	17 [2]		√	
Treatment of post-partum haemorrhage	Pregnant women	10.5	12.5 [7]	19 [2]		√	

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Management of ante-partum haemorrhage, prolapsed cord, shoulder dystocia, removal of retained products, repair vaginal and cervical tears, assisted vaginal delivery, blood transfusion	Pregnant women	40.1	41.4 [7]	62 [2]		√	
Other obstetric emergencies (genital prolapse)	Pregnant women	100	5.75 [7]	8.6 [2]	√*		
PNC							
Counselling, postnatal clinical history, identification and management of postnatal anaemia	Pregnant women	100	9.4 [3]	17 [2]	√*	√	
Maternal sepsis case management	Pregnant women	4.5 [7]	12.4 [7]	23 [2]	√	√	
Neonatal Health							
Immediate Newborn Car							
Cord cutting and tying, prevention and management of hypothermia and newborn conjunctivitis, promotion of essential newborn care and practice, identification of danger signs, breathing problems and LBW babies, special care of pre-term and LBW neonate	Live births	100	1.8 [31]	6.1 [31]	√*		
Chlorhexidine application	Live births	100	22 [30]	33 [2]		√	
Newborn Care After Delivery							
Birth registration, weighing, temperature management, screening for congenital problems , identification of sepsis, omphalitis, neonatal jaundice, and identification and management of breastfeeding problems	Live births	100	6.5 [31]	22.8 [31]	√*		

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Neonatal Emergencies							
Neonatal resuscitation (institutional)	Live births	0.48 [9]	12.7 [7]	19 [2]	√*	√	
Newborn sepsis - full supportive care	Live births	1.25	26.3 [3]	35.5		√	
Newborn sepsis - injectable antibiotics	Live births	1.25	26.3 [3]	35.5		√	
Management of breathing problems, omphalitis, LBW babies, and neonatal jaundice	Live births	36	26.3 [3]	35.5		√	
Child Health and EPI							
IMCI							
Oral rehydration solution	Children 0-59 months	240	35.3 [8]	42.4 [2, 3]		√	
Zinc	Children 0-59 months	240	35.3 [8]	42.4 [2, 3]		√	
Antibiotics for treatment of dysentery	Children 0-59 months	12	31.6 [8]	38 [2, 3]		√	
Treatment of severe diarrhoea	Children 0-59 months	2.4	19.3 [3]	23 [2, 3]		√	
Cough/cold, wheeze	Children 0-59 months	5.4	39.1 [3]	47 [2, 3]		√	
Pneumonia treatment	Children 0-59 months	145.3	16.3 [3]	21.3 [2, 3]		√	
Treatment of severe pneumonia	Children 0-59 months	3.6	10.5 [3]	13.7 [2, 3]		√	
Treatment of simple fever, severe febrile disease, laboratory diagnosis for fever, acute ear infection, chronic ear infection, identification of danger signs and referral, counselling to parents on danger signs and nutrition	Children 0-59 months	100	7.3 [3]	8 [2, 3]		√	
EPI							
Bacille Calmette-Guerin (BCG) vaccine	Children 0-23 months	100	82.5 [4]	88 [2]		√	
Polio vaccine	Children 0-23 months	100	72 [4]	77 [2]		√	
Pentavalent vaccine	Children 0-23 months	100	78.2 [4]	83 [2]		√	
Pneumococcal vaccine	Children 0-23 months	100	39.8 [10]	52 [2]		√	

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Inactivated polio vaccine	Children 0-23 months	100	72[4]	77 [2]		√	
Measles vaccine	Children 0-23 months	100	71.3 [4]	76 [2]		√	
Other EPI activities (counselling parents on immunization and adverse effects, registering eligible children, follow-up of defaulters and to identify adverse effects)	Children 0-23 months	100	82.2 [4]	88 [2]	√*		
Adolescent Health							
Counselling on puberty, safe sexual behaviour, mental health, HIV/AIDS, substance abuse, and FP information and provision and prevention of early marriage	Adolescents 10-19 years	100	12.5 [27]	18.8 [2]	√*		
Screening for STIs	Adolescents 10-19 years	0.2	11.5 [12]	17.3 [2]	√		
Syndromic management of STIs	Adolescents 10-19 years	0.2	11.5 [12]	17.3 [2]	√		
Etiologic management of STIs	Adolescents 10-19 years	0.2	11.5 [12]	17.3 [2]	√		
FP information and provision	Adolescents 10-19 years	100	18 [12]	27 [2]	√*		
Nutrition							
Child Nutrition							
Assessment nutrition status (growth monitoring)	Children 0-23 months	100	24.4 [18]	36.6[6]	√*		
Breastfeeding within an hour of birth, exclusive breastfeeding for 6 months, breastfeeding until 23 months of age	Children 0-23 months	100	14 [3]	21[6]	√*		
Breastfeeding counselling and support	Live births	100	47.2 [3]	61.4 [6]	√*		
Complementary feeding counselling and support	Children 6-23 months who are food secure	100	16 [3]	24 [6]	√*		
Deworming	Children 6-59 months	100	10 [3]	15 [3]		√	
Vitamin A supplementation	Children 6-59 months	100	55.5 [1, 3]	83.3 [6]		√	
Management of anaemia	Children 6-23 months	100	12.5 [1, 3]	18.8 [6]		√	

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Management of moderate acute malnutrition	Children 6-59 months	40	16.8 [18]	33.7 [6]	√	√	
Management of severe acute malnutrition	Children 6-59 months	4	10.6 [1, 3]	21.1 [6]	√	√	
Management of severe acute malnutritionwith associated complications (vitamin A deficiency, corneal clouding/ulceration, dermatosis, helminthiasis, continuing diarrhoea/dysentery)	Children 6-59 months	4	4.7 [18]	7[6]		√	
Adolescent Nutrition							
Assessment of nutritional status	Both sex 10-19 years	100	16.8 [7]	21.8[3, 6]	√*		
IFA supplementation	Females, 10-19 years	100	3.2[19]	8[6]		√	
Maternal Nutrition							
IFA supplementation	Females, 20-49 years	100	6.9[19]	17.2[6]		√	
Assessment and counselling during ANC	Pregnant women	100	10.5 [3]	15.8 [3, 6]	√*		
Vitamin A in post-partum	Pregnant women	100	28.1 [3]	42.1 [3, 6]		√	
Deworming	Women of reproductive age (15-49 years)	20	18.1 [15]	27.2 [3, 6]	√	√	
Management of anaemia	Women of reproductive age (15-49 years)	50	12.5 [16]	18.8 [6]	√	√	
Fp/Rh							
Pre-Conception Care							
Promote health, FP, nutrition, child survival and safe motherhood, screening for malnutrition, prevent infectious diseases including HIV and	Women of reproductive age (15-49 years)	100	11.8 [30]	17 [2]	√*		

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
STIs, congenital anomalies, counselling on best practices during pregnancy							
Tetanus toxoid for women of reproductive age	Women of reproductive age (15-49 years)	100	20 [14]	85.8 2)		√	
FP Counselling							
FP counselling (counselling on birth spacing, methods and adverse effects, advocacy and awareness development on post-partum FP and post menstrual regulation/PAC-FP, screening according to medical eligibility criteria for contraceptive use, pre-conception FP counselling, ANC information and counselling on post-partum FP, counselling and provision of post-partum FP methods)	Women of reproductive age (15-49 years)	74.4	53.1	77	√*		
FP Methods							
Pill - standard daily regimen	Women of reproductive age (15-49 years)	100	13 [3]	13.61 [3, 26]		√	
Condom - male	Men 15-49 years	100	3.1 [3]	3.2 [3, 26]		√	
Emergency contraceptive pill	Women of reproductive age (15-49 years)	100	25.1 [3, 23]	26.4 [3, 26]		√	
Injectable - (depo provera)	Women of reproductive age (15-49 years)	100	6 [3]	6.25 [3, 26]		√	
IUD (copper-T 380-A IUD)	Women of reproductive age (15-49 years)	23.6	0.3 [3]	0.3 [3, 26]		√	
Implant - implanon	Women of reproductive age (15-49 years)	46	0.8 [3]	1.2 [3, 26]		√	
Female sterilization	Women of reproductive age (15-49 years)	5.3	2.2 [3]	2.3 [3, 26]		√	
Male sterilization	Men 15-49 years	5.3	0.58 [3]	0.6 [3, 26]		√	

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Management of FP Complications							
Management of FP complications	FP users	100	15 [3]	22.5 [3, 26]	√	√	
Menstrual Regulation							
Menstrual regulation	Women of reproductive age (15-49 years)	100	5.4 [32]	6.5 [32]		√	
NCDs							
Diabetes Mellitus							
Diagnosis of diabetes mellitus	Total population	10.5 [20]	25.6 [12]	63.9 [21]	√	√	
Management of type II diabetes mellitus	Adults 40+ years	0.1 [22]	25.6 [12]	63.9 [21]		√	√
Management of type I diabetes mellitus	Total population	10.5 [20]	25.6 [12]	63.9 [21]		√	√
Identification and referral of long-term complications	Total population	4.2	25.6 [12]	63.9 [21]	√*		
HTN							
Promote healthy lifestyle for HTN and other NCD control	People with cholesterol > 8 mmol/L and total CVD risk < 30%	100	6.9 [26]	13.8 [21]	√		√
Diagnosis of HTN	People age 35-73+ years	100	3.6 [26]	7.1[21]	√	√	
Management of HTN	People 35-80+ years	32	3.6 [26]	7.1[21]		√	√
Lab follow-up of HTN cases	People 35-80+ years	32	1.1 [26]	2.1 [21]		√	√
Identify and refer CVD	People 35-80+ years	10	3.6 [26]	7.1 [21]	√*		
Breast Cancer							
Basic breast cancer awareness	Female 15-49 years	100	9.2 [12]	22.9 [21]			√
Screening: clinical breast exam	Female 15-49 years	12	22.9 [12]	57.3 [21]			√
Cervical Cancer							
Visual inspection with acetic acid	Women 30-49 years	6.6	22.9 [12]	57.3 [21]			√
NCD Screening And Management Based On Total Risk Assessment							

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Screening for risk of CVD/diabetes	People with a 20-30% chance of developing CVD or diabetes	14.3	6.1 [12]	18.2 [21]	√	√	
Determine risk of CVD in next 10 years	People with SBP > 160 mmHG and total CVD risk < 30%	14.3	6.1 [12]	18.2 [21]		√	√
Manage conditions and identify and refer complications (HTN, high total cholesterol, CVD, diabetes mellitus)	People with acute strokes or acute IHD	14.3	6.1 [12]	18.2 [21]		√	√
Chronic Obstructive Pulmonary Disease							
Counselling on smoking cessation	Both sex 10-80+ years	1.88	3.8 [14]	9.5 [21]	√*		
Diagnosis and management of ambulatory cases	People with chronic obstetric pulmonary disease	1.88	3.8 [14]	9.5 [21]	√		
Diagnosis and management of inpatient cases	People with chronic obstetric pulmonary disease	1.88	3.8 [14]	9.5[21]	√		
SGBV							
Case identification and recognition	Female 15-49 years	12.9	15.4 [23]	30.8 [21]	√		
First-point counselling	Female 15-49 years	26.9	15.4 [23]	30.8 [21]	√		
Prevention of pregnancy with emergency contraception	Female 15-49 years	8.2	15.4 [23]	30.8 [21]	√		
Treatment of minor injuries	Female 15-49 years	9.8	15.4 [23]	30.8 [21]	√		
Prophylaxis for STIs	Female 15-49 years	13.3	15.4 [23]	30.8 [21]	√		
Psychological support	Female 15-49 years	28.7	15.4 [23]	30.8 [21]	√		
Medico-legal examination	Female 15-49 years	30	15.4 [23]	30.8 [21]	√		
Arsenicosis							
Counselling on the consumption of safe water	Population at risk of arsenicosis	0.7	33.6 [24]	67.1 [21, 25]	√*		
Identify, treat skin conditions and refer	Population at risk of arsenicosis	0.7	16.8 [24]	33.6 [21, 25]	√*	√	

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Management Of Other Common Conditions							
Eye Care							
Treatment of acute conjunctivitis	Total population	0.42	25.6 [12, 33]	39.4 [34]	√		
Treatment of corneal ulcer	Total population	0.42	25.6 [12, 33]	39.4 [34]	√		√
Detection of cataract and visual impairment	Total population	11.2	9.3[12, 33]	14.3 [34]	√*		
Ear Care							
Identification and referral of hearing impairment	Total population	0.08	25.6 [12, 33]	39.4 [34]	√		
Management of otitis media	Total population	0.08	25.6 [12, 33]	39.4 [34]	√		
Dental Care							
Promotion of oral hygiene	Total population	0.09	33.2 [12]	36.5 [12]	√		
Treatment of common dental diseases	Total population	0.09	33.2 [12]	36.5 [12]	√		
Tooth extraction (mobile tooth)	People 10+ years	0.09	33.2 [12]	36.5 [12]	√		
Treatment Of Common Skin Diseases							
Treatment of common skin diseases	Total population	0.43	30.7 [12]	30.7 [12]	√		
Emergency Care							
Road traffic accident stabilization and referral	Total population	0.23	25.6 [12]	32 [12]	√		
Drowning	Adults 15+ years	0.01	25.6 [12]	32 [12]	√		
First aid in minor injuries	Total population	0.7	25.6 [12]	32 [12]	√		
Poisoning and snakebite	Total population	0.01	25.6 [12]	32 [12]		√	
Other Communicable Diseases							
Hepatitis diagnosis and management	Total population	0.23	21.2 [12]	26.3 [11]	√		
Typhoid diagnosis and management	Total population	0.09	39.6 [12]	49.5 [11]	√		
Diarrhoea and dysentery	Total population	0.29	29.9 [12]	37.4 [11]	√		

Interventions	Target Population	Population In Need (%)	Baseline Coverage (2016)	Target Coverage (2022)	Current Practice	Protocol	Assumption/Not Available In Health Facilities
Dengue							
Laboratory monitoring of suspected case	Total population	1	6 [38]	10.4 [11]	√	√	
Outpatient department management	Total population	1	8.8 [38]	15.3 [11]	√	√	
Inpatient management	Total population	1	8.8 [38]	15.3 [11]	√	√	
Rabies							
Rabies post exposure prophylaxis	Total population	0.03	35.4 [11]	61 [11]		√	
Malaria							
Prevention and case management	Population at risk	3.1	17.8 [12]	53.5 [11]	Costed using budget line items		
TB And Leprosy							
TB	Total incidence/year	100	62 [39]	85 [39]	Costed using budget line items		
Leprosy	Population at risk	0.41 [13]	49 [13]	74 [13]	Costed using budget line items		
HIV/AIDS							
Prevention, care, and treatment of HIV/AIDS	People living with HIV/AIDS	100	53 [13]	100 [13]	Costed using budget line items		
Neglected Tropical Diseases							
Kala-azar (cutaneous leishmaniasis and visceral leishmaniasis)	Population at risk	3.6	7.6 [28]	15.1 [21]	Costed using budget line items		
Lymphatic filariasis	Population at risk	16	50 [29]	75 [21]	Costed using budget line items		

APPENDIX C: COST PER SERVICE OF ESP INTERVENTIONS BY DELIVERY CHANNELS, AND WEIGHTED AVERAGE COST PER SERVICE

Notes: Appendix Cincludes cost of medicines/vaccines/contraceptives, investigations, doses and duration of treatment, other supplies, and labor cost including counseling and assessment. This cost per service of ESP interventions does not include any health system cost for delivering the interventions.

Out of a total of 132 interventions calculated in OHT, some were merged together for convenience of estimation of cost per service- for which the Appendix C shows 119 interventions instead of 132. For example (1) breastfeeding within an hour of birth, exclusive breastfeeding for 6 months, breastfeeding until 23 months of age, (2) breastfeeding counselling and support and (3) complementary feeding counselling and suppo rt- these three interventions were costed separately in OHT, but in the Appendix C these three interventions were added together under one intervention named as Infant and young child feeding (IYCF).

R= labour cost for referral only, no drug-supply cost

* *Primary management & refer*

L= labour cost for counselling, promotion, assessment, or identification

Cost per service (drug-supply and labour cost) in BDT by delivery channels												Weighted average cost (BDT)
Intervention list		Delivery channels										
		DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
Maternal Health												
ANC												
ANC	Daily IFA supplement for four ANC visits	462.8	474.3	473.5	478.4	481.6	475.3	-	476.3	472.3	472.3	472.4
	Calcium supplementation during four ANC visits	317.6	315.9	313.1	311.9	315.7	308.9	-	-	295.2	295.2	312.7
	Tetanus toxoid	59.5	56.3	53	52.8	57.1	48.6	-	47.9	41.1	41.1	53.0
	Screening, diagnostic tests, and counselling for four ANC visits	883.8	189.5	899.1	349.2	183.5	112.9	156.9	93.7	861	909.2	527.5
Subtotal of ANC (only 4 components)		1,723.8	1,036.1	1,738.7	1,192.	1,037.	945.8	156.	617.8	1,669.5	1,717.7	1365.5

Cost per service (drug-supply and labour cost) in BDT by delivery channels											Weighted average cost (BDT)
Intervention list		Delivery channels										
		DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
					2	9		9				
Identify and manage HTNduring ANC		144.5	144.5	143.9	11.2[R]	14.2[R]	9.3	-	-	145.9	-	114.3
Identify and manage pregnancy complications (anaemia, urinary tract infection, diabetes, abdominal pain, STIs)		421.2	291.6	459.2	44.8	82.7	9.3[R]	9.8[R]	-	407.9	14.8	318.2
Syphilis detection and treatment		464.3	290.2	458	-	-	-	-	-	440.3	189.2	407.3
Subtotal of ANC (all components)		2,753.7	1,762.3	2,799.7	1,248.2	1,134.8	964.4	166.8	617.8	2,663.6	1,921.7	2205.3
Normal Delivery												
Institutional normal delivery	Personal and obstetric history, examination -foetal position and heartbeat, partograph, bi-manual compression to stop uterus atony, institutional delivery, and episiotomy	644.9	737.5	644.9	591.1	-	545.5	-	-	646.9	-	601.7
	Third stage of labour management	81.7	85.6	82.99	62	-	85.9	-	-	83	-	76.1
Subtotal of normal delivery and episiotomy (institutional)		**726.6**	**823.1**	**727.9**	**653.2**	**-**	**631.4**	**-**	**-**	**729.9**	**-**	**677.9**
Domiciliary normal delivery		-	-	-	-	-	-	-	207.7	-	-	207.7
Induction of labour (beyond 41 weeks)		807.1	807.1	278.3	673.6	10.7[R]	14.8[R]	-	-	-	861.5	558.8
Identify and refer obstetric emergencies (shock, HTN or heavy bleeding, antibiotics for complete/septic abortion, severe pre-eclampsia or eclampsia)		(See next rows for obstetric emergencies)	81.3[*]	431.8[*]	69.7[*]	77.6[*]	9.4[R]	9.8[R]	-	443.5[*]	-	164.4
Obstetric Emergencies												
Management of obstructed labour		181.3	137.5	145.4	-	-	-	-	-	137.5	-	157
Caesarean section		4,451	4,589.3	4,451	-	-	-	-	-	4,451	-	4453.6
Management of preterm premature rupture of membranes		884.7	885	884.7	-	-	-	-	-	905.3	-	886.6

Cost per service (drug-supply and labour cost) in BDT by delivery channels											Weighted average cost (BDT)
Intervention list	Delivery channels										
	DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
Antenatal corticosteroids for preterm labour	342.2	410.8	376.4	10.8[R]	13.5[R]	9.3[R]	9.8[R]	-	400.8	14.8[R]	206.9
Management of pre-eclampsia	682.8	578.3	604.4	-	-	-	-	-	682.8	-	638.5
Management of eclampsia	730.7	689.4	767.1	-	-	-	-	-	730.7	-	749.6
Treatment of post-partum hemorrhage	657.9	673.8	693.7	-	-	-	-	-	635.5	-	675.44
Management of ante-partum haemorrhage, prolapsed cord, shoulder dystocia, removal of retained products, repair vaginal and cervical tears, assisted vaginal delivery, blood transfusion	886.1	707.2	886.8	-	-	-	-	-	886.1	-	883.1
Subtotal of Obstetrical Emergencies	**8816.7**	**8671.4**	**8809.5**	**10.8**	**13.5**	**9.3**	**9.8**	**-**	**8829.6**	**14.8**	**8650.7**

Cost per service (drug-supply and labour cost) in BDT by delivery channels											Weighted average cost (BDT)
Intervention list	Delivery channels										
	DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
PNC											
Counselling, postnatal clinical history, identification and management of postnatal anaemia	426.6	335.4	414.3	192.3	193.6	208.2	19.6	19.2	468.4	330.2	272.8
Maternal sepsis case management	794.4	260.9	565.2	11.1[R]	13.5[R]	9.4[R]	9.8[R]	9.6[R]	1058.8	14.8[R]	371.5
Subtotal of PNC	**1221.0**	**596.3**	**979.6**	**203.4**	**207.1**	**217.6**	**29.4**	**28.8**	**1527.2**	**345.0**	**644.3**
Neonatal Health											
Immediate Newborn Care											
Cord cutting and tying, chlorhexidine application, prevention and management of hypothermia and newborn conjunctivitis, promotion of essential newborn care and practice, identification of danger signs, breathing problems and LBW babies, special care of pre-term and LBW neonate	100.4	107.3	100	77.1	16.8	71.2	75.7	-	121.6	12.8	85.4
Newborn Care After Delivery											
Birth registration, weighing, temperature management, screening for congenital problems, identification of sepsis, omphalitis, neonatal jaundice, and identification and management of breastfeeding problems	25.2[L]	29.5[L]	25.5[L]	13.4[L]	13.4[L]	13.1[L]	13.7[L]	13.5[L]	35.7[L]	-	22.1
Subtotal of newborn care	**125.6**	**136.8**	**125.5**	**90.5**	**30.3**	**84.3**	**89.4**	**13.5**	**157.3**	**12.8**	**107.5**

Cost per service (drug-supply and labour cost) in BDT by delivery channels											Weighted average cost (BDT)
Intervention list		Delivery channels									
		DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
Neonatal Emergencies												
Neonatal resuscitation (institutional)		75.6	77.5	75.6	42.7[R]	8.9[R]	-	-	-	80.1	-	68.6
Management of breathing problems, omphalitis, LBW babies, and neonatal jaundice		475.8	373.1	487.2	185.7	219.8	-	-	-	475.8	-	420.5
Newborn sepsis	Full supportive care	190.8	14.8[R]	194.2	-	-	-	-	-	190.8	-	189.3
	Injectable antibiotics	700.3	49.3[*]	708.7	26.5[*]	37.5[*]	-	-	-	858.7	-	496.6
Subtotal of neonatal emergencies		**1442.4**	**514.7**	**1465.6**	**254.9**	**266.1**	-	-	-	**1605.5**	-	**1175.1**
Child Health and EPI												
IMCI												
Management of diarrhoea	Oral rehydration solution	23.2	21.9	20.1	19.6	21.6	14	-	-	23.2	23.2	20.9
	Zinc	19.7	18.4	16.6	16.1	18.2	10.5	-	-	19.7	19.7	17.5
	Antibiotics for treatment of dysentery	55.2	55.2	53.6	52.1	53.6	-	-	-	57.6	57.6	54.6
	Treatment of severe diarrhoea	161.3	-	165.2	-	-	-	-	-	-	-	163.4
Subtotal of diarrhoea management		**259.3**	**95.4**	**255.6**	**87.8**	**93.5**	**24.6**	**-**	**-**	**100.4**	**100.4**	**256.4**
Management of ARI	Cough/cold, wheeze	42.9	42.9	41.2	36.7	38.9	34.7	-	-	43.8	42.9[*]	41.0
	Pneumonia treatment	240.8	207.9	240.8	-	-	-	-	-	198.6	59.2[*]	225.7
	Treatment of severe pneumonia	1,010.5	-	929.3	-	-	-	-	-	-	-	966.3
Subtotal of ARI		**1294.2**	**250.8**	**1211.3**	**36.7**	**38.9**	**34.7**	**0.0**	**0.0**	**242.3**	**102.1**	**1233.0**

Cost per service (drug-supply and labour cost) in BDT by delivery channels												Weighted average cost (BDT)
Intervention list		Delivery channels										
		DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
Other IMCI activities	Treatment of simple fever, severe febrile disease, laboratory diagnosis for fever, acute ear infection, chronic ear infection, identification of danger signs and referral, counselling to parents on danger signs and nutrition	221.6	86.6	220.3	30.6	49.5	29.3[R]	13.7[R]	9.7[R]	179.5	81.7	122.3
Subtotal of IMCI		**1775.1**	**432.8**	**1687.2**	**155.1**	**181.9**	**88.6**	**13.7**	**9.7**	**522.3**	**284.2**	**1611.7**
EPI												
Vaccin	BCG vaccine (1 dose)	20.3	19.2	20.5	19.2	19.2	19.2	-	19.2	-	16.4	19.5
	Polio vaccine (3 doses)	71.4	67.9	71.7	67.9	67.9	67.9	-	67.9	-	59.5	69.0
	Pentavalent Vaccine	627.9	623.5	628.3	623.5	623.5	623.5	-	623.5	-	613.1	624.9
	Pneumococcal vaccine (3 doses)	914	909.7	914.4	909.7	909.7	909.7	-	909.2	-	899.2	911
	Inactivated polio vaccine (1 dose)	163.9	164.8	166.1	164.8	164.8	163	-	163	-	162	125.7
	Measles vaccine (2 doses: MR vaccine at 9th month and measles vaccine at 15th month of age)	125.6	122.7	125.9	122.7	122.7	122.7	-	122.7	-	115.7	123.6
Subtotal of EPI vaccines		**1923.1**	**1907.8**	**1926.8**	**1907.8**	**1907.8**	**1906.0**	**-**	**1906.0**	**-**	**1865.9**	**1873.8**
Other EPI activities (counselling parents on immunization and adverse effects, registering eligible children, follow-up of defaulters and to identify adverse effects)		22.2[L]	25.4[L]	23[L]	22.4[L]	26.5[L]	19.1[L]	19.6[L]	-	-	10.6[L]	21.8

Intervention list	Cost per service (drug-supply and labour cost) in BDT by delivery channels										Weighted average cost (BDT)
	Delivery channels										
	DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
Subtotal of EPI activities	**1945.3**	**1933.3**	**1949.8**	**1930.2**	**1934.3**	**1925.1**	**19.6**	**1926.8**	**-**	**1876.5**	**1895.6**
Adolescent Health											
Counselling on puberty, safe sexual behaviour, mental health, HIV/AIDS, substance abuse, FP information and provision, and prevention of early marriage	60.8 [L]	73.8 [L]	60.9 [L]	55 [L]	39.7 [L]	48.4 [L]	49.7 [L]	50.6 [L]	23.6 [L]	23.6 [L]	53.5
Screening for STIs	154.7	14.8 [R]	154.7	11.2 [R]	13.2 [R]	-	-	-	154.7	154.7	139.9
Syndromic management of STIs	87.1	87.1	87.1	11.2 [R]	14.8 [R]	-	-	-	87.1	69.7	81.2
Etiologic management of STIs	212.1	14.8 [R]	212.1	-	-	-	-	-	14.8 [R]	14.8 [R]	177.5
Subtotal of Adolescent health	**514.6**	**190.5**	**514.7**	**77.3**	**67.7**	**48.3**	**49.7**	**50.6**	**280.2**	**262.8**	**452.1**
Nutrition											
Child Nutrition											
Assessment of nutritional status (growth monitoring)	20.7 [L]	20.7 [L]	18.2 [L]	15.7 [L]	15.7 [L]	13.7 [L]	12.8 [L]	13.0 [L]	13.3 [L]	13.3 [L]	17.4
Infant and young child feeding: breastfeeding counselling and support (breastfeeding within an hour of birth, exclusive breastfeeding for 6 months, and continue until 23 months of age), and complementary feeding counselling and support	54.8	53.1	44.6	44.8	44.8	39.2	38.8	37.4	17.1	17.1	43.2
Deworming	26.5	25.8	24.7	22.2	22.2	20.9	20.8	20.4	26.5	26.5	24.7

Cost per service (drug-supply and labour cost) in BDT by delivery channels											
Intervention list		Delivery channels									Weighted average cost (BDT)
		DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
Vitamin A supplementation (6-59 months)		12.0	11.2	9.8	9.9	9.9	9.0	8.9	8.7	3.7	6.4	9.7
Management of anaemia		58.9	-	57.6	56.8	56.8	-	-	55.6	58.9	58.9	57.8
Management of malnutrition	Management of severe acute malnutrition with associated complications (vitamin A deficiency, corneal clouding/ulceration, dermatosis, helminthiasis, continuing diarrhoea/dysentery)	1423.8	-	1539.0	20.7[F]	20.7[F]	9.8[R]	-	9.3[R]	1456.3	29.5[F]	1048.9
	Management of moderate acute malnutrition	34.4	-	33.4	25.8	25.8	26.6	-	26.1	60.0	35.2	35.1
Subtotal of child nutrition		**1631.0**	**110.8**	**1727.4**	**195.8**	**195.8**	**119.2**	**81.3**	**170.6**	**1635.8**	**186.9**	**1236.7**
Adolescent Nutrition												
Assessment of nutritional status and IFA supplementation		51.2	59.2	48.1	44.9	48.7	38.4	41.2	40.6	39.1	39.1	46.4
Maternal Nutrition												
Vitamin A in post-partum		11.3	11.8	11.6	11	12.1	10.5	10.7	10.7	12	12.7	11.4
Deworming		16	16	14.6	8.7	14.8	11.6	12	12	16	16	14.6
Assessment and counselling on nutrition and IFA supplementation		38.2	44.3	37.9	33.6	39.7	28.1	29.4	29.1	12.8	12.8	33.1
Management of anaemia		137	135.2	158.4	42.7	45.1	40.8	-	-	159.7	67.5	119.4
Subtotal of Maternal nutrition		**202.5**	**207.3**	**222.6**	**96.0**	**111.6**	**91.0**	**52.2**	**51.7**	**200.5**	**109.0**	**178.5**
NCDs												
Diabetes Mellitus												
Diagnosis of diabetes mellitus		134.7	-	134.7	-	-	9.3[R]	-	-	134.7	134.7	134.7
Management of type II diabetes mellitus		293.2	-	308	-	-	-	-	-	293.2	308	297.1
Management of type I diabetes mellitus		534.4	-	534.4	-	-	-	-	-	534.4	534.4	534.4

Cost per service (drug-supply and labour cost) in BDT by delivery channels											Weighted average cost (BDT)
Intervention list	Delivery channels										
	DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
Identification and referral of long-term complications	29.5[L]	-	29.5[L]	29.5[L]	29.5[L]	18.6[L]	-	-	29.5[L]	29.5[L]	27.6
Subtotal of Diabetes mellitus	991.9	0.0	1006.7	29.5	29.5	27.9	0.0	0.0	991.9	1006.7	993.8
Breast Cancer											
Basic breast cancer awareness	35.9[L]	-	23.3[L]	21.6[L]	26.5[L]	18.8[L]	19.6[L]	19[L]	12.8[L]	12.8[L]	25.2
Screening: clinical breast exam	52.2[L]	-	47.6[L]	-	59.1[L]	38[L]	-	-	59.1[L]	59.1[L]	51.5
Cervical Cancer											
Visual inspection with acetic acid	93.3	-	93.3	-	-	-	-	-	-	-	93.3
Chronic Obstructive Pulmonary Disease-											
Counselling on smoking cessation	25.4[L]	-	26.5[L]	22.4[L]	26.5[L]	18.8[L]	19.6[L]	19.2[L]	12.8[L]	12.8[L]	22.6
Diagnosis and management of ambulatory cases	183.6	-	177.7	-	36.7[T]	-	-	-	-	-	177.6
Diagnosis and management of inpatient cases	180.5	-	180.5	-	-	-	-	-	-	-	180.5
Subtotal of Chronic obstructive pulmonary disease	**389.5**	**0.0**	**384.7**	**22.4**	**63.2**	**18.8**	**19.6**	**19.2**	**12.8**	**12.8**	**380.8**
Sexual &Gender Based Violence (SGBV)											
Case identification and recognition	414.7	44.3[R]	44.3[R]	35.2[R]	44.3[R]	27.9[R]	29.4[R]	27.9[R]	54.8[R]	44.3[R]	150.3
First-point counselling	36.5[L]	14.8[R]	14.8[R]	-	14.8[R]	-	-	-	14.8[R]	14.8[R]	26.7
Prevention of pregnancy with emergency contraception	25.3	14.8[R]	14.8[R]	-	14.8[R]	-	-	-	21.8[R]	14.8[R]	21.5
Treatment of minor injuries	228.3	14.8[R]	14.8[R]	-	13.2[R]	-	-	-	14.8[R]	14.8[R]	140.7
Prophylaxis for STIs	180	14.8[R]	14.8[R]	-	14.8[R]	-	-	-	14.8[R]	14.8[R]	112.2
Psychological support	73.1	14.8[R]	14.8[R]	-	-	-	-	-	14.8[R]	-	60.4
Medico-legal examination	219.2	14.8[R]	14.8[R]	-	-	-	-	-	14.8[R]	14.8[R]	167.7

Cost per service (drug-supply and labour cost) in BDT by delivery channels											
Intervention list	Delivery channels										Weighted average cost (BDT)
	DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
Subtotal of SGBV	1177.2	132.9	132.9	35.2	101.9	27.9	29.4	27.9	150.4	118.1	679.6
NCD Screening and Management Based on Total Risk Assessment											
Screening for risk of CVD/diabetes	211.7	-	211.7	-	39.7	27.9	-	29.4	196	196	192.2
Determine risk of CVD in next 10 years	29.5[L]	-	28.3[L]	-	26.5[L]	9.3[L]	-	9.6[L]	29.5[L]	29.5[L]	27.6
Manage conditions and identify and refer complications (HTN, high total cholesterol, CVD, diabetes mellitus)	80.6	-	80.6	-	80.6	-	-	-	80.6	80.6	80.6
***Subtotal of* NCD screening and management based on total risk assessment**	**321.8**	**-**	**320.6**	**-**	**146.8**	**37.2**	**-**	**39.0**	**306.1**	**306.1**	**300.4**
Arsenicosis											
Counselling on the consumption of safe water	14.8[L]	-	11.7[L]	11.7[L]	12.9[L]	9.3[L]	9.8[L]	9.6[L]	4.3[L]	4.3[L]	11.6
Identify, treat skin conditions and refer	135.6	-	133.7	-	-	-	-	-	135.6	135.6	135.0
Hypertension (HTN)											
Promote healthy lifestyle for HTN and other NCD control	44.3[L]	-	39.7[L]	-	39.7[L]	27.9[L]	29.4[L]	28.4[L]	44.3[L]	44.3[L]	40.0
Diagnosis of HTN	358.9	-	358.9	-	29.5[R]	18.6[R]	-	-	358.9	358.9	287.0
Management of HTN	100.8	-	100.8	-	100.8	-	-	-	100.8	100.8	100.8
Lab follow-up of HTN cases	395.2	-	395.2	-	-	-	-	-	395.2	395.2	395
Identify and refer CVD	158	-	158	-	13.2[R]	9.3[R]	9.3[R]	-	14.8[R]	14.8[R]	118.0
Subtotal of HTN	**1057.1**	**-**	**1052.6**	**-**	**183.3**	**55.9**	**38.7**	**28.4**	**913.9**	**913.9**	**940.9**
Family Planning & Reproductive Health (FP & RH)											
Pre-Conception Care											
Pre-conception care	29.5[L]	24.6[L]	22.2[L]	21.8[L]	25.9[L]	18.7[L]	19.6[L]	19.2[L]	9.8[L]	9.8[L]	22.3
Tetanus toxoid for women of	29.8	28.5	26.7	26.4	28.5	24.1	-	24.1	20.5	20.5	26.4

Cost per service (drug-supply and labour cost) in BDT by delivery channels											Weighted average cost (BDT)
Intervention list		Delivery channels									
		DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
reproductive age (unit cost showed costing of one dose)												
Subtotal of Pre-conception care		**59.3**	**53.2**	**48.9**	**48.2**	**54.4**	**42.8**	**19.6**	**43.3**	**30.3**	**30.3**	**48.7**
Family Planning (FP)												
FP counselling		25.4[L]	24.6[L]	22.2[L]	21.8[L]	5.9[L]	19.7[L]	20.7[L]	21.1[L]	9.8[L]	9.8[L]	20.8
FP methods	Pill - standard daily regimen	24.4	26.9	24.4	24.4	-	24.4	24.4	24.4	21.3	21.3	24.0
	Condom – male	10.9	13.4	10.9	10.9	-	10.9	10.9	10.9	7.8	7.8	10.6
	Emergency contraceptive pill	41.9	44.4	41.9	41.9	-	41.9	41.9	41.9	38.8	38.8	41.5
	Injectable - (depo provera)	47.7	51.8	47.7	47.7	-	47.7	47.7	47.7	42.5	42.5	47.1
	IUD (Copper-T 380-A IUD)	291.9	312.5	294.1	285.1	-	-	-	-	301.4	301.4	269.7
	Implant - implanon	10.7[R]	1691	1691	-	-	-	-	-	1691	1691	1,558.5
	Female sterilization	10.7[R]	1106.9	889.2	-	-	-	-	-	1008	-	828.1
	Male sterilization	10.7[R]	679.9	614.6	-	-	-	-	-	650.3	-	556.7
	Subtotal of FP methods	**167.6**	**3927.0**	**3614.1**	**410.0**	**-**	**124.9**	**124.9**	**124.9**	**3761.4**	**2103.1**	**3336.2**
Management of FP complications		10.7[R]	189.4	189.4	13.8[R]	-	10[R]	10.7[R]	10.7[R]	189.4	189.4	96.0
Menstrual regulation		378.7	391	378.7	378.1	-	10[R]	10.7[R]	10.7[R]	363.2	363.2	310.0
Subtotal of FP		**582.4**	**4532.0**	**4204.4**	**823.6**	**5.9**	**164.6**	**166.9**	**167.3**	**4323.9**	**2665.6**	**3762.9**
Management of Other Common Conditions												
Eye Care												
Treatment of acute conjunctivitis		59.4	-	54.9	23.6	25.9	21.2	-	-	43.5	26.6	46.0
Treatment of corneal ulcer		63.9	-	55.2	-	-	-	-	-	50	14.8[R]	55.7
Detection of cataract and visual impairment		8.9[R]	-	8.9[R]	7[R]	8.9[R]	5.6[R]	-	-	8.9[R]	8.9[R]	8.2
Ear Ccare												
Identification and referral of hearing impairment		14.8[R]	-	14.8[R]	11.7[R]	13.5[R]	9.3[R]	8.9[R]	9.2[R]	14.8[R]	14.8[R]	13.6

Cost per service (drug-supply and labour cost) in BDT by delivery channels											Weighted average cost (BDT)
Intervention list	Delivery channels										
	DH	MCWC	UHC	FWC	USC	CC	DOM	SC/OR	CRHCC	PHCC	
Management of otitis media	76.3	-	69.6	11.7[R]	49.6	26.5[R]	-	-	69.6	45.2	60.3
Dental Care											
Promotion of oral hygiene	52.1[L]	-	52.1[L]	11.7[L]	13.2[L]	9.3[L]	9.8[L]	9.6[L]	-	-	42.0
Treatment of common dental diseases	326.7	-	326.7	11.7	13.2	-	-	-	-	-	300.3
Tooth extraction	72.9	-	72.9	-	-	-	-	-	-	-	72.9
Treatment of Common Skin Diseases											
Treatment of common skin diseases	96.7	-	91.5	73.8	75.6	75.1	-	-	84.4	84.4	88.3
Emergency Care											
Road traffic accident (stabilization and referral)	360.2	-	360.2	-	-	-	-	-	-	-	360.2
Drowning	501.5	-	499.7	11.7[R]	14.8[R]	5.6[R]	3.6[R]	5.6[R]	435.6	44.3[R]	348.7
First aid in minor injuries	206	-	208.2	130.9	129.2	148.2	-	-	189.4	189.4	190.2
Poisoning and snakebite	978.5	-	977.3	-	-	-	-	-	-	-	977.8
Subtotal of Emergency care	**2046.1**	**-**	**2045.4**	**142.6**	**144.0**	**153.7**	**3.6**	**5.6**	**625.0**	**233.7**	**1877.0**
Other Communicable Diseases											
Hepatitis diagnosis and management	344.4	-	340.2	-	-	-	-	-	-	-	342.5
Typhoid diagnosis and management	270.9	-	270	-	-	-	-	-	-	-	270.5
Diarrhoea and dysentery	107.5	-	106.6	66.5	68.7	-	-	-	-	-	104.5
Dengue											
Laboratory monitoring of suspected case	263.5	-	263.5	-	-	-	-	-	-	-	263.5
Outpatient department management	67.3	-	67.3	-	-	-	-	-	-	-	67.3
Inpatient management	357.5		236.7	-	-	-	-	-	-	-	290.7
Rabies											
Rabies post exposure prophylaxis (4 dose)	2402.1	-	14.8[R]	-	-	-	-	-	-	-	1,289.6

APPENDIX D: OHT TREATMENT INPUTS AT UPAZILA HEALTH COMPLEX

Notes: Treatment inputs (only commodities) are provided only for the UHC; contact the icddr,b team for treatment inputs used in the OHT for other delivery channels.

* =No drugs/supplies cost is considered, only labour costs for counseling, promotion, assessment, or identification.

Expert opinion of duty physicians was considered for proportion of patients receiving specific aspect of treatment.

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Upazila Health Complex								
Maternal health								
ANC								
Daily IFA supplementation								
Tab ferrous fumarate + folic acid	100	After 12 weeks' gestation until the end of pregnancy	1	1	183	183	2	411.8
Tab folic acid	100	First 3 months of pregnancy	1	2	90	180	0.27	48.6
Total cost								**460.4**
Identify and manage HTN in pregnancy								
Tab methyldopa	20	Continue as necessary	1	4	7	28	3	17.2
Tab labetalol hydrochloride	80	Continue as necessary	1	2	7	14	10	112.4
Total cost								**129.7**
Identify and manage pregnancy complications								
Anaemia during pregnancy								
Tab folic acid	60	a) Give ferrous sulfate or ferrous fumerate 120 mg daily by mouth + folic acid 800 mcg by mouth once daily for two months	1	1	7	7	0.27	1.1

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
		b) After two months, continue supplementation with ferrous sulfate or ferrous fumerate 60 mg by mouth + folic acid 400 mcg by mouth once daily for rest periods						
Tab Ferrous fumarate + folic acid	60	a) Give ferrous sulfate or ferrous fumerate 120mg daily by mouth + folic acid 800 mcg by mouth once daily for two months b) After two months, continue supplementation with ferrous sulfate or ferrous fumerate 60 mg by mouth + folic acid 400 mcg by mouth once daily for rest periods	1	2	7	14	2	18.9
Blood transfusion set	20	If haemoglobin is less than 7 g/dL or haematocrit is less than 20% (severe anaemia)	1	1	1	1	8	1.6
Blood, one unit	20	If haemoglobin is less than 7 g/dL or haematocrit is less than 20% (severe anaemia)	1	1	1	1	300	60
Urinary tract infection								
Tab cefuroxime	25	Oral antibiotics	1	2	7	14	26	92.3
Tab hyoscine butylbromide	5		1	3	3	9	6	2.7
Inj ceftriaxone sodium	10	2 gm IV/IM	1	1	3	3	115	34.5
Tab paracetamol	20	If temperature is more than 100°F	1	2	3	6	1	0.8
Diabetes								
Tab metformin	20	Continue as necessary	1	2	7	14	3	7.5
Insulin	5	If postprandial blood sugar level exceeds, and continue	1	1	3	3	69	10.3
Abdominal pain								
Tab hyoscine butylbromide	10		1	3	3	9	6	5.4
Tab antacids	10		1	3	7	21	1	1.6

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
STIs								
Tab azithromycin	5	For both infections, chlamydia infection and gonorrhea together	1	2	5	10	18	9.1
Test, VDRL	10	Investigations - VDRL test	1	1	1	1	50	5
Tab metronidazole	5	Trichomoniasis	1	3	5	15	1	0.8
Cap clindamycin	5	Trichomoniasis	1	2	7	14	26	18.2
Tab chlorpheniramine	10		1	1	5	5	0	0.1
Inj ceftriaxone sodium	2	Gonorrhea	1	1	14	14	115	32.2
Cream, fluconazole	5	For candidiasis, local application for 12 days	1	1	1	1	30	1.5
Tab flucorazole	5	For candidiasis, systematic application, 1 tab once a week for 4 weeks	1	1	4	4	20	4
Total cost								**307.7**
Calcium supplementation for prevention and treatment of pre-eclampsia and eclampsia								
Tab Calcium	100	From 20 weeks' gestation until the end of pregnancy; total daily dosage divided into three doses	1	3	140	420	1	294
Total cost								294
Tetanus toxoid (2 doses)								
Syringe, needle + swab	100		1	1	2	2	6	12
Tetanus toxoid, injection	100		1	1	2	2	9	18
Total cost								**30**

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Syphilis detection and treatment								
Screening								
EDTA blood collecting vial	50	For taking blood sample	1	1	1	1	3	1.5
Syringe, needle + swab	50	For taking blood sample	1	1	1	1	6	3
Test, VDRL	50		1	1	1	1	50	25
Gloves, disposable, sterile, pair + face mask	50		1	1	1	1	30	15
Treatment								
Syringe, needle + swab	25	For benzathine benzylpenicillin injection	1	1	4	4	6	6
Tab Azithromycin	50	Single dose twice a week for 3 weeks	1	1	6	6	18	54.8
Inj Benzathine penicillin	25	Single dose once a week for 4 weeks	1	1	4	4	24	23.5
Inj Ceftriaxone Sodium	25		1	1	7	7	115	201.2
Total cost								**330.1**
Other ANC including screening, diagnostic tests, and counselling for four ANC visits								
Identification/diagnosis of pregnancy								
Test, urine pregnancy	100		1	1	1	1	80	80
Urinalysis								
Test, urinalysis	100		1	1	1	1	20	20
HB estimation								
Test, Hb estimation	100		1	1	1	1	30	30
Blood grouping-crossmatching and Rh typing								
Test, blood grouping, and cross matching	100		1	1	1	1	150	150
Test, Rh typing	100		1	1	1	1	50	50

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Blood sugar								
Test, blood sugar	100		1	1	1	1	60	60
Ultrasonogram								
Test, ultrasonogram	100		1	1	1	1	110	110
Registration of pregnancy*[B]								
Information and counselling on complications of pregnancy*								
Clinical history*								
Obstetric and foetal assessment - maternal weight*								
Obstetric and foetal assessment – blood pressure measurement*								
Obstetric and foetal assessment - oedema*								
Obstetric and foetal assessment - fundal height*								
Obstetric and foetal assessment - foetal heartbeat*								
Birth preparedness plan*								
External version after 36 weeks*								
Total cost								500
Micronutrient supplements (vitamin B complex)								
Tab vitamin B Complex	100	Continue as necessary	1	2	30	60	0.44	26.4
Total cost								**26.4**
Normal delivery								
Identify and refer obstetric emergencies								
General								
Cotton swab	30	To apply antiseptic	1	1	1	1	0.29	0.1
Gloves, disposable, sterile, pair + face mask	30	Gloves	1	2	1	2	30	18
IV giving/infusion set, with needle	20		1	1	1	1	5	1
Cannula, IV, sterile, disposable	20		1	1	1	1	95	19

[B]*No drug supplies cost is considered, only labour cost for counselling, promotion, assessment, or identification is considered.

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Antiseptics solution (.5% chlorhexidine/chloroxylenol/ iodopovidone)	20		1	1	1	1	36	3.6
Bag, urine collecting	20	To monitor urine output	1	1	1	1	25	5
Foley's catheter	20	To monitor urine output	1	1	1	1	228	45.6
Syringe, needle + swab	5		1	1	1	1	6	0.3
If shock, hypertension, or heavy bleeding								
Hartmann's solution	30	Infuse 1 liter in 15-20 minutes, then 1 liter in 30 minutes	1	1	1	1	70	21
If heavy bleeding								
Inj oxytocin	25	In case of inevitable abortion, if pregnancy is greater than 16 weeks, may infuse oxytocin to enhance evacuation	1	1	1	1	87	21.7
Inj ceftriaxone sodium	25		1	1	1	1	115	28.7
Inj methergine (methylergonovine)	20		1	1	1	1	13	2.6
Tab misoprostol	5	400 mcg by mouth or vaginally	1	1	1	1	15	0.7
If severe pre-eclampsia or eclampsia								
Inj magnesium sulfate	25	4g (20ml of 20% solution) IV over 20 minute	1	1	1	1	20	5
Hartmann's solution	25	1 liter in 6-8 hours	1	1	1	1	70	17.5
Antibiotics for complete/septic abortion								
Inj gentamicin	15	80mg IM every 8 hours	1	1	1	1	8	1.2
Inj metronidazole	15	500mg IV every 8 hours	1	1	1	1	85	12.7
Inj ampicillin	15	IV 2 gm stat, then 500mg every 6 hours	1	1	1	1	22	3.3
Investigation								
Test, Hb estimation	5	If not done before	1	1	1	1	30	1.5

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Test, blood grouping and cross matching	5	If not done before	1	1	1	1	150	7.5
Test, Rh typing	5	If not done before	1	1	1	1	50	2.5
Test, ultrasonogram	5	As necessary	1	1	1	1	110	5.5
Test, x-ray	5	Abdomen erect posture	1	1	1	1	70	3.5
Total cost								**227.7**
Management of premature rupture of membranes								
Normal saline IV solution	100	Drip continue up to delivery	1	1	1	1	32	32
IV giving/infusion set, with needle	100		1	1	1	1	5	5
Inj amikacin	100	To prevent intra amniotic infection and continue as necessary	1	3	5	15	30	450
Inj clindamycin	20	If a cesarean delivery is required, anaerobes play a prominent role in post-partum endomyometritis, and clindamycin and metronidazole should be added to the regimen	1	3	3	9	40	72
Inj metronidazole	20	If a cesarean delivery is required, anaerobes play a prominent role in post-partum endomyometritis, and clindamycin and metronidazole should be added to the regimen	1	3	3	9	85	152.8

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Inj magnesium sulfate	15	Tocolytic agents do not appear to markedly prolong the length of gestation, but they may delay delivery in some women for at least 48 hours and provide a window for transporting the patient to a regional subspecialty obstetric center and administering antenatal corticosteroid therapy	1	1	1	1	20	3
Tab nifedipine	30	Calcium channel blocker	1	2	5	10	3	9
Inj oxytocin	25	Oxytocin antagonists,	1	1	1	1	87	21.7
Tab paracetamo	100	Non-steroidal anti-inflammatory drugs	1	2	3	6	1	4.2
Test, ultrasonogram	100	To confirm gestational age and to assess the presence of any congenital anomalies	1	1	1	1	110	110
Total cost								**859.8**
Normal labour and delivery (facility)								
Conduct normal delivery								
Clean delivery kit	100	Soap, plastic sheeting, razor blade, umbilical tape, cotton wrap for newborn	1	1	1	1	60	60
Gloves, disposable, sterile, pair + face mask	100	Examination	1	1	1	1	30	30
Tab paracetamol	100	Pain management after delivery	1	3	3	9	1	6.3
Cap amoxicillin	100	To prevent infection	1	3	7	21	5	110.5
Episiotomy								
Inj lignocaine hydrochloride	10		1	1	1	1	40	4

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Blade, surgical, sterile, disposable	10		1	1	1	1	20	2
Personal and obstetric history[C]*								
Monitor labour progression/partograph*								
Bi-manual compression to stop uterus atony*								
Examination - foetal position*								
Examination - foetal heartbeat*								
Total cost								212.8
Active management of the 3rd stage of labour								
Controlled cord traction								
Inj oxytocin	40	To induce contraction of uterus, IM, 10 units	1	1	1	1	87	34.8
Syringe, needle + swab	40	For oxytocin injection after delivery	1	1	1	1	6	2.4
Inj ergometrine	10	0.2 mg IM	1	1	1	1	4	0.4
Misoprostol shortly after birth								
Tab misoprostol	50		1	1	1	1	15	7.5
Total cost								45.1
Antenatal corticosteroids for preterm labour								
Inj dexamethasone	100	6 mg IM and repeat every 12 hours for total of four doses	1	1	4	4	9	36.2
IV giving/infusion set, with needle	100		1	1	1	1	5	5
Normal saline IV solution	100		1	2	4	8	32	256
Total cost								297.2
Induction of labour (beyond 41 weeks)								
Inj oxytocin	100	1/2 ample start monitoring, 6-10 drops per minutes	1	1	1	1	87	87
Cannula, IV, sterile, disposable	100		1	1	1	1	95	95.2

[C]*No drug supplies cost is considered, only labour cost for counselling/ promotion/ assessment or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
IV giving/infusion set, with needle	100		1	1	1	1	5	5
IV fluid dextrose in water	100		1	1	1	1	32	32
Total cost								219.2
Management of eclampsia								
General management								
Normal saline IV solution	80		1	1	1	1	32	25.6
Inj Magnesium sulfate	80	4g magnesium sulfate solution by IV over five minutes, and followed promptly with 6g magnesium sulfate solution: give 2.5 g in each buttock as a deep IM injection	1	3	1	3	20	48
Tab labetalol hydrochloride	70	If diastolic pressure rises to 95 and remains above 110 mm Hg, start anti-hypertensive tab	1	2	7	14	10	98.4
Tab methyldopa/alpha methyldopa	10	If diastolic pressure rises to 95 and remains above 110 mm Hg, start anti-hypertensive tab 250 mg and continue as necessary	1	3	7	21	3	6.5
Inj furosemide	25	Auscultate the lung bases hourly for rales indicating pulmonary edema; if crepitation is heard, withhold fluids and give frusemide 40 mg IV once	1	1	1	1	8	1.9
Management during a convulsion								
Oxygen, 1000 liters, primarily with oxygen cylinders	20	Oxygen at 4-6 L per minute	1	1	1	1	168	33.7

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Inj magnesium sulfate	20	4g magnesium sulfate solution by IV over five minutes, and followed promptly with 6g magnesium sulfate solution: give 2.5 g in each buttock as a deep IM injection	1	3	1	3	20	12
Others								
IV giving/infusion set, with needle	100		1	1	1	1	5	5
Cannula, IV, sterile, disposable	100		1	1	1	1	95	95.2
Foley's catheter	80	Catheterize the bladder to monitor urine output and proteinuria	1	1	1	1	228	182.4
Bag, urine collecting	80	Catheterize the bladder to monitor urine output and proteinuria	1	1	1	1	25	20
Test, urinalysis	100		1	1	1	1	20	20
Total cost								**548.7**
Neonatal resuscitation (institutional)								
If heart rate is less than 60 beats/min, and when CPR for 3 consecutive times does not work								
Inj adrenaline (epinephrine)	50	1:1000 soln: mix 1 ml with 9 ml of distilled water to make a 1:10,000 dilution. Give 0.1 - 0.3 ml/kg IV. If heartrate is still < 60/min.	1	1	1	1	25	12.5
IV fluid dextrose in water	50	Injectable dextrose 10%: give 2-4 ml/kg IV	1	1	1	1	32	16
Total cost								28.5
Obstetrical emergencies								
Management of pre-eclampsia								
General management								
Normal saline IV solution	100		1	1	1	1	32	32

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Inj magnesium sulfate	100	4g magnesium sulfate solution by IV over five minutes, and followed promptly with 6g magnesium sulfate solution: give 2.5 g in each buttock as a deep IM injection	1	3	1	3	20	60
Tab Labetalol hydrochloride	70	If diastolic pressure rises to 95 and remains above 110 mm Hg, start anti-hypertensive tab	1	2	7	14	10	98.4
Tab methyldopa/ alpha methyldopa	20	If diastolic pressure rises to 95 and remains above 110 mm Hg, start anti-hypertensive tab 250 mg and continue as necessary	1	3	7	21	3	12.9
Inj furosemide	20	Auscultate the lung bases hourly for rales indicating pulmonary edema; if crepitation is heard, withhold fluids and give frusemide 40 mg IV once	1	1	1	1	8	1.6
Other management								
IV giving/infusion set, with needle	80		1	1	1	1	5	4
Syringe, needle + swab	20		1	1	1	1	6	1.2
Cannula, IV, sterile, disposable	100		1	1	1	1	95	95.2
Foley's catheter	100	Catheterize the bladder to monitor urine output and proteinuria	1	1	1	1	228	228
Bag, urine collecting	100	Catheterize the bladder to monitor urine output and proteinuria	1	1	1	1	25	25
Test, urinalysis	100		1	1	1	1	20	20
Total cost								**578.3**

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Management of obstructed labour								
IV giving/infusion set, with needle	100	For drip	1	1	1	1	5	5
Hartmann's solution	100	To preload and avoid hypotension	1	1	1	1	70	70
Total cost								**75**
Treatment of post-partum hemorrhage								
Immediately after delivery								
Inj oxytocin	60	Uterus contracting drug	1	1	1	1	87	52.2
Tab misoprostol	20	Uterus contracting drug	1	1	1	1	15	3
Inj methergine (methylergonovine)	80		1	1	1	1	13	10.4
Hartmann's solution	80	To restore blood volume	1	1	1	1	70	56
Investigation								
Test, complete blood count	5	If not done previously	1	1	1	1	150	7.5
Test, blood grouping and cross matching	5	If not done previously	1	1	1	1	150	7.5
Other management								
Bag, urine collecting	80	Urine collection	1	1	1	1	25	20
Blood, one unit	20	Blood transfusion in case of heavy blood loss	2	1	1	2	300	120
Foley's catheter	80	Control of urine output	1	1	1	1	228	182.4
IV giving/infusion set, with needle	80	For IV drip	1	1	1	1	5	4
Syringe, needle + swab	80	For oxytocin injection	1	1	1	1	6	4.8
CPD blood bag	20		1	1	1	1	60	12
Blood transfusion set	20		1	1	1	1	8	1.6
Tab ferrous fumarate + folic acid	10	If HB < 7g/dL (severe anaemia), first 3 months	2	1	7	14	2	3.2
Total cost								**484.6**
Other emergency obstetric care (management of ante-partum haemorrhage, prolapsed cord, shoulder dystocia, removal of retained products, repair vaginal and cervical tears, assisted vaginal delivery, blood transfusion)								
Ante-partum haemorrhage								
Hartmann's solution	30		1	1	1	1	70	21
Inj tranexamic acid	15		1	4	2	8	64	76.8

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Inj ceftriaxone sodium	15		1	2	3	6	115	103.5
Cap amoxicillin	30		1	3	7	21	5	33.1
Cannula, IV, sterile, disposable	30		1	1	1	1	95	28.6
IV giving/infusion set, with needle	30		1	1	1	1	5	1.5
Syringe, needle + swab	30		1	1	1	1	6	1.8
Management of shoulder dystocia								
Inj oxytocin	30		1	1	1	1	87	26.1
Hartmann's solution	30		1	1	1	1	70	21
Blade, surgical, sterile, disposable	20	For episiotomy	1	1	1	1	20	4
Inj lignocaine hydrochloride	20		1	1	1	1	40	8
Manual removal of placenta								
Gloves, disposable, sterile, pair+ face mask	20		1	1	1	1	30	6
Removal of retained products								
Inj oxytocin	30		1	1	1	1	87	26.1
Hartmann's solution	30	Drip 4 hourly	1	1	1	1	70	21
Inj methergine (methylergonovine)	15		1	1	1	1	13	2
Repair vaginal and cervical tears								
Surgical suture with needle and thread	30	Repair of tears and lacerations	1	1	1	1	100	30
Inj diazepam	30	Sedation	1	1	1	1	3	0.9
Inj lignocaine hydrochloride	30	Local anaesthesia	1	1	1	1	40	12
Inj pethidine	30	Local anaesthesia	1	1	1	1	10	3
Assisted vaginal delivery								
Gloves, disposable, sterile, pair + face mask	25		1	1	1	1	30	7.5
Blade, surgical, sterile, disposable	15	For episiotomy	1	1	1	1	20	3
Inj lignocaine hydrochloride	15	For episiotomy	1	1	1	1	40	6
Blood transfusion								

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Blood transfusion set	20		1	1	1	1	8	1.6
Blood, one unit	20		1	1	1	1	300	60
CPD blood bag	20		1	1	1	1	60	12
Test, blood grouping and cross matching	20		1	1	1	1	150	30
Management of prolapsed cord								
Total cost								546.5
Caesarean section								
Inj oxytocin	100		2	1	1	2	87	174
Inj pethidine	100		1	1	1	1	10	10
Inj omeprazole	100		1	1	1	1	90	90
Inj atropine sulphate	100		2	1	1	2	5	9.9
Hartmann's solution	50		2	1	2	4	70	140
Suppository, diclofenac	50		1	1	1	1	7	3.4
Inj ketorolac tromethamine	100		1	1	1	1	55	55
Inj metronidazole	100		1	3	2	6	85	509.4
Cap cefixime	100		1	2	7	14	7	98
Cap omeprazole	100		1	2	7	14	2	28
Inj ephedrine sulfate	30		1	1	1	1	12	3.6
Inj ondansetron	30		1	1	1	1	15	4.5
Inj tranexamic acid	30		1	1	1	1	64	19.2
Inj dexamethasone	30		1	1	1	1	9	2.7
Inj methergine (methylergonovine)	15		1	1	1	1	13	2
inj nalbuphine hydrochloride	15		1	1	1	1	60	9
Inj dopamine (intropin)	15		1	1	1	1	45	6.7
Tab ketorolac tromethamine	20		1	2	5	10	10	20
Tab aceclofenac	10		1	2	5	10	1	1.1

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Tab paracetamo.	70		1	2	5	10	1	4.9
Inj ceftriaxone sodium	30		1	2	1	2	115	69
Inj promethazine hydrochloride (phenergan)	100		1	1	1	1	2	2
Inj magnesium sulfate	20		1	1	1	1	20	4
Tab misoprostol	5		1	1	1	1	15	0.7
Spinal anaesthesia set	100		1	1	1	1	90	90
Syringe, needle + swab	100		1	1	1	1	6	6
Blade, surgical, sterile, disposable	100		1	1	1	1	20	20
Gloves, disposable, sterile, pair + face mask	100		1	1	1	1	30	30
Surgical suture with needle and thread	100		1	1	1	1	100	100
Inj lidocaine HC.	100		1	1	1	1	18	18
Test, blood grouping and cross matching	100		1	1	1	1	150	150
Test, complete blood count	100		1	1	1	1	150	150
Test, Hb estimation	100		1	1	1	1	30	30
Test, ultrasonogram	100		1	1	1	1	110	110
Test, serum creatinine	40		1	1	1	1	50	20
Test, blood sugar	100		1	1	1	1	60	60
Inj hydrocortisone	10		1	1	1	1	48	4.8
Antiseptic solution (0.5% chlorhexidine/chloroxylenol/ iodopovidone)	100		1	1	1	1	36	18
Test, X-ray	10		1	1	1	1	70	7
Medical and surgical bandage	100		1	1	1	1	100	100
Foley's catheter	100		1	1	2	2	228	456

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Bag, urine collecting	100		1	1	2	2	25	50
DNS IV fluid	50		2	1	2	4	32	64
Tab metronidazole	100		1	2	5	10	1	11
Total cost								**2761.9**
PNC								
Maternal sepsis case management								
Mild to moderate								
Cap amoxicillin	6	500mg 3 times daily until 7 days of treatment completed	1	3	7	21	5	6.6
Cap flucloxacillin	6		1	4	7	28	9	15.6
Severe								
Inj ceftriaxone sodium	5	Followed by oral antibiotics	1	2	3	6	115	34.5
Inj amikacin	5		1	3	5	15	30	22.5
Other								
Gloves, disposable, sterile, pair + face mask	12	0	1	1	1	1	30	3.6
Tab paracetamo	12	0	1	3	3	9	1	0.8
Test, complete blood count	12	0	1	1	1	1	150	18
Surgical suture with needle and thread	5		1	1	1	1	100	5
Gauze pad, 10 x 10 cm, sterile	12		1	1	1	1	12	1.4
Medical and surgical bandage	12		1	1	1	1	100	12
IV giving/infusion set, with needle	5		1	1	1	1	5	0.3
Normal saline IV solution	5		1	1	1	1	32	1.6
Total cost								**121.8**

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Other PNC (counselling, postnatal clinical history, identification and management of postnatal complications)								
Counselling on postnatal care								
Tab ferrous fumarate + folic acid	100		1	1	90	90	2	202.5
Identification and management of postnatal complications – anaemia								
Blood, one unit	5	Moderate case: 2 bags	1	2	3	6	300	90
Blood transfusion set	5	Moderate case	1	1	3	3	8	1.2
Test, Hb estimation	10		1	1	1	1	30	3
CPD blood bag	5		1	1	1	1	60	3
Tab ferrous fumarate + folic acid	10	a) Give ferrous sulfate or ferrous fumerate 120 mg daily by mouth + folic acid 800 mcg by mouth once daily for two months b) After two months, continue supplementation with ferrous sulfate or ferrous fumerate 60 mg by mouth + folic acid 400 mcg by mouth once daily for rest of the period	1	2	7	14	2	3.2
Tab folic acid	10	a) Give ferrous sulfate or ferrous fumerate 120 mg daily by mouth + folic acid 800 mcg by mouth once daily for two months b) After two months, continue supplementation with ferrous sulfate or ferrous fumerate 60 mg by mouth + folic acid 400 mcg by mouth once daily for rest periods	1	1	7	7	0.27	0.2

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Early management of obstetric fistula								
Cap amoxicillin	5		1	3	7	21	5	5.5
Postnatal clinical history								
Total cost								**308.6**
Neonatal health								
Immediate newborn care								
Chlorhexidine								
7.1% chlorhexidine digluconate	100		1	1	1	1	10	10
Total cost								10
Immediate newborn care								
Clean cord cutting and tying								
Gloves, disposable, sterile, pair + face mask	100		1	1	1	1	30	30
Blade, surgical, sterile, disposable	100		1	1	1	1	20	20
Promotion of essential newborn care practice and newborn danger signs for early care seeking[#D]								
Prevention and management of hypothermia*								
Identification of breathing problems*								
Prevention of newborn conjunctivitis*								
Identification of LBW babies*								
Special care of pre-term and LBW neonate*								
Total cost								**50**
Newborn care after delivery								
Newborn care after delivery								
Birth registration[#E]								
Weighing, temperature management*								
Identification of sepsis*								
Identification of omphalitis*								
Identification of neonatal jaundice*								

[D#]No drug supplies cost is considered, only labour cost for counselling, promotion, assessment, or identification
[E#]No drug supplies cost is considered, only labour cost for counselling, promotion, assessment, or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Identification and management of breastfeeding problems*								
Screening for congenital problems*								
Neonatal emergencies								
Newborn sepsis - full supportive care								
Butterfly needle	100		1	1	1	1	7	7
Normal saline IV solution	35	Infuse normal saline 10 ml/kg over 5-10 minutes, if perfusion is poor as evidenced by capillary refill time of more than 3 seconds. Repeat the same dose 1-2 times over the next 30-45 minutes, if perfusion continues to be poor.	1	1	1	1	32	11.2
IV fluid dextrose in water	100	Infuse glucose (10%) 2 ml/kg stat.	1	1	1	1	32	32
Inj konakion	100	Inject vitamin K 1 mg intramuscularly	1	1	1	1	26	26.2
Oxygen, 1000 liters, primarily with oxygen cylinders	35	Start oxygen by hood or mask, if cyanosed or grunting	1	1	1	1	168	58.9
Total cost								135.4
Newborn sepsis - injectable antibiotics								
Inj gentamicin	100	5 mg/kg/day in single dose for total 7 days	1	1	7	7	8	57
IV fluid dextrose in water	100		1	1	2	2	32	64
Butterfly needle	100		1	1	5	5	7	35
Inj ampicillin	100	50 mg/kg/dose	1	2	7	14	22	308
Total cost								**463.9**
Other Neonatal emergencies								
Management of breathing problems								
Oxygen, 1000 liters, primarily with oxygen cylinders	30	Repeat as necessary	1	1	1	1	168	50.5
Management of omphalitis								
Suspension, paediatric, amoxicillin	20	Thrice a day for 7 days	1	1	1	1	19	3.7
Antiseptics solution (0.5%	25	For dressing	1	1	1	1	36	4.5

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
chlorhexidine/chloroxylenol/ iodopovidone)								
Butterfly needle	25		1	1	3	3	7	5.3
Suspension, paracetamol	20	In case of fever and pain twice daily for 3 days	1	1	1	1	20	4
Gauze pad, 10 x 10 cm, sterile	25	For dressing	1	1	1	1	12	2.9
Test, complete blood count	25	Investigation	1	1	1	1	150	37.5
Test, x-ray	5	Supportive investigations (if respiratory distress or abdominal distention)	1	1	1	1	70	3.5
Test, serum bilirubin	5		1	1	1	1	60	3
Inj ampicillin	25	Specific management: 50 mg/kg/dose every 12 hourly if age is less than or equal to 7 days; thrice a day if age is more than 7 days	1	2	7	14	22	77
Inj gentamicin	25	Specific management: 5 mg/kg once daily for 7 days	1	1	7	7	8	14.2
Oxygen, 1000 liters, primarily with oxygen cylinders	5	Supportive management if required	1	1	1	1	168	8.4
Normal saline IV solution	10	Supportive management: fluid bolus: if there is poor peripheral perfusion (capillary refill time >3 sec), give normal saline 10 ml/kg IV bolus; the same vol. can be repeated; continue maintenance fluids	1	1	1	1	32	3.2
Management of LBW babies								
Normal saline IV solution	40	Repeat as necessary	1	1	1	1	32	12.8
Management of neonatal jaundice								
Inj. konakion	30	Oral administration in case of pathologic jaundice	1	1	3	3	26	23.6
Total cost								254.2

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Child health and EPI								
Integrated Management of Childhood Illnesses (IMCI)								
Oral rehydration solution								
Oral rehydration solution, sachet	100	No dehydration, mild dehydration, persistent diarrhoea, dysentery	1	3	1	3	3	8.4
Total cost								**8.4**
Zinc								
Tab zinc sulphate	100	Mild dehydration, persistent diarrhoea, dysentery	1	1	3	3	2	4.9
Total cost								**4.9**
Antibiotics for treatment of dysentery								
Dysentery								
Syrup ciprofloxacin	50	Shigellosis: 1 spoon twice daily for five days	1	1	1	1	80	39.8
Syrup. metronidazole	50	Aemoebic dysentery: 1 spoon thrice daily for 5 days	1	1	1	1	29	14.5
Total cost								**54.3**
Treatment of severe diarrhoea								
Severe dehydration								
Inj cholera saline	80		1	1	1	1	32	25.6
Suspension, azithromycin	30	1 spoon once daily for 5 days	1	1	1	1	84	25.3
IV infusion set, with needle	80		1	1	1	1	5	4
Oral rehydration solution, sachet	100		1	3	5	15	3	42
Tab azithromycin	30		1	1	5	5	18	27.4
Total cost								124.4
Pneumonia treatment								
Cap amoxicillin	10		1	3	5	15	5	7.9
Inj. amoxicillin	30		1	3	5	15	25	112.5
Syrup salbutamo.	80	Thrice a day for 5 days	1	1	1	1	16	12.4
Suspension, paracetamol	100	Twice time for 3 days	1	1	1	1	20	20

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Nebuliser solution, salbutamo.	20	Continue as necessary	1	1	1	1	91	18.1
IV infusion set, with needle	30		1	1	1	1	5	1.5
Suspension, paediatric, Amoxicillin	80	Thrice a day for 5 days	1	1	1	1	19	14.8
Total cost								**187.2**
Treatment of severe pneumonia								
Inj ampicillin	100	50 mg/kg IV every 6 hours	1	4	5	20	22	440
Tab prednisolone	30	1 mg/kg for 3 days	1	1	3	3	1	0.7
Syrup salbutamol	100	2.5 mg/4 times a day for 5 days	1	1	1	1	16	15.5
Nebuliser Solution, Salbutamol	100	Continue as necessary	1	1	1	1	91	90.5
Oxygen, 1000 liters, primarily with oxygen cylinders	80	Continue as necessary	1	1	1	1	168	134.7
Inj gentamycin	100	7.5mg/kg IV once a day for 5 days	1	1	5	5	8	40.7
Inj dexamethasone	20		1	2	3	6	9	10.9
Cannula, IV, sterile, disposable	100		1	1	1	1	95	95.2
Suspension, paracetamol	100		1	1	1	1	20	20
Total cost								**848.1**
Other IMCI activities (treatment of simple fever, severe febrile disease, laboratory diagnosis for fever, acute ear infection, chronic ear infection, identification of danger signs and referral, counselling to parents on danger signs and nutrition)								
Simple fever								
Suspension, paracetamol	25	1/3rd teaspoonful for 4 times/day	1	1	1	1	20	5
Severe febrile disease								
Suspension, paracetamol	25	10-15 mg per kg body weight in divided doses 1/3rd teaspoon full, for four times a day	1	1	1	1	20	5
Suspension, paediatric, amoxicillin	25	One spoon three times a day for 5 days	1	1	1	1	19	4.6
Suppository, paracetamo.	5	Per rectal, continue as necessary	1	1	1	1	5	0.3
Inj phenobarbital sodium	5	In case of convulsion, 1/3rd ampoule	1	1	1	1	11	0.5
Acute ear infection								
Suspension, azithromycin	25	One spoon 2 times a day for 5 days	1	1	1	1	84	21.1

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Suspension, paediatric, amoxicillin	25	One spoon 3 times a day for 5 days	1	1	1	1	19	4.6
E/E drop, gentamycin	25	One drop 3 times a day for 7 days	1	1	1	1	31	7.7
Chronic ear infection								
Suspension, azithromycin	25	One spoon 3 times a day for 7 days	1	1	1	1	84	21.1
Suspension, paediatric, Amoxicillin	25	One spoon 3 times a day for 7 days	1	1	1	1	19	4.6
E/E drop, gentamycin	25	One drop 3 times a day for 14 days	1	1	1	1	31	7.7
Lab diagnosis for fever								
Test, Widal	25		1	1	1	1	80	20
Test, xomplete blood count	25		1	1	1	1	150	37.5
Counselling parents on danger signs, nutrition, etc.*								
Identification of danger signs and referral[#]*								
Identify and refer white pupil reflex (leukocoria)*								
Total cost								139.9
Other ARI								
Cough/cold								
Syrup Chlorpheniramine	50	One spoon two times a day for 3 days	1	1	1	1	15	7.7
Suspension, Paracetamol	25	In case of fever, twice daily for 3 days	1	1	1	1	20	5
Wheeze								
Syrup Chlorpheniramine	50	1 spoon 2 times a day for 3 days	1	1	1	1	15	7.7
Syrup Salbutamol	50	1 spoon 3 times a day for 5 days	1	1	1	1	16	7.8
Total cost								**28.1**
EPI								
Measles vaccine								

[#]No drug supplies cost is considered, only labour cost for counselling, promotion,assessmen or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Measles vaccine	100	Measles and rubella vaccine at month 9, measles vaccine month 15	1	1	2	2	48	96.8
Syringe, auto-disposable, 0.5 ml, with needle	100		1	1	2	2	4	7.8
Total cost								**104.7**
Polio vaccine								
Polio vaccine	100	OPV	1	1	3	3	15	46.2
Total cost								**46.2**
BCG vaccine								
BCG vaccine	100		1	1	1	1	6	5.7
Syringe, auto disposable, BCG, 0.1 ml, with needle	100		1	1	1	1	6	6.3
Total cost								**12**
Pneumococcal vaccine								
Pneumococcal vaccine	100		1	1	3	3	290	870.8
Syringe, auto-disposable, 0.5 ml, with needle	100		1	1	3	3	4	11.8
Total cost								882.6
Other EPI activities								
Counselling parents on immunization and adverse effects*								
Registering eligible children*G								
Follow-up of defaulters*								
National immunization days and other campaigns*								
Surveillance of vaccine-preventable diseases*								
Follow-up to identify adverse effects*								
Total cost								0

G*No drug supplies cost is considered, only labour cost for counselling/ promotion/ assessment or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Inactivated polio vaccine								
Inactivated polio vaccine	100		1	1	1	1	158	157.6
Total cost								157.6
Pentavalent Vaccine								
Pentavalent vaccine	100	(DPT, Hep B, Hib)	1	1	3	3	195	584.7
Syringe, auto-disposable, 0.5 ml, with needle	100		1	1	3	3	4	11.8
Total cost								596.5
Adolescent health								
Counselling on puberty, safe sexual behaviour, prevention of early marriage, mental health, HIV/AIDS, substance abuse*								
Screening for STIs								
Test, VDRL	100		1	1	1	1	50	50
Total cost								**50**
Syndromic management of STIs								
Cap doxycycline	35		1	1	7	7	2	4.5
Tab phenoxymethyl penicillin (ORACYN-K)	30	Continue for 14 days and then continue according to physician prescription	1	4	7	28	2	17.1
Tab azithromycin	35		1	1	7	7	18	44.8
Total cost								66.4
Etiologic management of STIs								
Gonorrhea								
Inj benzathine penicillin	50	Bi-weekly	1	1	4	4	24	47
Syphilis								
Inj benzathine penicillin	50	Bi-weekly	1	1	8	8	24	94
Other								
Syringe, needle + swab	50		1	1	4	4	6	12
Total cost								**153**
FP information and provision*								

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Nutrition								
Child nutrition								
Deworming								
Children aged 12-23 months								
Suspension, albendazole	**50**		1	1	1	1	20	10
Children aged >24 months								
Tab albendazole	**25**		1	1	1	1	2	0.5
Tab mebendazole	**25**		1	2	3	6	1	1.2
Total cost								**11.7**
Breastfeeding counselling and support								
Counselling about breastfeeding, nutrition after delivery[#†]								
Counselling on breastfeeding during postnatal period[*]								
Complementary feeding counselling and support[*]								
Vitamin A supplementation in infants and children 6-59 months								
Vitamin A, caplet, 100,000 IU	50	Children 6-11 months	1	1	1	1	3	1.4
Vitamin A, caplet, 200,000 IU	50	Children 12-59 months	1	1	1	1	3	1.7
Total cost								**3.1**
Daily iron supplementation for children 6 to 23 months								
Syrup iron	100	One spoon two times a day for 30 days and then continue as necessary	1	1	1	1	50	50
Total cost								**50**
Management of severe acute malnutrition								
Tab. mebendazole	20		1	2	3	6	1	0.9
Cream, nystatin	80	Three times per day for 3 days	1	1	1	1	20	16.2
Tab. fluconazole	50		1	2	3	6	20	60
Inj gentamicin	80		1	3	5	15	8	97.7

[#†]No drug supplies cost is considered, only labour cost for counselling, promotion, assessment, or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Syrup, metronidazole	80	Three times per day for 5 days	1	1	1	1	29	23.2
Ointment, tetracycline	25	Twice/day for five days	1	1	1	1	10	2.6
Cream, miconazole	25	Twice/day for five days	1	1	1	1	33	8.3
Tab folic acid	100	Twice/day for 21 days and continue as necessary	1	2	7	14	0.27	3.8
Vitamin A, caplet, 100,000 IU	50	Children 6-11 months	1	1	1	1	3	1.4
Vitamin A, caplet, 200,000 IU	50	Children 12-59 months	1	1	1	1	3	1.7
Hartmann's solution	80		1	1	1	1	70	56
Inj ceftriaxone sodium	80		1	2	5	10	115	920
Tab albendazole	80		1	1	1	1	2	1.7
Injection, vitamin B complex	25		1	1	7	7	4	6.9
Tab ciprofloxacin	30		1	2	5	10	8	24
Inj furosemide	25		1	1	3	3	8	5.8
Suspension, paediatric, amoxicillin	70	Three times per day for 7 days	1	1	1	1	19	13
Cream, permethrin	25		1	1	1	1	40	10
IV fluid dextrose in water	100		1	1	1	1	32	32
E/E drop, gentamicin	25	Twice/day for five days	1	1	1	1	31	7.7
Oral rehydration solution, sachet	100		1	2	3	6	3	16.8
Total cost								**1309.6**
Management of Moderate Acute Malnutrition								
Vitamin A, caplet, 50,000 IU	20	0-5 months children	1	1	1	1	2	0.4
Vitamin A, caplet, 100,000 IU	40	6-11 months children	1	1	1	1	3	1.1
Vitamin A, caplet, 200,000 IU	40	12-59 months children	1	1	1	1	3	1.4
Oral rehydration solution, sachet	100		1	2	3	6	3	16.8
Total cost								**19.7**
Assessment nutrition status*								
Growth monitoring*								

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Other infant and young child feeding								
Breastfeeding within an hour of birth[1]								
Exclusive breastfeeding for 6 months*								
Breastfeeding until 23 months of age*								
Management of underlying complications in severe malnutrition								
Vitamin A deficiency								
Vitamin A, caplet, 50,000 IU	10	0-5 months children	1	1	1	1	2	0.2
Vitamin A, caplet, 100,000 IU	30	6-11 months children	1	1	1	1	3	0.8
Vitamin A, caplet, 200,000 IU	30	12-59 months children	1	1	1	1	3	1
Corneal clouding/ulceration								
Eye drop/ointment, chloramphenicol/ chloromycetin	20	Twice a day for seven days	1	1	1	1	10	2.1
Dermatosis								
Syrup, zinc sulphate	20	Once daily for 3 days	1	1	1	1	30	5.9
Cream, clotrimazole	20	Candidiasis, twice daily for 14 days	1	1	1	1	27	5.5
Cream, nystatin	20	Oral candidiasis, four times a day for seven days	1	1	1	1	20	4
Tab zinc sulphate	20		1	1	3	3	2	1
Helminthiasis								
Suspension, albendazole	20	Children aged 12-23 months, 200 mg	1	1	1	1	20	4
Tab albendazole	20	Children aged >24 months, 400 mg	1	1	1	1	2	0.4
Continuing diarrhoea/dysentery								
Tab metronidazole	30	In case of mucosal damage and giardiasis 7.5 mg/kg 8 hourly	1	3	7	21	1	6.9

[1]*No drug supplies cost is considered, only labour cost for counselling/ promotion/ assessment or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Total cost								31.9
Adolescent nutrition								
Assessment of nutritional status*								
Maternal nutrition								
Vitamin A in post-partum								
Vitamin A, caplet, 200,000 IU	100		2	1	1	2	3	6.8
Total cost								6.8
Assessment and counselling during ANC								
Assessment of nutritional status during ANC[1]								
*Information and counselling on nutrition during ANC**								
Deworming								
Tab albendazole	100		1	1	2	2	2	4.2
Total cost								**4.2**
Management of anaemia								
Moderate								
Tab ferrous fumarate + Folic acid	80	For 2 months, then continue as necessary	1	2	7	14	2	25.2
Vitamin A, caplet, 200,000 IU	30		1	1	1	1	3	1
Tab ascorbic acid (vitamin C)	30	Continue as necessary	1	1	7	7	2	4.2
Tab vitamin B Complex	50	Continue as necessary	1	1	7	7	0.44	1.5
Severe								
Blood transfusion set	20		1	1	1	1	8	1.6
Blood, one unit	20		1	1	1	1	300	60
CPD blood bag	20		1	1	1	1	60	12
Test, blood grouping and cross matching	10	If not done previously	1	1	1	1	150	15
Total cost								**120.6**

[1]*No drug supplies cost is considered, only labour cost for counselling, promotion, assessment, or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Other								
Intermittent IFA supplementation (menstruating women where anaemia is public health problem)								
Tab ferrous fumarate + folic acid	100	2 tab/ week for three months (13 weeks), then stop intake for next 3 months and start again following above dose	1	1	7	7	2	15.8
Total cost								15.8
NCDs								
Diabetes mellitus								
Diagnosis of diabetes mellitus								
Test, blood sugar	100		1	1	1	1	60	60
Test, urinalysis	100		1	1	1	1	20	20
Total cost								80
Management of Type II diabetes mellitus								
Tab metformin	100	To be continued as necessary	1	2	7	14	3	37.3
Insulin	50	To be continued as necessary	1	1	7	7	69	241.2
Total cost								278.5
Management of type I diabetes mellitus								
Tab metformin	100	To be continued as necessary	1	2	7	14	3	37.3
Insulin	100	To be continued as necessary	1	1	7	7	69	482.3
Total cost								**519.6**
Identification and referral of long-term complications*[K]								
Breast cancer								
Basic breast cancer awareness*								
Screening: clinical breast exam*								
Cervical cancer								

[K]No drug supplies cost is considered, only labour cost for counselling/ promotion/ assessment or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Visual inspection with acetic acid								
Acetic acid, 5% dilute, 5 ml	100		1	1	1	1	30	3
Cotton wool	100		1	1	1	1	0.29	0
Applicator sticks	100		1	1	1	1	1	0.1
Antiseptic solution	100		1	1	1	1	36	1.8
Gloves, disposable, sterile, pair + face mask	100		1	1	1	1	30	3
Total cost								79.29558
Chronic obstructive pulmonary disease								
Counselling on smoking cessation*								
Diagnosis and management of ambulatory cases								
Tab salbutamol	100	Continue as necessary	1	3	7	21	0.30	6.3
Tab chlorpheniramine	20		1	2	7	14	0.30	0.8
Nebulizer solution, salbutamol	50		1	1	1	1	91	45.3
Test, x-ray	100		1	1	1	1	70	70
Total cost								122.4
Diagnosis and management of inpatient cases								
Tab salbutamol	60	Continue as necessary	1	3	7	21	0.30	3.8
Nebulizer solution, salbutamol	100	Repeat as necessary	1	1	1	1	91	90.5
Tab chlorpheniramine	30		1	2	7	14	0.30	1.3
Tab prednisolone	70		1	3	7	21	1	11.4
Total cost								107
SGBV (Refer to district hospital and treatment inputs entered under district hospital)								
NCD screening and management based on total risk assessment								
Screening for risk of CVD/diabetes								
High blood pressure								
Test, urinalysis	25		1	1	1	1	20	5
High total cholesterol								
Test, serum cholestero.	25		1	1	1	1	50	12.5

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Test, lipid profile	25		1	1	1	1	300	75
High blood sugar								
Test, blood sugar	25		1	1	1	1	60	15
Family history of CVD/diabetes mellitus/kidney disease[L]								
Smoking*								
Overweight*								
Total cost								**107.5**
Determine risk of CVD in next 10 years*								
Manage conditions and identify and refer complications								
High blood pressure								
Tab amlodipine/amdocal	30	Continue as necessary	1	1	7	7	6	12.6
High total cholesterol								
Tab atorvastatin	30	10 mg, to be continued as necessary	1	2	7	14	10	42
High blood sugar								
Tab metformin	30	To be continued as necessary	1	2	7	14	3	11.2
Family history of CVD/diabetes mellitus/kidney disease*								
Smoking*								
Overweight*								
Total cost								**65.8**
Arsenicosis								
Counselling on the consumption of safe water*[M]								
Identify, treat skin conditions, and refer								
Test, urinalysis	100		1	1	1	1	20	20
Whitfield's ointment (benzoic and	100	Continue as necessary	1	1	1	1	13	13.3

[L]No drug supplies cost is considered, only labour cost for counselling/ promotion/ assessment or identification
[M]No drug supplies cost is considered, only labour cost for counselling/ promotion/ assessment or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
salicylic acid)								
Vitamin A, caplet, 50,000 IU	100	continue for 14 days and then continue if necessary	1	1	7	7	2	13.5
Tab ascorbic acid (vitamin C)	100		1	1	7	7	2	14
Total cost								**60.9**
HTN								
Promote healthy lifestyle for HTN and other NCD control*								
Diagnosis of HTN								
For all hypertensive patients								
Test, urinalysis	100	For blood, protein, and glucose	1	1	1	1	20	20
Test, blood sugar	100	Fasting preferred	1	1	1	1	60	60
Test, ECG	100	12-lead ECG	1	1	1	1	80	80
For most hypertensive patients								
Test, serum cholestero.	30		1	1	1	1	50	15
Test, complete blood count	30		1	1	1	1	150	45
Test, x-ray	10	To detect cardiomegaly, heart failure, coarctation of the aorta	1	1	1	1	70	7
Test, serum creatinine	30		1	1	1	1	50	15
Total cost								**242**
Management of HTN								
Stage 1 HTN								
Tab amlodipine/amdocal	25	Continue as necessary	1	1	7	7	6	10.5
Tab nifedipine	25	Continue as necessary	1	1	7	7	3	5.2
Stage 2 HTN								
Tab labetalol hydrochloride	50	Continue as necessary	1	2	7	14	10	70.3
Total cost								86
Laboratory follow-up of HTN cases								
Test, lipid profile	10		1	1	1	1	300	30
Test, urinalysis	100	For blood, protein and glucose	1	1	1	1	20	20

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Test, blood sugar	100	Fasting preferred	1	1	1	1	60	60
Test, ECG	100	12-lead ECG	1	1	1	1	80	80
Test, serum cholesterol	30		1	1	1	1	50	15
Test, complete blood count	30		1	1	1	1	150	45
Test, serum creatinine	30		1	1	1	1	50	15
Test, x-ray	10	To detect cardiomegaly, heart failure, coarctation of the aorta	1	1	1	1	70	7
Total cost								**272**
Identify and refer CVD								
Test, ECG	100		1	1	1	1	80	80
Total cost								**80**
FP/RH								
Pre-conception Care								
Promote health, FP, nutrition, child survival, and safe motherhood[N1]								
Screening for malnutrition*								
Prevent/identify HIV/AIDS, STIs, congenital anomalies*								
Counselling on best practices during pregnancy*								
Tetanus toxoid for women of reproductive age								
Tetanus toxoid, injection	100	At 15 years with the 1st dose of tetanus toxoid; tetanus toxoid-2: 28 days after tetanus toxoid-1; tetanus toxoid-3: 6 months after tetanus toxoid-2, tetanus toxoid-4: 1 year after tetanus toxoid-3, tetanus toxoid-5: 1 year after tetanus toxoid-4	1	1	1	1	9	9
Syringe, needle + swab	100		1	1	1	1	6	6
Total cost								**15**

[N1]No drug supplies cost is considered, only labour cost for counselling/ promotion/ assessment or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
FP counselling								
FP counselling								
*Counselling on birth spacing, methods, and adverse effects**								
*Advocacy and awareness development on post-partum FP and post-menstrual regulation/FAC –FP**								
Screening according to medical eligibility criteria for contraceptive use*								
Pre-conception FP counselling*								
ANC information and counselling on post-partum FP*								
Counselling and provision of post-partum FP methods*								
FP methods								
Pill - Standard daily regimen								
Levonorgestrel 0.15 mg + ethinyl estradiol 30 mcg (microgynon), cycle	100	Per cycle	1	1	1	1	18	18
Total cost								**18**
Pill - post coital contraception								
Emergency contraceptive pill	100		1	1	2	2	18	35.5
Total cost								35.5
Condom - male								
Condom, male	100		3	1	1	3	2	4.5
Total cost								**4.5**
Injectable - (Depo Provera)								
Syringe, needle + swab	100		1	1	1	1	6	6
Depo-Provera	100		1	1	1	1	31	31
Total cost								37
IUD - copper-T 380-A IUD								
IUD general and IUD post-partum								
IUD, copper T-380A	100		1	1	1	1	31	31
Gloves, disposable, sterile, pair + face mask	100		1	1	1	1	30	30
Antiseptic solution (0.5% chlorhexidine/chloroxylenol/	100		1	1	1	1	36	18

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
iodopovidone)								
Other								
Tab ibuprofen	50		1	2	5	10	1	6.4
Tab paracetamol	50		1	2	5	10	1	3.5
Tab ferrous salt	100		1	2	30	60	2	135
Total cost								**223.9**
Implant - implanon								
Implant-implanon	100		1	1	1	1	1200	1200
Inj lignocaine hydrochloride	100		1	1	1	1	40	40
Syringe, needle + swab	100		1	1	1	1	6	6
Gloves, disposable, sterile, pair + face mask	100		1	1	1	1	30	30
Surgical tapes	100		1	1	1	1	100	100
Antiseptic solution (0.5% chlorhexidine/chloroxylenol/ iodopovidone)	100		1	1	1	1	36	18
Blade, surgical, sterile, disposable	100		1	1	1	1	20	20
Medical and surgicalbBandage	100		1	1	1	1	100	100
Total cost								**1514**
Female sterilization								
Pre-operative preparations for tubectomy								
Tab ciprofloxacin	100		1	2	3	6	8	48
Tab diazepam	100		1	1	1	1	0.19	0.2
Inj atropine sulphate	100	Cocktail combination	1	1	1	1	5	4.9
Inj promethazine hydrochloride	100	Cocktail combination	1	1	1	1	2	2
Inj pethidine	100	Cocktail combination	1	1	1	1	10	10
During operating procedure								
Inj lignocaine hydrochloride	100		1	1	1	1	40	40

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Tubectomy kit	100		1	1	1	1	97	97
Syringe, needle + swab	100		1	1	1	1	6	6
Gloves, disposable, sterile, pair + face mask	100		1	1	1	1	30	30
Surgical suture with needle and thread	100		1	1	1	1	100	100
Blade, surgical, sterile, disposable	100		1	1	1	1	20	20
Medical and surgical bandage	100		1	1	1	1	100	100
Post-operative preparations for tubectomy								
Tab ciprofloxacin	100		1	2	7	14	8	112
Tab metronidazole	100		1	4	5	20	1	22
Tab ibuprofen	50		1	2	5	10	1	6.4
Tab paracetamol	50		1	2	5	10	1	3.5
Total cost								**602**
Male sterilization								
No scalpel vasectomy (NSV)								
No scalpel vasectomy kit	100		1	1	1	1	200	200
Inj lignocaine hydrochloride	100		1	1	1	1	40	40
Tab diazepam	100		1	1	1	1	0.19	0.2
Tab ciprofloxacin	100		1	2	7	14	8	112
Tab metronidazole	100		1	3	5	15	1	16.5
Tab diclofenac	50		1	2	3	6	1	2.3
Tab paracetamol	50		1	2	5	10	1	3.5
Gloves, disposable, sterile, pair + face mask	100		1	1	1	1	30	30
Syringe, needle + swab	100		1	1	1	1	6	6
Antiseptic solution (0.5% chlorhexidine/chloroxylenol/ iodopovidone)	100		1	1	1	1	36	18

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Medical and surgical bandage			1	1	1	1	100	100
Total cost								**528.5**
Management of FP complications								
Management of FP complications								
Excessive bleeding								
Levonorgestrel 0.15 mg + ethinyl estradiol 30 mcg (microgynon), cycle	10		1	1	21	21	18	37.8
Tab ibuprofen	10		1	2	7	14	1	1.8
Tab ferrous salt	10		1	2	90	180	2	40.5
Headache								
Tab paracetamol	40	General headache, not migraine	1	3	5	15	1	4.2
Spotting								
Levonorgestrel 0.15 mg + ethinyl estradiol 30 mcg (microgynon), cycle	20		1	1	21	21	18	75.6
Total cost								**159.9**
Menstrual regulation (MR)								
Menstrual regulation								
Menstrual regulation kit	100		1	1	1	1	171	171.4
Gloves, disposable, sterile, pair + face mask	100		1	1	1	1	30	30
Tab ciprofloxacin	100		1	2	7	14	8	112
Tab diclofenac	100		1	2	5	10	1	7.6
Tab metronidazole	100		1	3	5	15	1	16.5
Syringe, needle + swab	100		1	1	1	1	6	6
Inj diazepam	100		1	1	1	1	3	3.1
Total cost								346.7
Management of other common conditions								
Eye care								

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Treatment of acute conjunctivitis								
E/E drop, ciprofloxacin	90	For 7 days	1	1	1	1	35	31.7
E/E drop, moxifloxacin	10	For 7 days	1	1	1	1	87	8.7
Total cost								**40.4**
Treatment of corneal ulcer								
E/E drop, moxifloxacin	10	3 times for 7 days	1	1	1	1	87	8.7
E/E drop, ciprofloxacin	90	3 times for 7 days	1	1	1	1	35	31.7
Total cost								**40.4**
Detection of cataract and visual impairment*								
Ear care								
Identification and referral of hearing impairment*								
Awareness on prevention of hearing impairment*^								
Identification and referral of hearing impairment*								
Management of otitis media								
Management of acute suppurative otitis media								
E/E drop, gentamicin	5	3 times for 14 days	1	1	1	1	31	1.5
E/E drop, ciprofloxacin	40	3 times for 14 days	1	1	1	1	35	14.1
E/E drop, levofloxacin	5	3 times for 14 days	1	1	1	1	77	3.9
Cap amoxicillin	10	3 times for 14 days	1	1	1	1	5	0.5
Management of chronic otitis media								
E/E drop, gentamicin	5	3 times for 21 days	1	1	1	1	31	1.5
E/E drop, ciprofloxacin	40	3 times for 21 days	1	1	1	1	35	14.1
E/E drop, levofloxacin	5	3 times for 21 days	1	1	1	1	77	3.9
Cap amoxicillin	10	3 times for 21 days	1	1	1	1	5	0.5
Total cost								**40**
Dental care								
Promotion of oral hygiene*								
Treatment of common dental diseases								
Gingivitis, periodontitis, pericoronitis, gross caries, mobile tooth extraction, BDR								

*^No drug supplies cost is considered, only labour cost for counselling/ promotion/ assessment or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Cap cephradine	40		1	4	7	28	11	125.7
Tab metronidazole	60		1	3	5	15	1	9.9
Suspension, paediatric, amoxicillin	50	Three times/day for 7 days	1	1	1	1	19	9.3
Cap amoxicillin	60		1	3	7	21	5	66.3
Cap omeprazole	50		1	2	5	10	2	10
Tab ketorolac tromethamine (toradol)	50		1	2	2	4	10	20
Suspension, paracetamo	50	Twice a day for 2 or 3 days	1	1	1	1	20	10
Total cost								**251.1**
Tooth extraction								
Deciduous tooth extraction								
Suspension, paracetamol	100	Mobile teeth extraction in children	1	1	1	1	20	20
Total cost								**20**
Treatment of common skin diseases								
Treatment of common skin diseases								
Scabies								
Cream, permethrin	20	Twice daily for 2 days	1	1	1	1	40	8
Tab chlorpheniramine	30		1	2	7	14	0	1.3
Benzyl benzoate lotion 25%	10	For 3 days	1	1	1	1	32	3.2
Ringworm								
Whitfield's ointment (benzoic and salicylic acid)	30	Twice daily for 7 days	1	1	1	1	13	4
Tab chlorpheniramine	30		1	2	7	14	0.30	1.3
Impetigo								
Tab chlorpheniramine	20		1	2	7	14	0.30	0.8
Cap amoxicillin	20		1	3	7	21	5	22.1
Dermatitis								
Cap flucloxacillin	10	Boil, carbuncle, abscess	1	4	7	28	9	26
Tab chlorpheniramine	20		1	2	7	14	0.30	0.8
Cap amoxicillin	10	Paronychia	1	3	7	21	5	11

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Total cost								**78.5**
		Emergency care						
Road traffic accident stabilization and referral								
Beach of continuity of skin any part of the body								
Antiseptic solution	40		1	1	1	1	36	7.2
Medical and surgical bandage	40		1	1	1	1	100	40
Cap flucloxacillin	20		1	4	7	28	9	51.9
Cap amoxicillin	20		1	3	7	21	5	22.1
Surgical suture with needle and thread	20	Suturing and stitches if bleeding and beach of skin continuity	1	1	1	1	100	20
Post cast and refer to orthopaedic surgeon								
Cap flucloxacillin	40		1	4	7	28	9	103.8
Syringe, needle + swab	20		1	1	1	1	6	1.2
Inj ketorolac tromethamine (toradol)	10	In severe case, start dose and then refer	1	1	1	1	55	5.5
Tab paracetamol	40	Mild to moderate	1	2	3	6	1	1.7
Investigation								
Test, x-ray	20		1	1	1	1	70	14
Total cost								**267.4**
		Drowning						
Inj furosemide	100		1	1	1	1	8	7.8
Suspension, paediatric, amoxicillin	50	In conscious children, three times for 7 days	1	1	1	1	19	9.3
Syringe, needle + swab	100		1	1	1	1	6	6
Inj amoxicillin	50	In unconscious children	1	3	5	15	25	187.5
Oxygen, 1000 liters, primarily with oxygen cylinders	70	Continue as necessary	1	1	1	1	168	117.8
Inj ceftriaxone sodium	100		1	1	1	1	115	115

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Inj dexamethasone	50	In case of hypothermia	1	1	1	1	9	4.5
Awareness on child injury and drowning prevention measures[#]								
Total cost								447.9
First aid in minor injuries								
Cap flucloxacillin	30		1	4	7	28	9	77.9
Antiseptic solution (0.5% chlorhexidine/chloroxylenol/ iodopovidone)	100		1	1	1	1	36	18
Medical and surgical bandage	100		1	1	1	1	100	50
Cap amoxicillin	30	In case of beach of continuity of skin	1	3	7	21	5	33.1
Tab paracetamol	100		1	3	3	9	1	6.3
Total cost								**185.3**
Poisoning and snakebite								
Poisoning								
G tube	50	Gastric lavage	1	1	1	1	55	27.5
Syringe, needle + swab	50		1	1	1	1	6	3
Hartmann's solution	50	Maintaining up to pupil dilation	1	1	1	1	70	35
Foley's catheter	25	In case of unconsciousness	1	1	1	1	228	57
Inj atropine sulphate	50	Maintaining up to pupil dilation	1	1	1	1	5	2.5
Inj ceftriaxone sodium	50		1	2	5	10	115	575
Snakebite								
Snake venom antiserum/ polyvalent snake antivenom	50		1	1	1	1	180	90
Inj adrenaline (epinephrine)	50	In case of anaphylaxis	1	1	1	1	25	12.5
Inj chlorpheniramine	25	In case of anaphylaxis	1	1	1	1	3	0.8
Inj hydrocortisone	25		1	1	1	1	48	12

[#]No drug supplies cost is considered, only labour cost for counselling, promotion, assessment, or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Suppository, paracetamol	25	Pyrogenic reaction	1	1	1	1	5	1.3
Medical and surgical bandage	50	Pressure immobilization method	1	1	1	1	100	50
Test, urinalysis	50		1	1	1	1	20	10
Test, complete blood count	10		1	1	1	1	150	15
Hartmann's solution	50	In case of anaphylaxis	1	1	1	1	70	35
Inj omeprazole	25	In case of anaphylaxis	1	1	1	1	90	22.5
Total cost								**949**
Other communicable diseases								
Hepatitis diagnosis and management								
Test, serum bilirubin	100		1	1	1	1	60	60
Tab vitamin B Complex	30		1	2	7	14	0.44	1.8
Test, ultrasonogram	50		1	1	1	1	110	55
IV fluid dextrose in water	70		1	2	3	6	32	134.4
Total cost								**251.2**
Typhoid diagnosis and management								
Tab ciprofloxacin	100	Continue for 2 weeks	1	2	7	14	8	112
Test, widal	100		1	1	1	1	80	80
Tab paracetamol	100		1	2	3	6	1	4.2
Total cost								**196.2**
Diarrhoea and dysentery								
Inj cholera saline	20		1	2	3	6	32	38.4
Tab azithromycin	40		2	1	1	2	18	14.6
IV giving/infusion set, with needle	20		1	1	1	1	5	1
Tab metronidazole	40	Ameobic dysentry	1	3	5	15	1	6.6
Oral rehydration solution, sachet	100		1	4	3	12	3	33.6
Total cost								**94.2**
Dengue								

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Laboratory monitoring of suspected case								
Test, complete blood count	100	Repeat as necessary	1	1	1	1	150	150
Total cost								**150**
Outpatient department management								
Oral rehydration solution, sachet	100		1	3	5	15	3	42
Tab paracetamol	100		1	3	5	15	1	10.5
Total cost								**52.5**
Inpatient management								
Severe								
Blood transfusion set	40		1	1	1	1	8	3.2
Blood, one unit	40	Haemorrhagic condition	1	1	1	1	300	120
CPD blood bag	40		1	1	1	1	60	24
Normal saline IV solution	100	Continue as necessary	1	1	1	1	32	32
Total cost								**179.2**
Rabies								
Rabies post exposure prophylaxis (refer to district hospital and treatment inputs entered under district hospital)								
District Hospital (interventions provided in the district hospital)								
NCDs								
Sexual and gender based violence (SGBV)								
Case identification and recognition								
Test, urine pregnancy	100		1	1	1	1	80	80
Test, urinalysis	100		1	1	1	1	20	20
Test, complete blood count	100		1	1	1	1	150	150
Test, VDRL	100		1	1	1	1	50	50
Total cost								**300**
First-point counselling*[Q]								

[Q]*No drug supplies cost is considered, only labour cost for counselling, promotion, assessment, or identification

Drugs/Supplies	Percent received aspect of treatment	Note	Number of units	Times per day	Days per case	Units per case	Unit cost (BDT)	Cost per average case (BDT) (2016)
Prevention of pregnancy: emergency contraception								
Emergency contraceptive pill	10		1	1	2	2	18	3.5
Total cost								3.5
Treatment of minor injuries								
Medical and surgical bandage	50		1	1	1	1	100	25
Tab amoxicillin	100		1	3	7	21	5	110.5
Tab paracetamol	100		1	3	5	15	1	10.5
Surgical suture with needle and thread	50		1	1	1	1	100	50
Total cost								**196**
Prophylaxis for STI								
Inj ceftriaxone sodium	100	250 mg IM stat	1	1	1	1	115	115
Cap doxycycline	100		1	2	7	14	2	25.6
Total cost								**140.6**
Psychological support*								
Medico-legal examination*R								
Management of other common conditions								
Rabies post exposure prophylaxis								
Rabies vaccine	100		1	1	4	4	571	2284
Total cost								**2284**

R*No drug supplies cost is considered, only labour cost for counselling, promotion, assessment, or identification

APPENDIX E: PUBLIC COST PER BENEFICIARY

	Base year (2016)	2017	2018	2019	2020	2021	2022
Weighted average of service coverage*	20.4	22.6	24.6	26.7	28.8	30.9	33.0
Total cost	76,195,101,043	84,045,403,356	85,794,071,881	89,546,429,514	94,014,343,200	98,436,108,702	103,194,035,467
Total population	160,347,458	166,815,993	164,667,113	166,815,993	168,949,988	171,064,750	173,144,197
% of population received services (considering the estimated weighted average of service received by the population)	32,708,866	37,660,068	40,563,315	44,544,945	48,647,948	52,889,102	57,193,361
Cost per beneficiary cosidering weighted average of coverage of the total population who received ESP services in BDT	2,329.5	2,231.7	2,115.1	2,010.2	1,932.5	1,861.2	1,804.3
Cost per beneficiary in USD	**29.8**	**27.7**	**26.3**	**25.0**	**24.0**	**23.1**	**22.4**

*weighted average calculated from taking a weighted average of the coverage (in a respective year) of each ESP intervention.

USD (1 USD=78.3 BDT) in 2016

From 2017-22 1 USD=80.57 BDT

*WEIGHTED AVERAGE OF SERVICE COVERAGE

Note: Number of service coverage/provided was divided by percentage of coverage (%C) to calculate the total population in need (PIN) for the specific intervention in each year. Then the sum of service coverage was divided by sum of PIN for all interventions and multiplied by 100 to get the percentage of weighted average of service coverage.

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[S]	# of PIN[T]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Maternal Health									
Antenatal care (ANC)									
Daily iron and folic acid supplementation (pregnant women)	816,870.6	18.6	4,391,777.5	905,023.8	20.5	4,414,750.0	993,370.1	22.4	4,434,688.0
Identify and manage hypertension in pregnancy	461,136.6	10.5	4,391,777.5	511,375.1	11.6	4,408,405.7	561,727.3	12.7	4,423,049.6
Identify and manage pregnancy complications	461,136.6	10.5	4,391,777.5	511,375.1	11.6	4,408,405.7	561,727.3	12.7	4,423,049.6
Calcium supplementation for prevention and treatment of pre-eclampsia and eclampsia	461,136.6	10.5	4,391,777.5	511,375.1	11.6	4,408,405.7	561,727.3	12.7	4,423,049.6
Tetanus toxoid (pregnant women)	1,682,050.8	38.3	4,391,777.5	1,857,873.8	42.1	4,413,001.9	2,034,043.7	45.9	4,431,467.8
Syphilis detection and treatment (pregnant women)	4,901.2	18.6	26,350.7	5,430.1	20.5	26,488.5	5,960.2	22.4	26,608.1
Other Antenatal care (Including screening, counselling & diagnostic tests)	461,136.6	10.5	4,391,777.5	511,375.1	11.6	4,408,405.7	561,727.3	12.7	4,423,049.6
Micronutrient supplements (Vitamin B complex)	658,766.6	15.0	4,391,777.5	699,001.9	15.8	4,424,062.9	739,114.8	16.7	4,425,837.2
Postnatal care (PNC)			-			-			-
Maternal sepsis case management	24,506.1	12.4	197,630.0	28,144.0	14.2	198,197.4	31,796.7	15.9	199,979.3
Other Postnatal Care (Counseling, Postnatal clinical history, Identification and management of postnatal complication)	412,827.1	9.4	4,391,777.5	470,906.8	10.7	4,400,998.3	529,206.0	11.9	4,447,108.9
Normal delivery			-			-			-
Identify and refer obstetric emergencies	60,101.5	59.5	101,010.9	65,408.2	64.4	101,565.5	70,718.5	69.3	102,046.9
Management of Premature rupture of membranes (PROM)	70,852.5	22.1	320,599.8	73,318.0	22.8	321,570.0	75,753.3	23.4	323,732.2
Normal labor and delivery (facility)	342,558.6	7.8	4,391,777.5	353,180.0	8.0	4,414,750.0	363,644.4	8.2	4,434,688.0

[S] Baseline Coverage
[T] Population in need

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[5]	# of PIN[7]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Active management of the 3rd stage of labour	386,476.4	8.8	4,391,777.5	397,327.5	9.0	4,414,750.0	407,991.3	9.2	4,434,688.0
Antenatal corticosteroids for preterm labor	61,484.9	14.0	439,177.8	63,278.1	14.3	442,504.0	65,042.1	14.7	442,463.3
Normal labor and delivery (home)	360,125.8	8.2	4,391,777.5	375,253.8	8.5	4,414,750.0	390,252.5	8.8	4,434,688.0
Induction of labor (beyond 41 weeks)	31,181.6	14.2	219,588.9	32,374.8	14.7	220,237.0	33,555.8	15.1	222,223.8
Management of eclampsia (Magnesium sulphate)	4,926.7	14.2	34,695.0	5,115.2	14.7	34,797.4	5,301.8	15.1	35,111.4
Neonatal resuscitation (institutional)	1,846.6	12.7	14,540.4	2,004.0	13.8	14,521.9	2,160.6	14.8	14,598.9
Obstetrical emergencies			-			-			-
Management of pre-eclampsia (Magnesium sulphate)	89,592.3	15.0	597,281.7	98,066.3	16.3	601,633.7	106,550.8	17.7	601,981.9
Management of obstructed labor	83,030.9	13.7	606,065.3	89,862.2	14.8	607,177.3	96,693.9	15.8	611,986.9
Treatment of postpartum hemorrhage	57,642.1	12.5	461,136.6	62,965.4	13.6	462,980.6	68,294.2	14.7	464,586.5
Other EmONC (Management of Ante-partum Haemorrhage, prolapsed cord, shoulder dystocia, Removal of retained products, Repair vaginal and cervical tears, Assisted vaginal delivery, Blood transfusion)	729,096.5	41.4	1,761,102.8	793,691.1	44.8	1,771,631.8	858,331.0	48.3	1,777,082.7
Caesarean section	171,718.5	3.9	4,403,038.5	187,259.1	4.2	4,458,550.6	202,812.9	4.6	4,408,976.5
Other obstetric emergencies (genital prolapse)	252,527.2	5.8	4,353,917.3	274,818.2	6.2	4,432,551.4	297,124.1	6.7	4,434,688.0
Child Health & EPI			-			-			-
Integrated Management of Child Illnesses (IMCI)			-			-			-
ORS	12,527,535.7	35.3	35,488,769.7	12,966,250.7	36.5	35,523,974.5	13,381,659.5	37.7	35,495,118.1
Zinc (diarrhea treatment)	12,527,535.7	35.3	35,488,769.7	12,942,559.6	36.4	35,556,482.4	13,334,288.5	37.5	35,558,102.6
Antibiotics for treatment of dysentery	560,722.6	31.6	1,774,438.5	580,490.1	32.7	1,775,199.1	599,214.0	33.7	1,778,083.2
Treatment of severe diarrhea	68,493.3	19.3	354,887.7	70,784.3	19.9	355,699.8	72,947.8	20.5	355,842.9
Pneumonia treatment (children)	3,511,374.1	16.3	21,542,172.2	3,720,679.7	17.2	21,631,859.0	3,909,399.6	18.0	21,718,886.8
Treatment of severe pneumonia	54,857.6	10.5	522,453.4	58,815.7	11.0	534,688.6	61,844.3	11.6	533,140.1
Other IMCI activities (Treatment of simple fever, severe febrile disease, Lab diagnosis for fever, acute ear infection, chronic ear infection, Identification of danger signs & referral, Counseling to parents on danger signs & nutrition)	1,079,450.1	7.3	14,786,987.4	1,106,296.1	7.4	14,949,948.0	1,131,512.2	7.5	15,086,830.0

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[S]	# of PIN[T]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
ARI (Cough/cold, wheeze)	312,212.5	39.1	798,497.3	325,549.3	40.4	805,815.0	338,492.5	41.7	811,732.6
Expanded Program of Immunization (EPI)			-			-			-
Measles vaccine	6,535,805.8	71.3	9,166,628.0	6,643,163.2	72.1	9,213,818.6	6,679,577.0	72.9	9,162,657.0
Polio vaccine	6,599,972.2	72.0	9,166,628.0	6,712,282.8	72.8	9,220,168.7	6,752,911.8	73.7	9,162,702.5
BCG vaccine	7,562,468.1	82.5	9,166,628.0	7,687,638.1	83.4	9,217,791.5	7,730,708.3	84.3	9,170,472.5
Pneumococcal vaccine	3,648,317.9	39.8	9,166,628.0	3,855,338.5	41.8	9,223,297.9	4,021,191.0	43.9	9,159,888.4
Other EPI activities (Counseling parents on immunization and adverse effects, Registering eligible children, Follow-up of defaulters & to identify adverse effects)	7,534,968.2	82.2	9,166,628.0	7,664,598.2	83.2	9,212,257.5	7,712,374.6	84.1	9,170,481.1
Inactivated polio vaccine (IPV)	6,599,972.2	72.0	9,166,628.0	6,712,282.8	72.8	9,220,168.7	6,752,911.8	73.7	9,162,702.5
Vaccine, Pentavalent	7,168,303.1	78.2	9,166,628.0	7,280,600.0	79.0	9,215,949.4	7,315,144.8	79.8	9,166,848.1
Malaria			-			-			-
Prevention			-			-			-
Vector control (other)	9,845,333.9	30.7	32,069,491.5	11,456,847.1	35.3	32,455,657.5	13,107,502.2	39.8	32,933,422.6
BCC	2,267,300.0	20.5	11,060,000.0	2,640,860.1	23.6	11,190,085.2	2,982,187.3	26.7	11,169,240.8
Case management			-			-			-
Malaria diagnosis (malarial fevers)	105,258.0	30.7	342,860.0	122,366.1	35.3	346,646.1	137,978.3	39.8	346,679.2
Malaria treatment (children 5-14)	105,258.0	30.7	342,860.0	122,366.1	35.3	346,646.1	137,978.3	39.8	346,679.2
Malaria treatment (adults, excluding pregnant women)	105,258.0	30.7	342,860.0	122,366.1	35.3	346,646.1	137,978.3	39.8	346,679.2
Treatment of malaria (pregnant women)		20.1	-		23.1	-		26.1	-
Treatment of severe malaria (5+)	68,914.9	20.1	342,860.0	80,131.0	23.1	346,887.5	90,367.7	26.1	346,236.3
Malaria treatment for children 0-5 years (IMCI)	3,560.3	11.8	30,171.7	4,124.0	13.5	30,548.1	4,637.2	15.2	30,507.8
TB			-			-			-
Tuberculosis			-			-			-
Diagnosis microscopy: Passive TB case finding	18,403.6	16.8	109,545.5	19,919.3	18.2	109,647.3	21,429.6	19.5	109,708.1
Diagnosis microscopy: Active TB case finding	18,403.6	16.8	109,545.5	19,919.3	18.2	109,647.3	21,429.6	19.5	109,708.1
Diagnosis microscopy: Household contact tracing	19,116.5	16.8	113,788.4	20,670.2	18.2	113,781.1	22,223.9	19.5	113,774.4

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[S]	# of PIN[T]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Diagnosis microscopy: Child cases	1,356.3	16.8	8,073.0	1,466.6	18.2	8,073.0	1,576.9	19.5	8,073.0
Monitoring microscopy: Test to monitor first-line drug treatment, new bacteriologically confirmed cases	19,143.3	16.8	113,948.0	20,700.6	18.2	113,948.0	22,257.8	19.5	113,948.0
Monitoring microscopy: Test to monitor first-line drug treatment, previously treated cases	1,749.2	16.8	10,412.0	1,891.5	18.2	10,412.0	2,033.8	19.5	10,412.0
Monitoring microscopy: Test to monitor second-line treatment for RR-/MDR TB	871.1	16.8	5,185.3	942.0	18.2	5,185.3	1,012.9	19.5	5,185.3
RR-Diagnosis Xpert: Resistance testing for new smear positive cases	19,143.3	16.8	113,948.0	20,700.6	18.2	113,948.0	22,257.8	19.5	113,948.0
RR-Diagnosis Xpert: Resistance testing for previously treated	1,749.2	16.8	10,412.0	1,891.5	18.2	10,412.0	2,033.8	19.5	10,412.0
Screening X-rays: Passive TB case finding	26,380.4	16.8	157,026.0	28,526.4	18.2	157,026.0	30,672.4	19.5	157,026.0
Screening X-rays: Active TB case finding	26,380.4	16.8	157,026.0	28,526.4	18.2	157,026.0	30,672.4	19.5	157,026.0
Screening X-rays: Household contact tracing	26,380.4	16.8	157,026.0	28,526.4	18.2	157,026.0	30,672.4	19.5	157,026.0
Screening X-rays: Smear negative	7,237.1	16.8	43,078.0	7,825.8	18.2	43,078.0	8,414.6	19.5	43,078.0
Diagnosis X-rays: HIV+	49.2	16.8	292.7	56.9	18.2	313.2	64.6	19.5	330.6
Diagnosis X-rays: Children	1,356.3	16.8	8,073.0	1,466.6	18.2	8,073.0	1,576.9	19.5	8,073.0
Monitoring X-rays: Test to monitor treatment for new pulmonary cases	26,380.4	16.8	157,026.0	28,526.4	18.2	157,026.0	30,672.4	19.5	157,026.0
Monitoring X-rays: Test to monitor treatment for previously treated cases	1,749.2	16.8	10,412.0	1,891.5	18.2	10,412.0	2,033.8	19.5	10,412.0
Monitoring X-rays: Test to monitor treatment for MDR or RR-TB	952.1	16.8	5,667.0	1,029.5	18.2	5,667.0	1,107.0	19.5	5,667.0
First-line TB treatment: Initial treatment	31,630.2	16.8	188,275.0	34,235.1	18.2	188,450.0	36,831.0	19.5	188,554.4
First-line TB treatment: Initial treatment for children	1,271.2	16.8	7,566.5	1,342.8	18.2	7,391.5	1,423.4	19.5	7,287.2
First-line TB treatment: Previously treated	1,195.6	16.8	7,116.9	1,294.1	18.2	7,123.5	1,392.2	19.5	7,127.5
First-line TB treatment: Previously treated for children	48.1	16.8	286.0	50.8	18.2	279.4	53.8	19.5	275.5
Second-line treatment	871.1	16.8	5,185.3	942.0	18.2	5,185.3	1,012.9	19.5	5,185.3
XDR treatment	80.9	16.8	481.7	87.5	18.2	481.7	94.1	19.5	481.7
Education on causes, prevention and control of TB and other communicable diseases	40,888,601.7	25.5	160,347,457.5	48,346,269.7	29.8	162,508,469.5	55,986,818.4	34.0	164,667,113.0
Preventive therapy of contacts	33,436.4	16.8	199,026.0	36,156.4	18.2	199,026.0	38,876.4	19.5	199,026.0

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[S]	# of PIN[T]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Leprosy			-	-	1.1	-			-
Leprosy	324,110.3	49.3	657,424.6	347,120.2	50.4	688,730.5	388,427.7	57.5	675,526.5
HIV/AIDS			-	-	1.1	-			-
Prevention - Other			-	-	1.1	-			-
Voluntary counseling and testing	-	-	-	3,494,120.7	12.0	29,117,672.7	7,084,891.3	13.0	54,499,163.8
PMTCT	86.3	45.0	191.7	76.6	42.0	182.4	66.5	35.0	189.9
BCC	24,255,601.8	27.0	89,835,562.1	28,864,503.7	31.0	93,111,302.2	33,576,206.2	36.3	92,411,577.7
Prevention of HIV infection at health facilities	13,475,334.3	15.0	81,745,762.7	18,230,210.9	22.0	82,864,595.1	23,102,896.3	25.0	92,411,585.3
Care and treatment			-	-	-	-	-	-	-
ART (Second-Line Treatment) for adults	27.1	6.5	416.5	178.8	7.5	2,379.3	212.7	8.5	2,492.8
Diagnostics/lab costs for HIV+ in care	19.0	6.5	291.9	25.0	7.5	333.1	29.8	8.5	349.0
Management of opportunistic infections associated with HIV/AIDS	12.6	6.5	193.7	14.7	7.5	195.5	18.6	8.5	217.5
Etiologic management of STI	1,635,007.2	13.0	12,576,978.7	1,935,441.2	15.2	12,761,147.6	2,242,520.7	17.3	12,937,621.9
Syndromic management of STI	5,839.3	6.5	89,835.6	6,851.5	7.5	91,151.1	7,885.8	8.5	92,411.6
Nutrition			-			-			-
Adolescent Nutrition			-			-			-
Assessment of nutritional status	5,277,190.7	16.8	31,411,849.1	5,525,588.8	17.6	31,395,390.6	5,762,504.7	18.5	31,148,674.2
Maternal Nutrition			-			-			-
Vitamin A in post-partum	1,234,089.5	28.1	4,391,777.5	1,343,555.4	30.4	4,419,590.3	1,453,099.6	32.8	4,430,181.7
Assessment & counseling durin ANC	461,136.6	10.5	4,391,777.5	502,545.6	11.4	4,408,294.4	543,988.5	12.3	4,422,671.1
Deworming	1,627,602.2	18.1	8,992,277.4	1,789,091.5	19.6	9,128,017.9	1,953,219.9	21.1	9,256,966.2
Managemnt of anemia	5,620,173.4	12.5	44,961,387.1	6,178,976.8	13.6	45,433,653.3	6,746,927.8	14.6	46,211,834.0
Child Nutrition			-			-			-
Deworming (children)	1,314,063.3	10.0	13,140,633.4	1,455,709.2	10.8	13,478,788.6	1,579,436.3	11.7	13,499,455.6
Breastfeeding counselling and support	1,429,808.3	47.2	3,029,255.0	1,505,039.6	49.6	3,034,353.9	1,579,520.7	51.9	3,043,392.4

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[5]	# of PIN[6]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Complementary feeding counselling and support	9.0	16.0	56.4	9.8	17.3	56.5	10.5	18.7	56.2
Vitamin A supplementation in infants and children 6-59 months	7,293,051.6	55.5	13,140,633.4	8,080,307.7	60.1	13,444,771.5	8,768,125.8	64.8	13,531,058.3
Daily iron supplementation for children 6 to 23 months	705,312.2	15.2	4,640,212.1	782,262.2	16.5	4,740,983.3	784,053.1	17.7	4,429,678.3
Management of severe acute malnutrition (children)	55,716.3	10.6	525,625.3	66,380.4	12.3	539,677.7	76,354.4	14.1	541,520.9
Management of moderate acute malnutrition (children)	883,050.6	16.8	5,256,253.4	1,054,381.8	19.6	5,379,499.2	1,214,811.6	22.4	5,423,266.2
Assessment nutrition status_child	1,533,922.1	24.4	6,286,566.0	1,646,692.3	26.4	6,237,470.8	1,680,504.7	28.5	5,896,507.9
Other IYCF (Breastfeeding within an hour of birth, Exclusive breastfeeding for 6 months, Breastfeeding until 23 months of age)	880,119.2	14.0	6,286,566.0	944,823.8	15.2	6,215,945.8	964,223.7	16.3	5,915,483.0
Management of SAM with associated complication (Vitamin A deficiency, Corneal clouding/ ulceration, Dermatosis, Helminthiasis, Continuing Diarrhoea/ dysentery)	24,704.4	4.7	525,625.3	27,322.5	5.1	535,735.9	29,603.2	5.5	538,239.2
Other			-			-			-
Intermittent iron-folic acid supplementation (menstruating women where anaemia is public health problem)	11,063,974.6	6.9	160,347,457.5	14,002,818.5	8.6	162,823,471.4	17,015,596.2	10.3	165,199,963.0
Non-communicable diseases			-			-			-
Diabetes mellitus (DM)			-			-			-
Diagnosis of DM	4,314,244.6	25.6	16,852,517.8	5,548,397.4	32.0	17,338,742.0	6,848,418.0	38.4	17,834,421.9
Management of Type II DM	7,045.2	25.6	27,520.2	9,312.7	32.0	29,102.2	11,817.5	38.4	30,774.7
Management of Type I DM	4,314,244.6	25.6	16,852,517.8	5,548,397.4	32.0	17,338,742.0	6,848,418.0	38.4	17,834,421.9
Identification and referral of long-term complications	1,724,055.9	25.6	6,734,593.2	2,182,976.0	32.0	6,821,800.1	2,653,446.1	38.4	6,910,015.9
Breast cancer			-			-			-
Basic breast cancer awareness	4,136,447.6	9.2	44,961,387.1	5,236,548.4	11.5	45,535,203.1	6,361,830.7	13.8	46,100,222.4
Screening: Clinical breast exam	1,235,538.9	22.9	5,395,366.4	1,566,860.7	28.6	5,478,533.8	1,905,776.2	34.4	5,540,047.1
Cervical cancer			-			-			-
Visual inspection with acetic acid (VIA)	342,690.0	22.9	1,496,462.9	438,322.3	28.6	1,532,595.4	537,546.6	34.4	1,562,635.4

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[S]	# of PIN[T]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Chronic Obstructive Pulmonary Disease (COPD)			-			-			-
Counseling on smoking cessation	4,959,470.5	3.8	130,512,381.6	6,308,953.0	4.8	131,436,520.4	7,699,982.4	5.7	135,087,411.2
Diagnosis and management of ambulatory cases	3,429.8	3.8	90,258.8	4,389.9	4.8	91,456.2	5,398.5	5.7	94,709.7
Diagnosis and management of inpatient cases	3,429.8	3.8	90,258.8	4,389.9	4.8	91,456.2	5,398.5	5.7	94,709.7
Sexual and Gender-Based Violence			-			-			-
Case identification & recognition	900,127.0	15.4	5,844,980.3	1,065,094.7	18.0	5,917,192.7	1,233,547.7	20.5	6,017,305.8
First-point Counseling	1,862,570.4	15.4	12,094,613.1	2,203,926.7	18.0	12,244,037.1	2,552,494.8	20.5	12,451,194.3
Prevention of Pregnancy: emergency contraception	567,772.4	15.4	3,686,833.7	671,829.0	18.0	3,732,383.1	778,083.9	20.5	3,795,531.3
Treatment of minor injuries	678,557.3	15.4	4,406,215.9	802,917.5	18.0	4,460,652.9	929,905.2	20.5	4,536,122.8
Prophylaxis for STI	920,899.1	15.4	5,979,864.5	1,089,673.8	18.0	6,053,743.3	1,262,014.2	20.5	6,156,166.7
Psychological support	1,987,203.4	15.4	12,903,918.1	2,351,401.3	18.0	13,063,340.7	2,723,293.7	20.5	13,284,359.7
Medicolegal examination	2,077,216.1	15.4	13,488,416.1	2,457,910.8	18.0	13,655,060.0	2,846,648.5	20.5	13,886,090.3
NCD screening and management based on total risk assessment			-			-			-
Screening for risk of CVD/diabetes	346.2	6.1	5,675.0	461.4	8.1	5,695.8	581.0	10.1	5,752.8
Determine risk of CVD in next 10 years	38,162.4	6.1	625,613.1	51,852.9	8.1	640,159.2	66,328.1	10.1	656,714.1
Manage conditions and I&R complications	5,255.8	6.1	86,161.4	6,985.4	8.1	86,240.0	8,770.2	10.1	86,833.7
Arsenicosis			-			-			-
Counseling on the consumption of safe water	350,198.8	33.6	1,042,258.5	413,895.5	39.2	1,055,855.9	479,153.9	44.8	1,069,539.9
Identify, treat skin conditions and refer	175,099.4	16.8	1,042,258.5	207,035.8	19.6	1,056,305.1	239,755.3	22.4	1,070,336.2
Hypertension (HTN)			-			-			-
Promote healthy lifestyle for HTN and other NCD control	579.1	6.9	8,392.7	692.4	8.1	8,548.6	813.2	9.2	8,839.5
Diagnosis of HTN	1,905,832.8	3.6	52,939,801.2	2,288,058.1	4.2	54,477,574.7	2,692,240.9	4.8	56,088,351.5
Management of HTN	649,776.7	3.6	18,049,352.5	780,290.4	4.2	18,578,342.7	918,396.3	4.8	19,133,256.9
Lab follow-up of HTN cases	198,542.9	1.1	18,049,352.5	236,264.0	1.3	18,174,156.7	276,160.3	1.4	19,725,735.7
Identify and refer CVD	203,055.2	3.6	5,640,422.7	243,840.7	4.2	5,805,732.1	286,998.9	4.8	5,979,142.8

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[5]	# of PIN[7]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Adolescent Health			-			-			-
Adolescent Health			-			-			-
Counseling on puberty, safe sexual behavior, prevention of early marriage, mental health, HIV/AIDS, substance abuse, etc	3,926,481.1	12.5	31,411,849.1	4,246,034.5	13.6	31,220,841.9	4,555,914.5	14.6	31,204,893.6
Screening for STI	7,224.7	11.5	62,823.7	7,813.1	12.5	62,505.0	8,383.7	13.4	62,565.0
Syndromic management of STI	7,224.7	11.5	62,823.7	7,813.1	12.5	62,505.0	8,383.7	13.4	62,565.0
Etiologic management of STI	7,224.7	11.5	62,823.7	7,813.1	12.5	62,505.0	8,383.7	13.4	62,565.0
FP information and provision	5,654,132.8	18.0	31,411,849.1	6,110,529.4	19.5	31,336,048.0	6,553,027.7	21.0	31,204,893.6
Neglected Tropical Diseases			-			-			-
Kala-azar			-			-			-
Cutaneous leishmaniasis	39,402.5	86.5	45,552.0	35,243.7	76.4	46,130.5	30,552.8	66.3	46,082.6
Visceral leishmaniasis	25,828.0	56.7	45,552.0	23,790.4	51.6	46,105.5	21,402.3	46.5	46,026.4
Lymphatic filariasis			-			-			-
Mass Drug Administration of population at risk	7,732,788.6	86.5	8,939,640.0	7,959,003.7	87.9	9,054,611.7	8,078,051.6	89.4	9,035,852.0
Surgical treatment of hydrocele	5,068,775.9	56.7	8,939,640.0	5,218,005.1	57.6	9,059,036.6	5,296,984.1	58.6	9,039,221.9
Medical management of lymphedema	7,732,788.6	86.5	8,939,640.0	7,959,003.7	87.9	9,054,611.7	8,078,051.6	89.4	9,035,852.0
Clinical diagnosis	7,732,788.6	86.5	8,939,640.0	7,959,003.7	87.9	9,054,611.7	8,078,051.6	89.4	9,035,852.0
Lab diagnosis	7,732,788.6	86.5	8,939,640.0	7,959,003.7	87.9	9,054,611.7	8,078,051.6	89.4	9,035,852.0
Management of acute attacks	7,732,788.6	86.5	8,939,640.0	7,959,003.7	87.9	9,054,611.7	8,078,051.6	89.4	9,035,852.0
Neonatal Health			-			-			-
Immediate newborn care			-			-			-
Chlorhexidine	666,436.1	22.0	3,029,255.0	723,673.9	23.8	3,040,646.5	780,636.2	25.7	3,037,494.8
Immediate newborn care (Cord cutting and tying, Prevention and management of hypothermia & newborn conjunctivitis, Promotion of essential newborn care & practice; Identification of danger signs, breathing problems & LBW babies, Special care of pre-term)	54,526.6	1.8	3,029,255.0	76,416.0	2.5	3,056,641.0	98,339.8	3.2	3,073,117.7

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[5]	# of PIN[T]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Newborn care after delivery			-			-			-
Newborn care after delivery (Birth registration, Weighing, temperature management, Screening for congenital problems , Identification of Sepsis, omphalitis, neonatal jaundice and Identification and management of breastfeeding problems)	196,901.6	6.5	3,029,255.0	279,854.4	9.2	3,041,896.1	362,945.0	11.9	3,049,957.8
Neonatal emergencies			-			-			-
Newborn sepsis - Full supportive care	9,958.7	26.3	37,865.7	10,564.1	27.8	38,000.4	11,164.6	29.4	37,974.9
Newborn sepsis - Injectable antibiotics	9,958.7	26.3	37,865.7	10,564.1	27.8	38,000.4	11,164.6	29.4	37,974.9
Neonatal emergencies (Management of breathing problems, omphalitis, LBW babies, and neonatal jaundice)	286,809.9	26.3	1,090,531.8	304,246.7	27.8	1,094,412.5	321,541.0	29.4	1,093,676.8
Family Planning/ Reproductive Health			-			-			-
Pre-Conception Care			-			-			-
Pre-conception care (Promote health, FP, nutrition, child survival and safe motherhood, Screening for malnutrition, Prevent/ID HIV/AIDS, STI, congenital anomalies, Counseling on best practices during pregnancy)	5,305,443.7	11.8	44,961,387.1	5,776,166.8	12.7	45,481,628.6	6,254,000.0	13.5	46,325,925.9
Tetanus toxoid for women of reproductive age	8,992,277.4	20.0	44,961,387.1	14,121,205.7	31.0	45,552,276.4	19,378,160.9	41.9	46,248,593.9
Family Planning Counseling			-			-			-
FP counseling	17,762,625.4	53.1	33,451,272.0	19,366,873.2	57.1	33,917,466.1	20,995,701.0	61.1	34,362,849.4
Family planning methods			-			-			-
Pill - Standard daily regimen	1,800,541.7	13.0	13,850,320.6	1,860,257.0	13.1	14,200,435.3	1,920,023.9	13.2	14,545,635.4
Pill - post coital contraception	694,653.4	5.0	13,893,068.4	717,692.2	5.0	14,353,844.3	740,749.5	5.1	14,524,500.1
Condom - Male	425,967.2	3.1	13,740,877.6	440,451.3	3.1	14,208,106.1	454,997.8	3.1	14,677,347.6
Injectable - 3 month (Depo Provera)	826,915.5	6.0	13,781,924.2	854,340.2	6.0	14,239,004.1	881,788.8	6.1	14,455,553.3
IUD - Copper-T 380-A IUD (10 years)	9,520.3	0.3	3,173,432.1	9,754.7	0.3	3,251,583.2	9,955.2	0.3	3,318,406.4
Implant - Implanon (3 years)	52,098.2	0.8	6,512,278.4	57,829.7	0.9	6,425,519.0	63,234.6	1.0	6,323,464.2
Female sterilization	16,365.0	2.2	743,862.3	16,907.7	2.2	768,532.7	17,138.4	2.2	779,017.9
Male sterilization	4,260.8	0.6	710,139.8	4,405.7	0.6	734,286.6	4,469.7	0.6	744,953.3

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[5]	# of PIN[17]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Management of FP complications			-			-			-
Management of FP complications	514,721.5	15.0	3,431,476.5	577,196.3	16.3	3,541,081.5	642,756.0	17.5	3,672,891.6
Menstrual regulation			-			-			-
MR	2,427,914.9	5.4	44,961,387.1	2,546,071.3	5.6	45,465,559.8	2,664,884.0	5.8	45,946,275.3
Management of Other Common Conditions			-			-			-
Eye care			-			-			-
Treatment of acute conjunctivitis	172,405.6	25.6	673,459.3	190,427.4	27.9	682,535.6	208,863.8	30.2	691,601.9
Treatment of corneal ulcer	172,405.6	25.6	673,459.3	190,427.4	27.9	682,535.6	208,863.8	30.2	691,601.9
Detection of cataract and visual impairment	1,666,473.4	9.3	17,919,068.9	1,840,270.0	10.1	18,220,495.1	2,018,064.3	11.0	18,346,039.4
Ear care			-			-			-
Identification and referral of hearing impairment	32,839.2	25.6	128,278.0	36,271.9	27.9	130,006.8	39,783.6	30.2	131,733.7
Management of otitis media	32,839.2	25.6	128,278.0	36,271.9	27.9	130,006.8	39,783.6	30.2	131,733.7
Dental care			-			-			-
Promotion of oral hygiene	47,911.8	33.2	144,312.7	49,361.9	33.8	146,041.3	50,832.7	34.3	148,200.4
Treatment of common dental diseases	47,911.8	33.2	144,312.7	49,361.9	33.8	146,041.3	50,832.7	34.3	148,200.4
Tooth extraction (mobile teeth)	38,997.1	33.2	117,461.1	40,344.1	33.8	119,361.2	41,701.5	34.3	121,578.7
Treatment of common skin diseases			-			-			-
Treatment of common skin diseases	211,674.7	30.7	689,494.1	214,527.4	30.7	698,786.4	217,377.1	30.7	708,068.6
Emergency care			-			-			-
RTA_ stabilization & referral	94,412.6	25.6	368,799.2	99,671.9	26.7	373,302.9	105,035.6	27.7	379,190.1
Drowning	2,940.4	25.6	11,486.0	3,127.4	26.7	11,713.2	3,319.0	27.7	11,982.0
First aid in minor injuries	287,342.6	25.6	1,122,432.2	303,349.2	26.7	1,136,139.3	319,673.7	27.7	1,154,056.7
Poisoning & snakebite	4,104.9	25.6	16,034.7	4,333.6	26.7	16,230.6	4,566.8	27.7	16,486.5
Other communicable diseases			-			-			-
Hepatitis diagnosis & management	77,447.8	21.0	368,799.2	81,793.2	21.9	373,485.0	86,225.2	22.8	378,180.7
Typhoid diagnosis & management	57,147.8	39.6	144,312.7	60,331.3	41.3	146,080.6	63,578.0	42.9	148,200.4

Intervention	Year-2016			Year-2017			Year-2018		
	# of service coverage	% C[5]	# of PIN[6]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Diarrhea & dysentery	139,037.3	29.9	465,007.6	146,802.0	31.1	472,032.2	154,721.2	32.4	477,534.6
Dengue			-			-			-
Lab monitoring of suspected case	96,208.5	6.0	1,603,474.6	109,422.3	6.7	1,633,168.9	122,951.5	7.5	1,639,353.3
OPD management	141,105.8	8.8	1,603,474.6	160,612.5	9.9	1,622,348.3	180,585.0	11.0	1,641,681.7
Inpatient management	141,105.8	8.8	1,603,474.6	160,612.5	9.9	1,622,348.3	180,585.0	11.0	1,641,681.7
Rabies			-			-			-
Rabies post exposure prophylaxis	17,028.9	35.4	48,104.2	19,338.5	39.7	48,711.6	21,703.1	43.9	49,437.6
Total	**347,715,668**	**-**	**1,707,629,525**	**396,924,966**	**-**	**1,759,766,027**	**445,670,424**	**-**	**1,813,161,205**
Weighted average of coverage	**20.4**			**22.6**			**24.6**		

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Maternal Health												
Antenatal care (ANC)												
Daily iron and folic acid supplementation (pregnant women)	1,081,416.5	24.3	4,450,273.5	1,168,964.9	26.2	4,461,698.0	1,255,670.7	28.1	4,468,579.0	1,341,168.2	30.0	4,470,560.5
Identify and manage hypertension in pregnancy	611,912.6	13.8	4,434,149.3	661,818.4	14.8	4,471,745.9	711,249.0	15.9	4,473,264.0	759,995.3	17.0	4,470,560.5
Identify and manage pregnancy complications	611,912.6	13.8	4,434,149.3	661,818.4	14.8	4,471,745.9	711,249.0	15.9	4,473,264.0	759,995.3	17.0	4,470,560.5
Calcium supplementation for prevention and treatment of pre-eclampsia and eclampsia	611,912.6	13.8	4,434,149.3	661,818.4	14.8	4,471,745.9	711,249.0	15.9	4,473,264.0	759,995.3	17.0	4,470,560.5
Tetanus toxoid (pregnant women)	2,209,560.8	49.6	4,454,759.7	2,384,033.8	53.4	4,464,482.8	2,556,772.1	57.2	4,469,881.3	2,727,041.9	61.0	4,470,560.5
Syphilis detection and treatment (pregnant women)	6,488.5	24.3	26,701.6	7,013.8	26.2	26,770.2	7,534.0	28.1	26,811.5	8,047.0	30.0	26,823.4
Other Antenatal care (Including screening, counselling& diagnostic tests)	611,912.6	13.8	4,434,149.3	661,818.4	14.8	4,471,745.9	711,249.0	15.9	4,473,264.0	759,995.3	17.0	4,470,560.5
Micronutrientsupplements (Vitamin B complex)	778,797.9	17.5	4,450,273.5	817,977.8	18.3	4,469,824.1	856,477.8	19.2	4,460,821.8	894,112.1	20.0	4,470,560.5
Postnatal care (PNC)			-			-			-			-
Maternal sepsis case management	35,446.4	17.7	200,262.3	39,084.5	19.5	200,433.2	42,697.3	21.2	201,402.2	46,270.3	23.0	201,175.2
Other Postnatal Care (Counseling, Postnatal clinical history, Identification and management of postnatal complication)	587,436.1	13.2	4,450,273.5	645,459.1	14.5	4,451,442.2	703,056.3	15.7	4,478,065.5	759,995.3	17.0	4,470,560.5
Normal delivery			-			-			-			-
Identify and refer obstetric emergencies	75,999.5	74.3	102,287.4	81,240.1	79.2	102,575.9	86,418.6	84.1	102,756.9	91,512.4	89.0	102,822.9
Management of Premature rupture of membranes (PROM)	78,131.2	24.1	324,196.0	80,448.9	24.7	325,704.0	82,693.3	25.4	325,564.1	84,851.2	26.0	326,350.9
Normal labor and delivery (facility)	373,823.0	8.4	4,450,273.5	383,706.0	8.6	4,461,698.0	393,235.0	8.8	4,468,579.0	402,350.4	9.0	4,470,560.5
Active management of the 3rd stage of labour	418,325.7	9.4	4,450,273.5	428,323.0	9.6	4,461,698.0	437,920.7	9.8	4,468,579.0	447,056.1	10.0	4,470,560.5
Antenatal corticosteroids for preterm labor	66,754.1	15.0	445,027.4	68,412.7	15.3	447,141.8	70,007.8	15.7	445,909.3	71,529.0	16.0	447,056.1
Normal labor and delivery (home)	404,974.9	9.1	4,450,273.5	419,399.6	9.4	4,461,698.0	433,452.2	9.7	4,468,579.0	447,056.1	10.0	4,470,560.5
Induction of labor (beyond 41 weeks)	34,712.1	15.6	222,513.7	35,842.3	16.1	222,623.1	36,940.2	16.5	223,880.3	37,999.8	17.0	223,528.0

[U]Coverage
[V] Population in need

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Management of eclampsia (Magnesium sulphate)	5,484.5	15.6	35,157.2	5,663.1	16.1	35,174.4	5,836.6	16.5	35,373.1	6,004.0	17.0	35,317.4
Neonatal resuscitation (institutional)	2,315.3	15.8	14,653.9	2,467.8	16.9	14,602.1	2,617.2	17.9	14,621.5	2,763.0	19.0	14,542.0
Obstetrical emergencies			-			-			-			-
Management of pre-eclampsia (Magnesium sulphate)	114,995.1	19.0	605,237.2	123,380.8	20.3	607,787.2	131,674.1	21.7	606,793.3	139,839.1	23.0	607,996.2
Management of obstructed labor	103,482.2	16.9	612,320.8	110,212.9	17.9	615,714.3	116,857.8	18.9	618,295.3	123,387.5	20.0	616,937.3
Treatment of postpartum hemorrhage	73,596.4	15.8	465,800.0	78,860.5	16.8	469,407.7	84,065.2	17.9	469,637.8	89,187.7	19.0	469,408.9
Other EmONC (Management of Ante-partum Haemorrhage, prolapsed cord,shoulder dystocia, Removal of retained products, Repair vaginal and cervical tears, Assisted vaginal delivery, Blood transfusion)	922,617.4	51.7	1,784,559.7	986,413.0	55.1	1,790,223.1	1,049,456.3	58.6	1,790,881.0	1,111,470.8	62.0	1,792,694.8
Caesarean section	218,285.9	4.9	4,454,814.6	233,644.4	5.2	4,493,161.6	248,825.2	5.6	4,443,307.6	263,763.1	5.9	4,470,560.5
Other obstetric emergencies (genital prolapse)	319,307.1	7.2	4,434,821.2	341,319.9	7.7	4,432,725.9	363,072.0	8.1	4,482,370.9	384,468.2	8.6	4,470,560.5
Child Health & EPI			-			-			-			-
Integrated Management of Child Illnesses (IMCI)				-			-			-		
ORS	13,755,964.9	38.9	35,362,377.6	14,028,227.7	40.0	35,070,569.2	14,027,053.6	41.2	34,046,246.7	14,321,890.6	42.4	33,778,043.9
Zinc (diarrhea treatment)	13,685,149.1	38.6	35,453,754.2	13,934,786.4	39.8	35,012,026.1	13,913,609.8	40.9	34,018,605.8	14,186,778.4	42.0	33,778,043.9
Antibiotics for treatment of dysentery	616,097.3	34.8	1,770,394.5	628,408.6	35.9	1,750,441.9	628,466.3	36.9	1,703,160.8	641,782.8	38.0	1,688,902.2
Treatment of severe diarrhea	74,887.7	21.1	354,917.9	76,273.4	21.8	349,878.0	76,176.0	22.4	340,071.5	77,689.5	23.0	337,780.4
Pneumonia treatment (children)	4,088,555.0	18.8	21,747,633.1	4,253,424.0	19.6	21,701,142.9	4,331,831.1	20.4	21,234,466.2	4,501,067.0	21.3	21,131,769.8
Treatment of severe pneumonia	64,720.0	12.1	534,876.3	67,363.1	12.6	534,627.6	68,615.2	13.2	519,811.9	71,331.5	13.7	520,667.9
Other IMCI activities (Treatment of simple fever, severe febrile disease, Lab diagnosis for fever, acute ear infection, chronic ear infection, Identification of danger signs & referral, Counseling to parents on danger signs & nutrition)	1,153,668.5	7.7	14,982,707.8	1,167,768.0	7.8	14,971,384.1	1,159,785.8	7.9	14,680,833.5	1,176,974.3	8.0	14,712,178.9
ARI (Cough/cold, wheeze)	350,579.5	43.0	815,301.2	360,223.7	44.4	811,314.7	362,927.3	45.7	794,151.6	373,395.1	47.0	794,457.7
Expanded Program of Immunization (EPI)			-			-			-			-
Measles vaccine	6,514,120.7	73.7	8,838,698.4	6,590,455.0	74.4	8,858,138.4	6,659,992.5	75.2	8,856,373.1	6,722,193.8	76.0	8,844,991.9

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Polio vaccine	6,589,300.7	74.5	8,844,698.9	6,670,142.5	75.3	8,858,091.0	6,744,109.4	76.2	8,850,537.3	6,810,643.7	77.0	8,844,991.9
BCG vaccine	7,540,105.8	85.3	8,839,514.4	7,629,345.1	86.2	8,850,748.3	7,710,715.3	87.1	8,852,715.6	7,783,592.9	88.0	8,844,991.9
Pneumococcal vaccine	4,059,716.8	45.9	8,844,698.9	4,244,099.4	47.9	8,860,332.8	4,424,254.0	50.0	8,848,507.9	4,599,395.8	52.0	8,844,991.9
Other EPI activities (Counseling parents on immunization and adverse effects, Registering eligible children, Follow-up of defaulters & to identify adverse effects)	7,526,838.7	85.1	8,844,698.9	7,620,490.9	86.1	8,850,744.4	7,706,288.1	87.0	8,857,802.4	7,783,592.9	88.0	8,844,991.9
Inactivated polio vaccine (IPV)	6,589,300.7	74.5	8,844,698.9	6,670,142.5	75.3	8,858,091.0	6,744,109.4	76.2	8,850,537.3	6,810,643.7	77.0	8,844,991.9
Vaccine, Pentavalent	7,128,827.3	80.6	8,844,698.9	7,207,295.9	81.4	8,854,171.9	7,278,325.2	82.2	8,854,410.3	7,341,343.3	83.0	8,844,991.9
Malaria			-			-			-			-
Prevention			-			-			-			-
Vector control (other)	14,796,578.6	44.4	33,325,627.4	16,523,308.8	48.9	33,789,997.6	18,286,821.8	53.5	34,180,975.3	20,084,726.9	58.0	34,628,839.4
BCC	3,322,507.4	29.8	11,149,353.6	3,661,917.7	32.8	11,164,383.3	4,000,453.3	35.9	11,143,323.9	4,342,081.4	39.0	11,133,542.0
Case management			-			-			-			-
Malaria diagnosis (malarial fevers)	153,544.5	44.4	345,821.0	169,069.1	48.9	345,744.6	184,553.6	53.5	344,960.0	200,181.1	58.0	345,139.8
Malaria treatment (children 5-14)	153,544.5	44.4	345,821.0	169,069.1	48.9	345,744.6	184,553.6	53.5	344,960.0	200,181.1	58.0	345,139.8
Malaria treatment (adults, excluding pregnant women)	153,544.5	44.4	345,821.0	169,069.1	48.9	345,744.6	184,553.6	53.5	344,960.0	200,181.1	58.0	345,139.8
Treatment of malaria (pregnant women)		29.1	-		32.0	-		35.0	-		38.0	-
Treatment of severe malaria (5+)	100,574.3	29.1	345,616.1	110,753.6	32.0	346,105.1	120,906.6	35.0	345,447.5	131,153.2	38.0	345,140.0
Malaria treatment for children 0-5 years (IMCI)	5,148.8	16.9	30,466.6	5,659.1	18.6	30,425.5	6,168.1	20.3	30,384.9	6,681.9	22.0	30,372.3
TB			-			-			-			-
Tuberculosis			-			-			-			-
Diagnosis microscopy: Passive TB case finding	22,935.1	20.9	109,737.3	24,437.3	22.3	109,748.2	25,936.6	23.6	109,746.0	27,436.5	25.0	109,746.0
Diagnosis microscopy: Active TB case finding	22,935.1	20.9	109,737.3	24,437.3	22.3	109,748.2	25,936.6	23.6	109,746.0	27,436.5	25.0	109,746.0
Diagnosis microscopy: Household contact tracing	23,777.6	20.9	113,768.2	25,331.1	22.3	113,762.5	26,884.6	23.6	113,757.1	28,439.3	25.0	113,757.1
Diagnosis microscopy: Child cases	1,687.3	20.9	8,073.0	1,797.6	22.3	8,073.0	1,907.9	23.6	8,073.0	2,018.3	25.0	8,073.0
Monitoring microscopy: Test to monitor first-line drug treatment, new bacteriologically	23,815.1	20.9	113,948.0	25,372.4	22.3	113,948.0	26,929.7	23.6	113,948.0	28,487.0	25.0	113,948.0

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
confirmed cases												
Monitoring microscopy: Test to monitor first-line drug treatment, previously treated cases	2,176.1	20.9	10,412.0	2,318.4	22.3	10,412.0	2,460.7	23.6	10,412.0	2,603.0	25.0	10,412.0
Monitoring microscopy: Test to monitor second-line treatment for RR-/MDR TB	1,083.7	20.9	5,185.3	1,154.6	22.3	5,185.3	1,225.5	23.6	5,185.3	1,296.3	25.0	5,185.3
RR-Diagnosis Xpert: Resistance testing for new smear positive cases	23,815.1	20.9	113,948.0	25,372.4	22.3	113,948.0	26,929.7	23.6	113,948.0	28,487.0	25.0	113,948.0
RR-Diagnosis Xpert: Resistance testing for previously treated	2,176.1	20.9	10,412.0	2,318.4	22.3	10,412.0	2,460.7	23.6	10,412.0	2,603.0	25.0	10,412.0
Screening X-rays: Passive TB case finding	32,818.4	20.9	157,026.0	34,964.5	22.3	157,026.0	37,110.5	23.6	157,026.0	39,256.5	25.0	157,026.0
Screening X-rays: Active TB case finding	32,818.4	20.9	157,026.0	34,964.5	22.3	157,026.0	37,110.5	23.6	157,026.0	39,256.5	25.0	157,026.0
Screening X-rays: Household contact tracing	32,818.4	20.9	157,026.0	34,964.5	22.3	157,026.0	37,110.5	23.6	157,026.0	39,256.5	25.0	157,026.0
Screening X-rays: Smear negative	9,003.3	20.9	43,078.0	9,592.0	22.3	43,078.0	10,180.8	23.6	43,078.0	10,769.5	25.0	43,078.0
Diagnosis X-rays: HIV+	72.1	20.9	344.7	79.4	22.3	356.6	86.7	23.6	366.7	91.7	25.0	366.7
Diagnosis X-rays: Children	1,687.3	20.9	8,073.0	1,797.6	22.3	8,073.0	1,907.9	23.6	8,073.0	2,018.3	25.0	8,073.0
Monitoring X-rays: Test to monitor treatment for new pulmonary cases	32,818.4	20.9	157,026.0	34,964.5	22.3	157,026.0	37,110.5	23.6	157,026.0	39,256.5	25.0	157,026.0
Monitoring X-rays: Test to monitor treatment for previously treated cases	2,176.1	20.9	10,412.0	2,318.4	22.3	10,412.0	2,460.7	23.6	10,412.0	2,603.0	25.0	10,412.0
Monitoring X-rays: Test to monitor treatment for MDR or RR-TB	1,184.4	20.9	5,667.0	1,261.9	22.3	5,667.0	1,339.3	23.6	5,667.0	1,416.8	25.0	5,667.0
First-line TB treatment: Initial treatment	39,418.4	20.9	188,604.7	42,000.1	22.3	188,623.4	44,577.1	23.6	188,619.7	47,154.9	25.0	188,619.7
First-line TB treatment: Initial treatment for children	1,512.5	20.9	7,236.9	1,607.3	22.3	7,218.2	1,706.8	23.6	7,221.9	1,805.5	25.0	7,221.9
First-line TB treatment: Previously treated	1,490.0	20.9	7,129.4	1,587.6	22.3	7,130.1	1,685.0	23.6	7,129.9	1,782.5	25.0	7,129.9
First-line TB treatment: Previously treated for children	57.2	20.9	273.6	60.8	22.3	272.9	64.5	23.6	273.0	68.2	25.0	273.0
Second-line treatment	1,083.7	20.9	5,185.3	1,154.6	22.3	5,185.3	1,225.5	23.6	5,185.3	1,296.3	25.0	5,185.3
XDR treatment	100.7	20.9	481.7	107.3	22.3	481.7	113.8	23.6	481.7	120.4	25.0	481.7
Education on causes, prevention and control of TB and other communicable diseases	63,807,117.2	38.3	166,815,992.8	71,803,744.9	42.5	168,949,988.1	79,972,770.6	46.8	171,064,750.0	88,303,540.5	51.0	173,144,197.0
Preventive therapy of contacts	41,596.4	20.9	199,026.0	44,316.5	22.3	199,026.0	47,036.5	23.6	199,026.0	49,756.5	25.0	199,026.0
Leprosy			-			-			-			-

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Leprosy	421,652.4	61.6	684,500.7	455,562.4	65.8	692,344.1	490,137.5	69.9	701,198.2	525,319.5	74.0	709,891.2
HIV/AIDS			-			-			-			-
Prevention - Other			-			-			-			-
Voluntary counseling and testing	10,765,626.6	14.0	76,897,333.1	14,529,085.8	15.3	94,754,928.2	18,367,543.6	16.1	114,013,306.1	22,273,516.7	16.5	134,991,010.5
PMTCT	56.3	30.0	187.7	46.3	25.0	185.3	36.6	20.0	182.8	27.1	15.0	180.4
BCC	38,381,799.3	41.0	93,614,144.7	43,271,420.4	45.7	94,754,934.4	48,234,755.1	50.3	95,830,639.9	53,262,757.4	55.0	96,841,377.1
Prevention of HIV infection at health facilities	28,084,243.4	30.0	93,614,144.7	33,164,224.9	35.0	94,754,928.2	38,332,258.3	40.0	95,830,645.6	43,578,619.7	45.0	96,841,377.1
Care and treatment	-	-	-	-	-	-	-	-	-	-	-	-
ART (Second-Line Treatment) for adults	248.1	9.6	2,597.6	285.1	10.6	2,697.8	322.5	11.6	2,784.4	361.1	12.6	2,865.5
Diagnostics/lab costs for HIV+ in care	34.7	9.6	363.7	39.9	10.6	377.7	45.2	11.6	389.8	50.5	12.6	401.2
Management of opportunistic infections associated with HIV/AIDS	22.6	9.6	236.5	26.4	10.6	250.3	30.6	11.6	263.8	34.7	12.6	275.7
Etiologic management of STI	2,555,666.1	19.5	13,105,980.3	2,874,233.3	21.7	13,265,689.9	3,197,548.8	23.8	13,416,290.4	3,525,026.1	26.0	13,557,792.8
Syndromic management of STI	8,940.2	9.6	93,614.1	10,012.4	10.6	94,754.9	11,100.4	11.6	95,830.6	12,202.0	12.6	96,841.4
Nutrition			-			-			-			-
Adolescent Nutrition			-			-			-			-
Assessment of nutritional status	5,988,938.7	19.3	31,030,770.4	6,207,096.5	20.1	30,881,077.3	6,419,385.6	21.0	30,568,502.8	6,590,936.6	21.8	30,233,654.0
Maternal Nutrition			-			-			-			-
Vitamin A in post-partum	1,562,046.0	35.1	4,450,273.5	1,670,162.1	37.4	4,465,674.2	1,777,005.1	39.8	4,464,836.8	1,882,106.0	42.1	4,470,560.5
Assessment & counseling durin ANC	585,211.0	13.2	4,433,416.4	626,124.8	14.0	4,472,320.0	666,563.2	14.9	4,473,578.4	706,348.6	15.8	4,470,560.5
Deworming	2,119,651.0	22.6	9,378,986.8	2,288,000.6	24.2	9,454,548.1	2,457,874.6	25.7	9,563,714.4	2,628,963.2	27.2	9,665,305.9
Management of anemia	7,322,856.2	15.7	46,642,395.9	7,905,435.6	16.7	47,337,937.8	8,493,305.6	17.8	47,715,200.0	9,085,387.5	18.8	48,326,529.5
Child Nutrition			-			-			-			-
Deworming (children)	1,699,638.8	12.5	13,597,110.8	1,806,947.8	13.3	13,586,073.6	1,874,246.7	14.2	13,198,920.5	1,985,048.5	15.0	13,233,656.7
Breastfeeding counselling and support	1,652,498.4	54.3	3,043,275.2	1,723,863.6	56.7	3,040,323.7	1,793,227.5	59.0	3,039,368.7	1,860,168.8	61.4	3,029,590.8
Complementary feeding counselling and support	11.3	20.0	56.4	12.0	21.3	56.4	12.8	22.7	56.3	13.5	24.0	56.4

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Vitamin A supplementation in infants and children 6-59 months	9,436,394.9	69.4	13,597,110.8	10,033,079.7	74.0	13,558,215.8	10,407,579.7	78.7	13,224,370.6	11,023,636.0	83.3	13,233,656.7
Daily iron supplementation for children 6 to 23 months	841,526.6	19.0	4,429,087.5	898,266.7	20.3	4,424,959.1	954,109.9	21.5	4,437,720.5	1,008,783.7	22.8	4,424,489.9
Management of severe acute malnutrition (children)	86,205.7	15.8	545,605.6	95,406.9	17.6	542,084.5	102,400.0	19.4	527,835.0	111,692.1	21.1	529,346.3
Management of moderate acute malnutrition (children)	1,373,308.2	25.3	5,428,095.6	1,521,450.6	28.1	5,414,414.9	1,634,342.6	30.9	5,289,134.5	1,783,896.9	33.7	5,293,462.7
Assessment nutrition status_child	1,803,346.3	30.5	5,912,610.8	1,924,592.7	32.5	5,921,823.8	2,043,842.6	34.6	5,907,059.6	2,160,502.4	36.6	5,903,012.1
Other IYCF (Breastfeeding within an hour of birth, Exclusive breastfeeding for 6 months, Breastfeeding until 23 months of age)	1,034,706.9	17.5	5,912,610.8	1,104,274.8	18.7	5,905,213.0	1,172,696.3	19.8	5,922,708.5	1,239,632.5	21.0	5,903,012.1
Management of SAM with associated complication (Vitamin A deficiency, Corneal clouding/ ulceration, Dermatosis, Helminthiasis, Continuing Diarrhoea/ dysentery)	31,817.2	5.8	548,573.1	33,789.9	6.2	544,998.6	35,015.3	6.6	530,535.6	37,054.2	7.0	529,346.3
Other			-			-			-			-
Intermittent iron-folic acid supplementation (menstruating women where anaemia is public health problem)	20,101,327.1	12.1	166,126,670.5	23,258,787.3	13.8	168,541,937.2	26,486,519.8	15.5	170,880,772.6	29,780,801.9	17.2	173,144,197.0
Non-communicable diseases			-			-			-			-
Diabetes mellitus (DM)			-			-			-			-
Diagnosis of DM	8,215,249.8	44.8	18,337,611.1	9,649,735.6	51.1	18,884,022.8	11,152,591.3	57.5	19,395,810.9	12,723,501.3	63.9	19,911,582.7
Management of Type II DM	14,570.3	44.8	32,523.0	17,584.9	51.1	34,412.6	20,875.6	57.5	36,305.4	24,445.1	63.9	38,255.3
Management of Type I DM	8,215,249.8	44.8	18,337,611.1	9,649,735.6	51.1	18,884,022.8	11,152,591.3	57.5	19,395,810.9	12,723,501.3	63.9	19,911,582.7
Identification and referral of long-term complications	3,135,306.6	44.8	6,998,452.2	3,628,369.7	51.1	7,100,527.8	4,132,411.4	57.5	7,186,802.4	4,646,844.0	63.9	7,272,056.3
Breast cancer			-			-			-			-
Basic breast cancer awareness	7,510,021.8	16.1	46,646,098.2	8,678,620.3	18.3	47,424,154.9	9,864,996.0	20.6	47,888,330.1	11,066,775.3	22.9	48,326,529.5
Screening: Clinical breast exam	2,251,602.8	40.1	5,614,969.6	2,603,586.4	45.8	5,684,686.4	2,960,934.0	51.6	5,738,244.2	3,322,932.2	57.3	5,799,183.5
Cervical cancer			-			-			-			-
Visual inspection with acetic acid (VIA)	640,215.7	40.1	1,596,547.9	746,218.0	45.8	1,629,296.9	855,430.9	51.6	1,657,811.9	967,704.0	57.3	1,688,837.7

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Chronic Obstructive Pulmonary Disease (COPD)				-			-			-		
Counseling on smoking cessation	9,131,403.9	6.7	136,289,610.1	10,602,252.5	7.6	139,503,322.9	12,111,765.5	8.6	140,834,482.8	13,642,489.1	9.5	143,605,148.0
Diagnosis and management of ambulatory cases	6,458.0	6.7	96,388.2	7,570.9	7.6	99,616.9	8,738.9	8.6	101,615.3	9,962.7	9.5	104,870.1
Diagnosis and management of inpatient cases	6,458.0	6.7	96,388.2	7,570.9	7.6	99,616.9	8,738.9	8.6	101,615.3	9,962.7	9.5	104,870.1
Sexual and Gender-Based Violence			-			-			-			-
Case identification & recognition	1,405,146.1	23.1	6,082,883.7	1,579,509.4	25.7	6,145,951.0	1,756,239.9	28.2	6,227,801.2	1,934,994.2	30.8	6,282,448.8
First-point Counseling	2,907,571.6	23.1	12,586,890.1	3,268,369.4	25.7	12,717,390.8	3,634,065.7	28.2	12,886,757.9	4,003,949.6	30.8	12,999,836.4
Prevention of Pregnancy: emergency contraception	886,322.9	23.1	3,836,895.9	996,305.9	25.7	3,876,676.8	1,107,782.1	28.2	3,928,305.4	1,220,534.8	30.8	3,962,775.4
Treatment of minor injuries	1,059,264.0	23.1	4,585,558.5	1,190,707.1	25.7	4,633,101.5	1,323,934.7	28.2	4,694,804.0	1,458,688.0	30.8	4,735,999.9
Prophylaxis for STI	1,437,572.6	23.1	6,223,257.9	1,615,959.6	25.7	6,287,780.6	1,796,768.6	28.2	6,371,519.7	1,979,648.0	30.8	6,427,428.4
Psychological support	3,102,130.3	23.1	13,429,135.6	3,487,070.7	25.7	13,568,368.6	3,877,237.4	28.2	13,749,068.8	4,271,871.9	30.8	13,869,714.0
Medicolegal examination	3,242,644.9	23.1	14,037,423.9	3,645,021.7	25.7	14,182,963.7	4,052,861.4	28.2	14,371,849.0	4,465,371.3	30.8	14,497,958.9
NCD screening and management based on total risk assessment				-			-			-		
Screening for risk of CVD/diabetes	706.1	12.2	5,787.4	836.7	14.2	5,892.4	973.0	16.2	6,006.4	1,115.2	18.2	6,127.6
Determine risk of CVD in next 10 years	81,678.2	12.2	669,493.1	97,962.9	14.2	689,879.5	115,213.5	16.2	711,194.5	133,476.5	18.2	733,387.2
Manage conditions and I&R complications	10,631.4	12.2	87,142.5	12,591.4	14.2	88,671.6	14,618.9	16.2	90,240.1	16,751.5	18.2	92,041.0
Arsenicosis			-			-			-			-
Counseling on the consumption of safe water	545,947.0	50.4	1,083,228.3	614,245.8	55.9	1,098,829.7	684,016.7	61.5	1,112,222.3	755,168.4	67.1	1,125,437.3
Identify, treat skin conditions and refer	273,244.6	25.2	1,084,304.0	307,489.0	28.0	1,098,174.9	342,471.6	30.8	1,111,920.9	378,146.9	33.6	1,125,437.3
Hypertension (HTN)			-			-			-			-
Promote healthy lifestyle for HTN and other NCD control	941.6	10.3	9,142.0	1,077.6	11.5	9,370.6	1,221.1	12.7	9,615.0	1,372.1	13.8	9,942.9
Diagnosis of HTN	3,119,042.6	5.3	58,849,859.6	3,568,888.8	5.9	60,489,640.1	4,041,634.3	6.5	62,178,988.8	4,536,476.7	7.1	63,894,038.5
Management of HTN	1,064,164.9	5.3	20,078,583.8	1,217,631.0	5.9	20,637,814.1	1,378,816.5	6.5	21,212,561.5	1,547,488.5	7.1	21,795,612.1

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[v]	# of PIN[v]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Lab follow-up of HTN cases	318,254.9	1.6	19,890,933.5	362,553.9	1.8	20,141,886.0	409,059.7	1.9	21,529,459.7	457,707.9	2.1	21,795,612.1
Identify and refer CVD	332,551.5	5.3	6,274,557.5	380,509.7	5.9	6,449,316.9	430,880.2	6.5	6,628,925.5	483,590.1	7.1	6,811,128.8
Adolescent Health			-			-			-			-
Adolescent Health			-			-			-			-
Counseling on puberty, safe sexual behavior, prevention of early marriage, mental health, HIV/AIDS, substance abuse, etc	4,856,315.6	15.7	30,931,946.3	5,148,602.4	16.7	30,829,954.8	5,434,534.6	17.8	30,531,093.4	5,683,927.0	18.8	30,233,654.0
Screening for STI	8,936.9	14.4	62,061.5	9,475.1	15.4	61,526.5	10,001.6	16.3	61,359.4	10,460.8	17.3	60,467.3
Syndromic management of STI	8,936.9	14.4	62,061.5	9,475.1	15.4	61,526.5	10,001.6	16.3	61,359.4	10,460.8	17.3	60,467.3
Etiologic management of STI	8,936.9	14.4	62,061.5	9,475.1	15.4	61,526.5	10,001.6	16.3	61,359.4	10,460.8	17.3	60,467.3
FP information and provision	6,981,923.3	22.5	31,030,770.4	7,399,189.1	24.0	30,829,954.8	7,807,359.6	25.5	30,617,096.5	8,163,086.6	27.0	30,233,654.0
Neglected Tropical Diseases			-			-			-			-
Kala-azar			-			-			-			-
Cutaneous leishmaniasis	25,873.4	56.3	45,956.3	21,206.8	46.2	45,902.1	16,552.8	36.1	45,852.7	11,922.3	26.0	45,854.9
Visceral leishmaniasis	19,019.8	41.4	45,941.6	16,643.9	36.2	45,977.5	14,274.4	31.1	45,898.5	11,922.3	26.0	45,854.9
Lymphatic filariasis			-			-			-			-
Mass Drug Administration of population at risk	8,196,524.6	90.8	9,027,009.5	8,314,696.9	92.2	9,018,109.4	8,432,631.4	93.7	8,999,606.6	8,558,127.9	95.1	8,999,082.9
Surgical treatment of hydrocele	5,375,584.2	59.5	9,034,595.2	5,453,984.6	60.5	9,014,850.6	5,532,226.1	61.5	8,995,489.7	5,615,427.8	62.4	8,999,082.9
Medical management of lymphedema	8,196,524.6	90.8	9,027,009.5	8,314,696.9	92.2	9,018,109.4	8,432,631.4	93.7	8,999,606.6	8,558,127.9	95.1	8,999,082.9
Clinical diagnosis	8,196,524.6	90.8	9,027,009.5	8,314,696.9	92.2	9,018,109.4	8,432,631.4	93.7	8,999,606.6	8,558,127.9	95.1	8,999,082.9
Lab diagnosis	8,196,524.6	90.8	9,027,009.5	8,314,696.9	92.2	9,018,109.4	8,432,631.4	93.7	8,999,606.6	8,558,127.9	95.1	8,999,082.9
Management of acute attacks	8,196,524.6	90.8	9,027,009.5	8,314,696.9	92.2	9,018,109.4	8,432,631.4	93.7	8,999,606.6	8,558,127.9	95.1	8,999,082.9
Neonatal Health			-			-			-			-
Immediate newborn care			-			-			-			-
Chlorhexidine	836,900.7	27.5	3,043,275.2	892,352.7	29.3	3,045,572.5	946,735.2	31.2	3,034,407.7	999,765.0	33.0	3,029,590.8
Immediate newborn care (Cord cutting and tying, Prevention and management of hypothermia & newborn conjunctivitis,	120,209.4	4.0	3,005,234.2	141,965.3	4.7	3,020,538.9	163,526.9	5.4	3,028,275.3	184,805.0	6.1	3,029,590.8

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Promotion of essential newborn care & practice; Identification of danger signs, breathing problems & LBW babies, Special care of pre-term)												
Newborn care after delivery			-			-			-			-
Newborn care after delivery (Birth registration, Weighing, temperature management, Screening for congenital problems , Identification of Sepsis, omphalitis, neonatal jaundice and Identification and management of breastfeeding problems)	445,839.8	14.7	3,032,923.9	528,313.5	17.4	3,036,284.8	610,061.8	20.1	3,035,133.4	690,746.7	22.8	3,029,590.8
Neonatal emergencies			-			-			-			-
Newborn sepsis - Full supportive care	11,754.7	30.9	38,040.9	12,333.2	32.4	38,065.5	12,897.4	34.0	37,933.4	13,443.8	35.5	37,869.9
Newborn sepsis - Injectable antibiotics	11,754.7	30.9	38,040.9	12,333.2	32.4	38,065.5	12,897.4	34.0	37,933.4	13,443.8	35.5	37,869.9
Neonatal emergencies (Management of breathing problems, omphalitis, LBW babies, and neonatal jaundice)	338,533.9	30.9	1,095,579.1	355,197.0	32.4	1,096,286.9	371,444.2	34.0	1,092,483.0	387,181.7	35.5	1,090,652.7
Family Planning/ Reproductive Health			-			-			-			-
Pre-Conception Care			-			-			-			-
Pre-conception care (Promote health, FP, nutrition, child survival and safe motherhood, Screening for malnutrition, Prevent/ID HIV/AIDS, STI, congenital anomalies, Counseling on best practices during pregnancy)	6,737,963.5	14.4	46,791,413.1	7,226,926.7	15.3	47,234,815.3	7,719,735.3	16.1	47,948,666.7	8,215,510.0	17.0	48,326,529.5
Tetanus toxoid for women of reproductive age	24,752,657.5	52.9	46,791,413.1	30,233,164.5	63.9	47,313,246.5	35,807,455.9	74.8	47,870,930.3	41,464,162.3	85.8	48,326,529.5
Family Planning Counseling			-			-			-			-
FP counseling	22,645,733.8	65.0	34,839,590.5	24,313,142.4	69.0	35,236,438.2	25,994,014.2	73.0	35,608,238.6	27,685,302.2	77.0	35,954,937.9
Family planning methods			-			-			-			-
Pill - Standard daily regimen	1,979,723.2	13.3	14,885,137.2	2,039,204.4	13.4	15,217,943.1	2,098,324.8	13.5	15,543,146.3	2,157,017.8	13.6	15,860,425.3
Pill - post coital contraception	763,782.1	5.1	14,976,119.5	786,730.6	5.2	15,129,433.8	809,538.4	5.2	15,568,045.7	832,182.8	5.3	15,701,562.6
Condom - Male	469,581.8	3.1	15,147,799.8	484,174.2	3.2	15,130,443.0	498,746.8	3.2	15,585,838.6	513,285.5	3.2	16,040,172.6
Injectable - 3 month (Depo Provera)	909,206.2	6.1	14,905,019.9	936,523.5	6.2	15,105,217.8	963,675.0	6.2	15,543,145.8	990,630.4	6.2	15,977,909.9
IUD - Copper-T 380-A IUD (10 years)	10,150.2	0.3	3,383,402.6	10,338.6	0.3	3,446,201.8	10,520.0	0.3	3,506,670.8	10,695.6	0.3	3,565,205.4

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Implant - Implanon (3 years)	68,787.5	1.0	6,878,746.3	74,476.4	1.1	6,770,577.3	80,290.3	1.2	6,690,861.2	86,224.6	1.2	7,185,382.3
Female sterilization	17,349.2	2.3	754,313.4	17,534.3	2.3	762,360.4	17,694.2	2.3	769,313.8	17,841.5	2.3	775,716.6
Male sterilization	4,528.9	0.6	754,816.3	4,581.8	0.6	763,636.2	4,628.6	0.6	771,426.7	4,672.4	0.6	778,739.5
Management of FP complications			-			-			-			-
Management of FP complications	711,372.5	18.8	3,783,896.4	782,992.8	20.0	3,914,963.9	857,552.1	21.3	4,026,066.2	935,004.5	22.5	4,155,575.4
Menstrual regulation			-			-			-			-
MR	2,784,089.1	6.0	46,401,484.7	2,903,391.9	6.1	47,596,589.1	3,022,501.9	6.3	47,976,220.6	3,141,224.4	6.5	48,326,529.5
Management of Other Common Conditions			-			-			-			-
Eye care			-			-			-			-
Treatment of acute conjunctivitis	227,703.8	32.5	700,627.2	246,937.3	34.8	709,590.0	266,553.1	37.1	718,472.0	286,519.0	39.4	727,205.6
Treatment of corneal ulcer	227,703.8	32.5	700,627.2	246,937.3	34.8	709,590.0	266,553.1	37.1	718,472.0	286,519.0	39.4	727,205.6
Detection of cataract and visual impairment	2,199,748.6	11.8	18,641,937.4	2,385,225.1	12.6	18,930,357.8	2,574,388.6	13.5	19,069,545.3	2,766,924.7	14.3	19,349,123.7
Ear care			-			-			-			-
Identification and referral of hearing impairment	43,372.2	32.5	133,452.8	47,035.7	34.8	135,160.0	50,772.0	37.1	136,851.8	54,575.1	39.4	138,515.4
Management of otitis media	43,372.2	32.5	133,452.8	47,035.7	34.8	135,160.0	50,772.0	37.1	136,851.8	54,575.1	39.4	138,515.4
Dental care			-			-			-			-
Promotion of oral hygiene	52,321.8	34.9	149,919.3	53,827.5	35.4	152,055.0	55,348.0	36.0	153,744.4	56,877.9	36.5	155,829.8
Treatment of common dental diseases	52,321.8	34.9	149,919.3	53,827.5	35.4	152,055.0	55,348.0	36.0	153,744.4	56,877.9	36.5	155,829.8
Tooth extraction (mobile teeth)	43,068.6	34.9	123,405.9	44,445.8	35.4	125,553.0	45,833.5	36.0	127,315.2	47,174.3	36.5	129,244.6
Treatment of common skin diseases			-			-			-			-
Treatment of common skin diseases	220,213.8	30.7	717,308.8	223,030.9	30.7	726,484.9	225,822.6	30.7	735,578.4	228,567.7	30.7	744,520.0
Emergency care			-			-			-			-
RTA_stabilization& referral	110,498.9	28.8	383,676.8	116,057.4	29.9	388,151.8	121,706.9	30.9	393,873.3	127,434.1	32.0	398,231.7
Drowning	3,514.8	28.8	12,204.2	3,714.5	29.9	12,423.0	3,917.7	30.9	12,678.6	4,123.9	32.0	12,887.1
First aid in minor injuries	336,301.0	28.8	1,167,711.9	353,218.1	29.9	1,181,331.6	370,412.2	30.9	1,198,744.9	387,843.0	32.0	1,212,009.4
Poisoning & snakebite	4,804.3	28.8	16,681.6	5,046.0	29.9	16,876.2	5,291.6	30.9	17,124.9	5,540.6	32.0	17,314.4

Interventions	Year 2019			Year 2020			Year 2021			Target year (2022)		
	# of service coverage	% C[U]	# of PIN[V]	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN	# of service coverage	% C	# of PIN
Other communicable diseases			-			-			-			-
Hepatitis diagnosis & management	90,739.6	23.6	384,489.7	95,332.8	24.5	389,113.6	100,001.6	25.4	393,707.1	104,734.9	26.3	398,231.7
Typhoid diagnosis & management	66,884.9	44.5	150,303.1	70,249.4	46.2	152,055.0	73,669.0	47.9	153,797.6	77,135.7	49.5	155,829.8
Diarrhea & dysentery	162,787.4	33.6	484,486.3	170,994.3	34.9	489,955.0	179,335.7	36.1	496,774.9	187,792.2	37.4	502,118.2
Dengue			-			-			-			-
Lab monitoring of suspected case	136,789.1	8.2	1,668,159.9	150,928.6	8.9	1,695,827.0	165,362.6	9.7	1,704,769.6	180,070.0	10.4	1,731,442.0
OPD management	201,013.3	12.1	1,661,266.7	221,887.6	13.1	1,693,798.4	243,197.1	14.2	1,712,655.7	264,910.6	15.3	1,731,442.0
Inpatient management	201,013.3	12.1	1,661,266.7	221,887.6	13.1	1,693,798.4	243,197.1	14.2	1,712,655.7	264,910.6	15.3	1,731,442.0
Rabies			-			-			-			-
Rabies post exposure prophylaxis	24,121.6	48.2	50,044.8	26,592.7	52.5	50,652.8	29,115.2	56.7	51,349.6	31,685.4	61.0	51,943.3
Total	**494,053,540**		**1,851,947,039**	**544,750,090**		**1,889,468,844**	**595,304,538**		**1,923,455,508**	**647,589,209**		**1,962,189,576**
Weighted average of coverage	**26.7**			**28.8**			**30.9**			**33.0**		

APPENDIX F: CALCULATED TOTAL COST OF CORE ESP SERVICES INCLUDING HEALTH SYSTEMS COSTS, 2016-2022 (Million BDT)

	2,016	2,017	2,018	2,019	2,020	2,021	2,022	Total
Maternal health								
ANC	26,739	29,446	30,577	32,514	34,526	36,492	38,531	228,354
Normal delivery	6,340	6,528	6,387	6,440	6,520	6,599	6,698	45,205
Obstetric emergencies[W]	30,109	32,638	33,444	35,161	36,972	38,742	40,598	246,910
Post-natal care	2,707	3,072	3,269	3,548	3,832	4,109	4,393	24,921
Subtotal	*65,894*	*71,685*	*73,678*	*77,663*	*81,849*	*85,941*	*90,220*	*545,390*
Neonatal health								
Immediate newborn care	276	325	356	396	436	475	515	2,777
Neonatal emergencies	2,112	2,257	2,284	2,373	2,468	2,561	2,659	16,659
Subtotal	*2,388*	*2,582*	*2,640*	*2,769*	*2,904*	*3,036*	*3,174*	*19,436*
Child health and EPI								
IMCI	29,283	31,872	32,836	35,301	36,970	37,937	39,782	242,999
EPI	294,038	313,314	314,700	321,159	333,059	344,974	357,190	2,271,957
Subtotal	*323,321*	*345,186*	*347,536*	*356,460*	*370,028*	*382,911*	*396,972*	*2,514,956*
Adolescent health								
STI screening	10	11	11	12	12	13	13	81
STI management	41	45	46	48	51	53	55	339
Subtotal	51	56	57	60	63	66	69	420
MNCAH Core Service	391,654	419,508	423,911	436,951	454,845	471,953	490,434	3,080,202
FP/RH								
Pre-conception care	4,457	6,837	8,744	10,766	12,762	14,707	16,661	74,934
FP methods	5,780	6,014	5,925	6,028	6,161	6,188	6,469	42,307
Management of FP complications	1,302	1,425	1,481	1,580	1,686	1,796	1,917	11,168
Menstrual regulation	22,747	23,306	22,729	22,889	23,168	23,467	23,859	160,536
Subtotal	*34,287*	*37,582*	*38,879*	*41,262*	*43,777*	*46,158*	*48,905*	*502,956*
Nutrition								
Child nutrition	5,042	5,590	5,672	5,988	6,289	6,483	6,798	41,647

[W] Includes C-section and Neonatal resuscitation

	2,016	2,017	2,018	2,019	2,020	2,021	2,022	Total
Maternal nutrition	19,565	20,754	20,941	21,747	22,667	23,628	24,624	152,914
IFA supplementation for 10-49 years female	6,190	7,559	8,488	9,598	10,721	11,849	12,980	67,836
Subtotal	*30,797*	*33,903*	*35,101*	*37,333*	*39,676*	*41,960*	*44,403*	*262,397*
NCDs								
Diabetes mellitus	120,534	136,307	145,276	158,673	172,815	187,120	202,248	1,121,463
HTN	123	139	147	159	172	186	200	1,123
Cervical cancer	32	36	38	42	45	49	53	295
Chronic Obstructive Pulmonary Disease	10,844	11,386	11,388	11,809	12,312	12,828	13,389	82,502
SGBV	16	18	19	21	23	25	27	150
NCD screening and management based on total risk assessment	491	516	516	535	558	583	610	3,742
Arsenicosis	45,271	48,229	48,970	51,626	54,743	58,056	61,715	364,150
Subtotal	*177,311*	*196,631*	*206,354*	*222,865*	*240,669*	*258,846*	*278,242*	*1,573,426*
Management of Other Common Conditions								
Eye care	381	422	441	472	505	537	571	3,322
Ear care	33	37	38	41	44	47	50	289
Dental care	363	376	370	374	379	384	390	2,621
Treatment of common skin diseases	487	496	479	477	476	475	475	3,340
Emergency care	2,443	2,589	2,601	2,687	2,782	2,876	2,978	18,880
Other communicable diseases	1,340	1,421	1,105	1,475	1,527	1,579	1,635	10,364
Dengue	1,493	1,706	1,828	1,998	2,173	2,348	2,529	13,688
Rabies	640	729	781	852	926	999	1,075	6,001
Subtotal	*7,180*	*7,776*	*7,643*	*8,375*	*8,812*	*9,245*	*9,703*	*58,506*

APPENDIX G: ESP TOTAL COSTS, 2016-2022 (In Million BDT) INCLUDING INFLATION

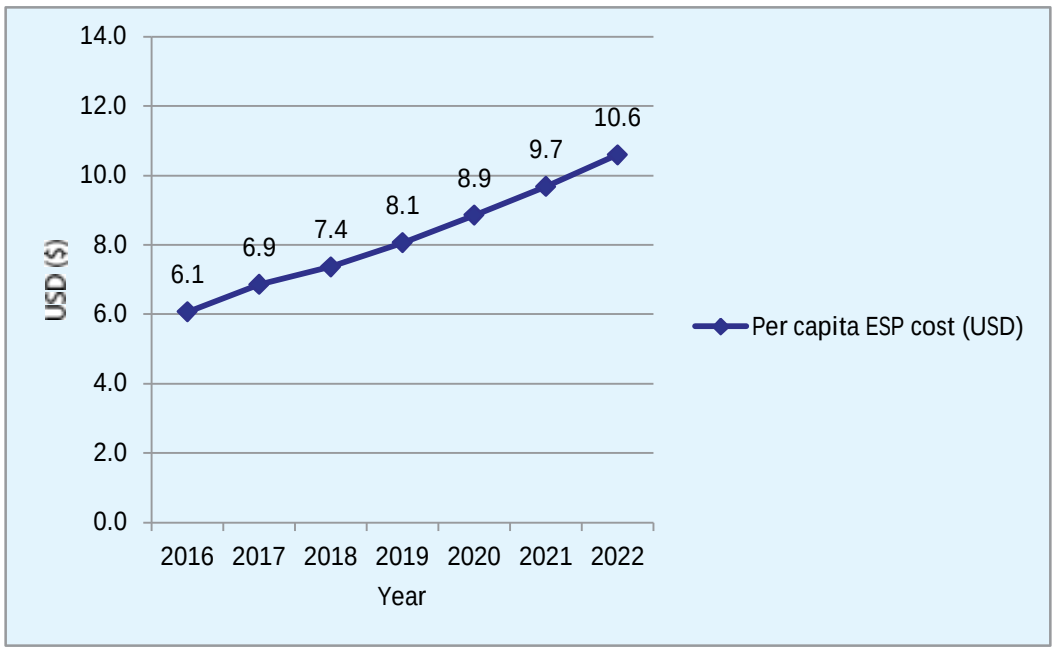
	2016	2017	2018	2019	2020	2021	2022	Total
Human resources	44,001.2	49,049.8	54,589.5	60,654.7	67,279.2	74,536.1	82,675.6	432,786
Medicine & supplies*	19,956.9	23,184.8	26,599.3	29,923.8	34,035.6	38,454.2	43,356	215,510.6
Infrastructure	5,082.9	9,862.9	8,220.5	8,859.4	9,623.8	10,044.5	10,603.6	62,297.4
Logistics	81.6	126.5	134.4	146.2	159.1	201.6	205.7	1,055.2
TB/leprosy, Malaria, HIV/AIDS, Neglected tropical diseases* & general programme management costs**	7,072.5	7,597.1	8,166.5	8,782.7	9,449.4	10,174.5	10,990.4	62,232.8
Grand total (BDT)	**76,195.1**	**89,821**	**97,710.2**	**108,366.9**	**120,546.8**	**133,410.8**	**147,831.2**	**773,882**
Per capita (BDT)	475.2	552.7	593.4	649.6	713.5	779.9	853.8	-
Per capita (USD)	6.1	6.9	7.4	8.1	8.9	9.7	10.6	-

* Without labour costs

* * these ESP programme areas were costed through aggregated budget costs (i.e., by budget line items for drugs/supplies, human resources, training, and behavior change communication, etc.)

* ** these include the costs of programme-related training, meetings, communication, media, advocacy, and monitoring and evaluation) for the other core ESP services.

Public Per Capita Cost of ESP, 2016-2022 (USD) including inflation



APPENDIX H: TOTAL ESP COSTS BROKEN DOWN BY DRUGS, SUPPLIES AND LABOUR, 2016-2022 (Million BDT), WITHOUT INFLATION

ESP Programme Area	2016	2017	2018	2019	2020	2021	2022	Total
Maternal health								
Drugs, commodities & supplies	2,098	2,295	2,492	2,688	2,883	3,075	3,265	18,796
Labor	1,075	1,213	1,361	1,520	1,689	1,869	2,059	10,786
Subtotal	3,173	3,508	3,853	4,208	4,571	4,944	5,324	29,581
Neonatal health								
Drugs, commodities & supplies	78.7	84.5	90.2	95.9	101.5	106.9	112.2	669.8
Labor	65.9	75.3	85.3	96.0	107.4	119.5	132.3	681.8
Subtotal	144.8	159.9	175.7	192.1	209	226.6	244.7	1352.8
Child health and EPI								
Programme activity costs	2,166	2,038	1,918	1,805	1,698	1,598	1,503	12,726
Drugs, commodities & supplies	10,573	10,908	11,132	11,044	11,316	11,555	11,806	78,333
Labor	1,398	1,502	1,601	1,674	1,783	1,883	2,004	11,845
Subtotal	14,137.2	14,448.2	14,650.8	14,522.0	14,796.7	15,035.1	15,313.6	102,903.6
Adolescent health								
Drugs, commodities & supplies	1.7	1.8	1.9	2.1	2.2	2.3	2.4	14.5
Labor	245.8	276.9	309.6	344.0	380.2	418.6	456.8	2,431.9
Subtotal	247.5	278.7	311.5	346	382.4	421	459.2	2446.4
Subtotal for MNCAH	***17,702.3***	***18,394.7***	***18,991.2***	***19,267.8***	***19,959.6***	***20,626.4***	***21,341.6***	***136,283.6***
FP/RH								
Programme activity costs	10.0	4.4	1.9	0.8	0.4	0.2	0.1	17.7
Drugs, commodities & supplies	1,037.6	1,164.2	1,292.4	1,423.0	1,555.6	1,689.8	1,825.6	9,988.2
Labor	704.2	847.1	1,003.1	1,173.2	1,358.2	1,559.0	1,776.5	8,421.1
Subtotal	1,751.70	2,015.60	2,297.40	2,597.00	2,914.10	3,249.00	3,602.10	18,427.00
Nutrition								
Programme activity costs	103.0	98.0	93.2	88.7	84.4	80.3	76.4	624.1
Drugs, commodities & supplies	867.2	989.3	1,108.3	1,231.8	1,355.8	1,477.5	1,604.7	8,634.7
Labor	544.7	629.7	717.1	814.3	918.0	1,026.2	1,145.1	5,795.1
Subtotal	1,514.90	1,717.10	1,918.70	2,134.80	2,358.20	2,584.00	2,826.20	15,054.00
NCDs								
Programme activity costs	984.8	978.4	972.1	965.8	959.5	953.3	947.2	6,761.1
Drugs, commodities & supplies	3,322.7	4,206.0	5,135.4	6,111.5	7,134.8	8,205.7	9,323.6	43,439.7
Labor	1,533.7	1,954.5	2,420.6	2,935.6	3,503.3	4,127.9	4,813.0	21,288.6
Subtotal	5,842.80	7,141.10	8,530.80	10,016.10	11,601.60	13,291.50	15,089.20	71,513.10
Management of other common conditions								
Drugs, commodities & supplies	233.0	251.4	270.1	289.2	308.7	328.6	348.7	2,029.7
Labor	86.6	98.4	111.1	125.0	140.1	156.4	174.1	891.8
Subtotal	319.6	349.7	381.2	414.2	448.8	485	522.9	2921.4
TB and leprosy*	1,933	2,100.10	2,281.70	2,478.90	2,693.30	2,926.10	3,179.10	17,592.20
Malaria*	1,028.90	1,024.70	1,020.50	1,016.30	1,012.10	1,008	1,003.80	7,114.40
HIV/AIDS*	254.1	262.6	271.4	280.5	289.9	299.7	309.7	1,968
Neglected tropical diseases*	592.7	602.2	611.9	621.7	631.7	641.9	652.2	4,354.40
Subtotal (Without MNCAH)	***13,237.90***	***15,213.20***	***17,313.60***	***19,559.70***	***21,949.80***	***24,485.10***	***27,185.20***	***138,944.40***
Total	**30,940.10**	**33,607.80**	**36,304.80**	**38,827.50**	**41,909.40**	**45,111.50**	**48,526.80**	**275,228**

APPENDIX I: icddr,b STUDY TEAM, NATIONAL OHT RESOURCE POOL AND EXTERNAL REVIEWERS

icddr,b Study Team:

Dr. Ziaul Islam	Team Leader
Mr. Sayem Ahmed	Deputy Team Leader and Resource Pool Member
Dr. Shehrin Shaila Mahmood	
Dr. Farzana Akter Dorin	
Mr. Wahid Ahmed	Investigators
Md. Zahid Hasan	
Ms. Ferdousi Zaman	

National OHT Resource Pool:

Health Economics Unit, MOHFW	Dr. A Bashar Dr. Anwar Sadat
Institute of Health Economics Dhaka University	Mr. Md. Azharuddin Mr. Nafiz Iftekher
WHO	Dr Mohammad Touhidul Islam
USAID's HFG Project	Dr. Shamima Akhter

International OHT expert: Ms. Nadia Carvalho (HFG)

External reviewers:

Ms. Karin Eva Elisabet Stenberg (WHO)

Dr. Valeria de Oliveira Cruz, WHO Bangladesh

Dr. Mohammad Touhidul Islam (WHO) Bangladesh

Ms. Nadia Carvalho and Andre Zida
Health Finance and Governance (HFG) project

Ms. Mursaleena Islam
Health Finance and Governance (HFG) project

Dr. Shamima Akhter
Health Finance and Governance (HFG) project

Published by
Health Economics Unit (HEU)
Health Services Division, Ministry of Health and Family Welfare
Government of the People's Republic of Bangldesh and
World Health Organization (WHO) Bangladesh