National Strategy for WASH in Health Care Facilities 2019-2023
A Framework for Action

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FOREWORD

Message from Honourable Minister Ministry of Health and Family Welfare

The Government of Bangladesh attaches great importance to the critical contribution of Water supply, Sanitation, Hygiene (WASH) in Health Care Facilities (HCFs) towards achieving universal health and WASH coverage for all citizens including the most vulnerable sections of the population, children and women of the country. The commitment of the Government under the leadership of the Honourable Prime Minister Sheikh Hasina to ensure the wellbeing of all citizens is demonstrated by the achievement of several Millennium Development Goals including the significant progress made in the reduction of maternal and under-five deaths and increased access to improved drinking water sources and safe sanitation over the last decade. The country has now set its target towards long sighted vision with a continuum of development with increased emphasis on improving quality of life. As the economic and social development of the country depends on a healthy and productive population, the Government remains committed to Universal Health Coverage (UHC) with equity and financial protection. Quality health care is critical to UHC which encompasses WASH in HCF for safety of health care providers, health care seekers, people in general and the environment. The country has thousands of hospitals and clinics, from the national-level down to the community clinics, that require attention to water supply and sanitation with improved hygiene practices. It is recognized that quality of care depends not only on the services of doctors and nurses, but also the quality of WASH and waste management in the HCFs.

In addition to improving the existing WASH situation in HCF, a national strategy is an important tool for setting timebound goals, objectives and activities. It is also intended to mobilize resources, capacity building and implementation of the planned activities. I am happy that the National Strategy for WASH in HCF and Framework for Action 2019-2023 has been drafted. I do believe that it will strengthen all HCFs in Bangladesh to deliver standardized and effective infection prevention and control services and adopting and improving WASH. This will also help to accelerate the momentum of meeting the SDG targets, and bring about a new era of quality health care for the people of Bangladesh, moving toward universal health and WASH coverage.

The Ministry of Health and Family Welfare will extend every support to implement the activities proposed in the strategy and formulate policy, rules and regulations along with provision of adequate budget allocation with the relevant Operational Plans. In line with the Government's Vision 2021, the ministry will strengthen its efforts for development in all sectors of health. As an important component of quality healthcare, WASH in HCF will receive the necessary attention and required resources based

on National Implementation Plan for WASH in HCF. I shall expect all the concerned Directors to draft plans accordingly, with budget requirement.

I would like to acknowledge the support and efforts of all the experts and officials involved in drafting the strategy including the Honourable State Minister, Ministry of Health and Family Welfare, the Secretary of Health Services Division, Secretary of Medical Education and Family Planning, Division of the Ministry of Health and Family Welfare, Secretary of Local Government Division of Ministry of Local Government, Rural Development and Cooperatives, Director General of Health Services, Director General of Family Planning, Chief Engineer of Department of Public Health Engineering, development partners, INGOs as well as NGOs and especially the National Technical Committee for WASH in HCF for finalizing this document.

Finally, I would like to express my sincere thanks to the UNICEF Bangladesh Country Office for its technical and financial support in developing this National Strategy for WASH in HCFs and Framework for Action 2019-2023.

Mr. Zahid Maleque, MP
Honourable Minister
Ministry of Health and Family Welfare

Message from Honourable State Minister Ministry of Health and Family Welfare

I am pleased to note that the National Strategy for WASH in Healthcare Facilities and Framework for Action 2019-2023 has been developed through series of workshops, meetings with stewardship of the National Technical Committee for WASH in HCF. In this era of the Sustainable Development Goals, WASH in health care facilities is an integral part of quality of care.

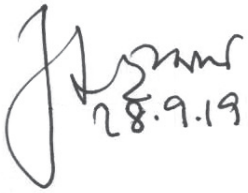
WASH and environmental conditions in healthcare facilities (HCFs) have been neglected areas of concern despite their associated risks with infection, antimicrobial resistance (AMR), morbidity and mortality. Adequate WASH facilities are essential components of providing quality health services. The provision of WASH in HCFs serves to prevent infections and spread of diseases, protect staff and patients, and uphold the dignity of vulnerable populations including pregnant women and people with disabilities. A review of the few published studies showing the effects of WASH on maternal and child health emphasized that inadequate sanitation in HCFs is a major cause of dissatisfaction among patients, and a deterrent to women seeking institutional delivery and care. The growing body of literature on WASH in HCFs and maternal and newborn health points towards the need for an enabling policy environment, nationally-mandated indicators, internal regulation and independent quality control for WASH in HCFs as essential steps in improving healthcare delivery services. Yet, many of our HCFs lack adequate WASH services, compromising the ability of health care professionals to provide safe care and presenting serious health risks to those seeking treatment.

The development of this strategy marks the achievement of an important milestone: it sets out our vision for change on WASH in HCFs to deliver quality of care service delivery, prevent hospital acquired infection and protect the most vulnerable care seekers like the mothers, babies, disabled and the old. It represents an ambitious agenda to transform the WASH situation in HCFs and is intended to support effective, quality and sustainable implementation of standard WASH interventions in HCFs. I am hopeful that the concerned departments and programs of the Ministry and Health and Family Welfare along with other relevant ministries, development partners and organizations will coordinate and collaborate to implement the planned actions based on this strategy. It should be used as a reference for policy-makers, planners, managers and practitioners in the health and WASH sectors in Bangladesh. Adherence to this strategy will provide a safer work environment for health care staff and a higher quality of care for patients.

I would like to acknowledge the support and efforts of all the experts and officials involved in drafting the strategy including the Honourable Minister, Ministry of Health and Family Welfare, the Secretary of Health Services Division, and Secretary of Medical Education and Family Planning Division of the

Ministry of Health and Family Welfare, Secretary of Local Government Division of Ministry of Local Government, Rural Development and Cooperatives, Director General of Health Services, Director General of Family Planning, Chief Engineer of Department of Public Health Engineering, development partners, INGOs as well as NGOs for finalizing this document and especially the National Technical Committee for WASH in HCF.

I would like to express my sincere thanks to the UNICEF Bangladesh Country Office for its technical and financial support in developing this National Strategy for WASH in HCFs and Framework for Action 2019-2023.



Dr. Md Murad Hassan, MP
Honourable State Minister
Ministry of Health and Family Welfare

Secretary
Health Service Division (HSD)
Ministry of Health and Family Welfare

Bangladesh is committed to achieving the SDG target for newborn, child and maternal mortality as well as attaining universal access to safe drinking water and safe sanitation. The achievement of the SDG 6.1 and 6.2 targets for safe drinking water, inclusive and equitable sanitation and hygiene will contribute significantly to the achievement of the health targets (SDG 3.1 and 3.2). In this era of the Sustainable Development Goals, WASH in health care facilities is an integral part of quality of care. Inadequate WASH infrastructure provision and poor utilization of WASH services in HCFs directly contribute to neonatal and maternal mortality, for instance through health care-associated infections. Related health gains are eroded by poor hygiene, sanitation and water handling practices with attendant negative consequences for maternal and child health e.g. stunting and low birth weight.

In Bangladesh, around 20 percent of neonatal deaths are due to severe infection which also stems from lack of proper hygiene. Thus, ensuring WASH both at household and facility level is a pre-requisite in order to prevent newborn morbidity and mortality. Consequently, all health care facilities should have adequate water, sanitation and hygiene services to ensure optimum quality of maternal, newborn and child health services, infection prevention and control, and anti-microbial resistance. These, in turn, will enable Bangladesh to achieve its desire of quality universal health coverage by 2030.

This new strategy will support the implementation of national initiatives, standards and plans to increase access to WASH in HCFs and support our efforts towards the achievement of the SDGs. We shall take the utmost care to implement the proposed activities in the strategy from the centre down to the lowest level of the health services including WASH-friendly design of health facilities. I express my thanks to Directorate General of Health Services, Directorate General of Family Planning, Local Government Division of Ministry of Local Government, Rural Development and Co-operatives and other stakeholders, in particular UNICEF, for their contribution and technical support in the development of this strategy.

Md Ashadul Islam
Secretary, Health Service Division (HSD)
Ministry of Health and Family Welfare

Secretary
Medical Education and Family Welfare Division
Ministry of Health and Family Welfare

The combination of safe drinking water and hygienic sanitation facilities is a precondition for good health and for success in fighting against poverty, hunger, child deaths and gender inequality. It is also central to the human rights and personal dignity of every woman, man and child on earth. Lack of basic WASH in many HCFs compromises health care workers ability to provide safe care and presents serious health risks to those seeking treatment. The Sustainable Development Goals include a target on universal basic coverage of WASH in health care facilities by 2030. The Government of Bangladesh (GoB) has prioritized its efforts to reactivate HCFs including Community Clinics and Union Health and Family Welfare Centres in rural areas. Although we have begun addressing the challenge, there is still more to do. Under the guidance of this new strategy we can sustain these improvements and, with our partners, continue to speed up progress, improving WASH, maternal, neonatal and child health.

Safe, well maintained and well utilized WASH facilities contribute significantly to increase care-seeking behaviour of mothers, improving staff morale and performance and reduction of health facility associated infections with attendant economic benefits. However, the lack of access to water and sanitation in HCFs may discourage women from giving birth in these facilities or cause patients to delay seeking care. The vision is that, by 2030, every health care facility, in every setting, has safely managed, reliable water, sanitation (including medical waste management) and hygiene facilities and practices to meet staff and patient needs in order to provide quality, safe people-cantered care, with particular attention to the needs of women, girls and children.

I express sincere thanks to all those that supported and contributed to the development of this national strategy.

GM Saleh Uddin
Secretary
Medical Education and Family Welfare Division
Ministry of Health and Family Welfare

Director General
Directorate of General Health Services (DGHS)

The best environmental management practice for the health-care sector include efficient infection prevention and control (IPC) measures, adequate water supply and sanitation, occupational health and safety of staff, and proper disposal of infectious waste and wastewater. Without WASH services, the ability of health care workers to carry out the proper infection prevention and control measures is limited, with implications for the quality of care of neonates, under-fives and their mothers. This National Strategy for WASH in HCFs and the Framework for Action 2019-2020 will support health professionals, practitioners, service providers and NGOs to provide quality of care through safely managed WASH, IPC and medical waste management. This strategy is necessary to ensure that all HCFs have standard functional WASH facilities that are capable of not only improving the health of the patients, staff and caregivers but through them to the local communities.

This strategy has been developed through a participatory process, with much consultation and experience sharing from government staff as well as other stakeholders, including technical experts. My sincere appreciation to Prof. Dr. Nasima Sultana, Additional Director General (Admin), DGHS for her central role in chairing the National Technical Committee and leading a team of stakeholders to develop this document. I also acknowledge the unwavering support of Prof. Dr. Abul Hashem, Line Director, CBHC throughout the strategy development process. In addition, Prof. Dr. Be-Nazir Ahmed, Senior National Consultant (Health System Strengthening), UNICEF, Coordination and Support Centre (CSC), and Dr. Mawla Baksh Chowdhury, Assistant Director (Coordination), DGHS deserve a special mention for their efforts. I would like to extend my thanks to the various experts from MoLGRD&C., DPHE, WHO, icddr,b, JICA, and the various NGOs/INGOs who reviewed and provided inputs to enrich this strategy. Their feedback and suggestions greatly enriched the strategy. I also acknowledge the comments and feedback from those who attended the different consultation meetings, including representatives from DGHS, UNICEF, WHO, WaterAid Bangladesh, Plan International and Terre des Hommes Foundation.

Finally, I greatly appreciate and acknowledge the contribution of UNICEF and the leadership of DGHS in developing a National Strategy for WASH in HCF that will direct our efforts towards the achievement of SDGs 3 and 6.

Prof. Dr. Abul Kalam Azad
Director General
Directorate of General Health Services (DGHS)

Directorate General of Family Planning (DGFP)

Over the last decade, Bangladesh has made remarkable progress in overall health outcomes, particularly in reducing fertility as well as child and maternal mortality, as well as in increasing access to improved drinking water sources and safe sanitation. To build on these impressive gains, ensuring access to safe water and sanitation facilities in HCFs is now an urgent priority. The lack of WASH provision in HCFs increases the risk of healthcare associated infections and discourages mothers from giving birth in HCFs. This undermines national efforts to improve MNCH family planning and services.

UNICEF and WHO have jointly facilitated a Global Action Plan to support countries with their efforts to achieve the SDG target for WASH in Health Care Facilities. Key focus areas of the Global Action Plan are advocacy, monitoring, operational research, policy, standards and facility-based improvements. The importance of financing, provision and maintenance of the required infrastructure cannot be overstated. Furthermore, the development and implementation of harmonized approaches to encourage behaviour change and monitor compliance of patients, care givers and health workers with standardized protocols are required to ensure infection prevention control and reduction of maternal and neonatal morbidity and mortality.

There is need of adequate supply of clean water and provision of sanitation in our maternity clinics for clean and safe delivery. This will not only contribute to reduce health facility-based infection but also respect the morale and dignity of the women who come for delivery. With the support from DPHE, Terre des Hommes Foundation, UNICEF, WHO, Care International and WaterAid Bangladesh, the proportion of HCFs with access to functional WASH facilities has begun to improve. Operational and management committees at Community Clinics and Union Health and Family Welfare Centres have also been revitalized and included WASH provision for quality of care. To sustain these changes and contribute to the achievement of SDGs 3 and 6, we must intensify our efforts, together with our partners, to improve WASH services in HCFs.

This strategy is intended to be a source of guidance for healthcare professionals and their associations, hospital authorities, development partners, private organizations and NGOs/INGOs. Moreover, this National Strategy for WASH in HCFs and Framework for Action will be used to develop associated guidelines and protocols and mobilize dedicated resources for scaling up WASH in all levels of HCFs including maternities where ANC, delivery, PNC and FP services are being provided.

I express my sincere thanks to all stakeholders and professionals for their contributions and support towards the development of this strategy.

Dr. Kazi Mostafa Sarwar
Directorate General of Family Planning (DGFP)

Message from UNICEF Representative

The Government of Bangladesh has demonstrated its commitment to ensure the wellbeing of all citizens through the progress towards and achievement of Millennium Development Goal (MDG) targets relating to water, sanitation and hygiene (WASH) and health. They include the reduction of maternal and under-five deaths and child malnutrition, increased access to improved drinking water sources and a significant reduction in open defecation.

In the post-2015 era of the Sustainable Development Goals (SDGs), WASH in health care facilities is an integral part of the concerned goals. Studies have shown that handwashing by birth attendants before delivery helps to reduce newborn deaths by 19 persent, while a 44 percent reduction in the risk of death was noted if mothers washed their hands prior to handling their newborns[1]. These scientific evidences show that WASH both at household and health facility level is an essential for the prevention of newborn morbidity and mortality.

The vision of the SDG for WASH in Health Care facilities is to ensure that by 2030, every health care facility in every setting has safely managed, reliable water, sanitation and hygiene facilities and practices to meet the needs of staff, patients and children. Improving WASH in health care facilities will help provide quality care with safety to all.

The development of the first National WASH in Health Care facility Strategy and Framework for Action (2019-2023) shows the level of importance that the Government of Bangladesh attaches to the critical contribution of WASH in health care facilities towards achieving Universal Health and WASH coverage for all citizens including the most vulnerable children and women in the country.

The National WASH in the Health Care Facility Strategy and Framework for Action is the initiative of the Ministry of Health and Family Welfare in collaboration with the Ministry of Local Government, Rural Development and Cooperatives and other key sector stakeholders. UNICEF is honored to be a partner and provide technical support to develop this strategy. The National WASH in Health Care Facility Strategy and Framework for action is a critical step towards ensuring that all Health Care facilities have adequate water, sanitation and hygiene services as a contribution towards improved quality of maternal, newborn and child health services, infection prevention and control, and reduction of anti- microbial resistance and a continuum between safe practices at home. This in turn, will enable Bangladesh to achieve its ambition of Universal Health with quality and water and sanitation coverage by 2030. UNICEF is committed to support the Government of Bangladesh in its efforts to operationalize this Strategy and Framework for Action.

Tomoo Hozumi

[1] Victor Rhee; Luke C. Mullany; Subarna K. Khatry; Joanne Katz; Steven C. LeClerq; Gary L. Darmstadt; James M. Tielsch. Maternal and Birth Attendant Hand Washing and Neonatal Mortality in Southern Nepal. *Arch Pediatr Adolesc Med.*, 2008;162(7):603-608

ACKNOWLEDGEMENT

This National Strategy for WASH in HCFs and Framework for Action 2019-2023 was developed through a participatory process, in several stages, under the leadership of the Ministry of Health and Family Welfare (MoHFW). I wish to send my deepest appreciation and in addition, acknowledge the technical guidance as well as support of the Local Government Division of the Ministry of Local Government, Rural Development and Cooperatives (MoLGRD&C), Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP), Director General of Nursing and Midwifery and Department of Public Health Engineering (DPHE).

Since initiation of the development process of the strategy document, the Line Director (LD), Community Based Health Care (CBHC) was actively involved under the guidance of the Director General of DGHS. He took the initiative to hold the first ever National Workshop on WASH in Health Care Facilities in December 2017 with support from UNICEF. I recognize and appreciate his efforts and contribution towards the preparation of this document.

After the first workshop, to commence preparation of the national strategy, UNICEF agreed to provide technical support on the request of DGHS and engaged two consultants: a lead international consultant and a national consultant. A National Technical Committee (NTC), which I chaired, was set up as a steering unit for the strategy development and implementation with the participation of stakeholders involved in Health and WASH sectors. The Coordination and Support Centre (CSC) took the lead in maintaining coordination of the committee and the LD, CBHC provided logistical support.

The journey of the strategy development could not have been completed without the sincere support and guidance of Prof. Dr. Abul Kalam Azad, Director General (DG), DGHS. I express my heartfelt gratitude to him. Furthermore, I express my appreciation to the National Technical Committee (NTC): Prof. Dr. Jahangir Hossain, LD.; Prof. Dr. Md. Abul Hashem Khan, LD, CBHC; Mr. Pronob Kumar Neogi, Additional Director General, DGFP, Prof. Dr. Be-Nazir Ahmed, Consultant, CSC, DGHS; Dr. Khalilur Rahman, Deputy Director, HSM, DGHS; Dr. Mowla Baksh Chaudhury, Assistant Director, Coordination, DGHS; Mr. S. G. Mahmud of WHO, Yukie Yoshimura of JICA; Dr. Mahbubur Rahman of icddr,b; Dr. Md. Khairul Islam, Country Director and Dr. Fadia Sultana of WaterAid Bangladesh; Mr. Uttam Kumar Shaha of Practical Action Bangladesh, Mr. Md. Rahmatullah Faruque of Tdh, Mr. Zillur Rahman and Dr. Abu Syem Md. Shahin of Plan International for their contribution in the development of this strategy.

In June 2018, a Stakeholders National Workshop was held in Dhaka to elicit vital inputs to the national strategy for WASH in HCFs. I express our wholehearted gratitude to each of the participants for their substantial contributions to the framework of the strategy, and for the follow-up information received

from various organizations working in the areas of WASH in Bangladesh. I thank the LD, Hospitals; LD, CBHC; and the Coordination Support Centre of the DGHS who provided major inputs in the preparation of the strategy document.

Dr. Corinne Shefner-Rogers, Lead Consultant, facilitated the strategic development process and Engr. Md. Wali Ullah, National Consultant, coordinated with the NTC and other stakeholders. The consultants conducted interviews with key stakeholders and went on site visits to health Care facilities.

As a Chair of the NTC, I sincerely express thanks and gratitude to the consultants who gave their valuable time and used their expertise and insights in preparation of this strategy document to improve WASH; IPC and quality of care in health Care facilities at all levels.

Moreover, the following deserve special mention for their contributions in the strategy document which allowed the focus to be on the real health care needs of the population of Civil Surgeon, Manikganj District hospital, Manikganj Upazila Health Complex, Singair and Azimpur Maternity Training Centre and Hospital.

I greatly appreciate UNICEF for its technical support and for actively supporting and assisting development of the strategy document. Special appreciation to Dr. Hari Krishna Banskota (Health Specialist), Dr. Boluwaji Onabolu (WASH Specialist), Dr. Ziaul Matin (Health Specialist) and Dr. Jannatul Ferdous (Health Officer) for coordinating and technical support to develop the strategy. The contribution and technical oversights of Maya Vandenent (Chief of Health) and Dara Johnston (Chief of WASH) is also acknowledged. Special thanks to Dr. Israt Shormy, Dr. Saumen Sarker and Dr. Farzana Taher Munmun and Dr. Geeta Bormon for DGHS for providing the necessary assistance to organize technical committee meetings and providing inputs in the strategy.

In essence, this strategy is the product of collaborative efforts by many professionals inside and outside of MoHFW. All the actors (only a few have been mentioned by names here) in the National Strategy for WASH in HCFs and Framework for Action 2019-2023 development process deserve appreciation for their respective contributions.

Prof. Dr. Nasima Sultana
Additional Director General (Admin), DGHS
and
Chairperson, NTC

ACRONYMS

AMR	Anti-Microbial Resistance
AMRI	Anti-Microbial Resistant Infection
ART	bAntiretroviral therapy
BDT	Bangladeshi Taka
CBHC	Community Based Health Care
CCs	Community Clinics
CG	Community Group
CHCP	Community Health Care Provider
COs	Change Objectives
CSC	Coordination and Support Center
CSG	Community Support Group
DGFW	Directorate General of Family Welfare
DGFP	Directorate General of Family Planning
DGHE	Directorate General of Health Education
DGHS	Directorate General of Health Services
DHIS2	District Health Information System 2
DPHE	Department of Public Health Engineering
EOC	Emergency Obstetric Care
ENAP	Every Newborn Action Plan
GoB	Government of Bangladesh
GLAAS	Global Analysis and Assessment of Sanitation and Drinking Water
HCAIs	Health Care-Associated infection
HCF	Health Care Facility
HED	Health Engineering Department
HIV/AIDS	Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome
HSD	Health Services Division
HSS	Health Systems Strengthening
icddr,b	International Centre for Diarrhoeal Disease Research, Bangladesh
IPC	Infection Prevention and Control
JICA	Japan International Cooperation Agency
JMP	Joint Monitoring Programme (UNICEF/WHO)

LD	Line Director
M&E	Monitoring & Evaluation
MCH-FP	Maternal Child Health Care/Family Planning
MCHTI	Maternal & Child Health Training Institute
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MEFW	Medical Education and Family Welfare
MIS	Management Information System
MMR	Maternal Mortality Rate
MNH	Maternal and Newborn Health
MNICH	Maternal, Neonatal, Infant and Child Health
MoHFW	Ministry of Health and Family Welfare
MoLGRD&C	Ministry of Local Government, Rural Development and Cooperatives
NGO	Non-Governmental Organization
NNHP	National Newborn Health Programme
NTC	National Task Committee
O&M	Operation and Maintenance
OP	Operational Plans
PSB	Policy Support Branch
PWD	Public Works Department
PLHIV	People living with HIV/AIDS
QI	Quality Improvement
QoC	Quality of Care
SDG	Sustainable Development Goal
SOs	Strategic Objectives
TdH	Terre des Hommes Foundation
UHC	Universal Health Coverage
UHCs	Upazila Health Complexes
UH&FPO	Upazila Health and Family Planning Officer
UH&FWC	Union Health and Family Welfare Centre
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WASH-BAT	WASH Bottleneck Analysis Tool
WASH-FIT	Water And Sanitation for Health - Facility Improvement Tool
WHO	World Health Organization

EXECUTIVE SUMMARY

Water, sanitation, hygiene (WASH) and environmental conditions in health care facilities (HCFs) have been neglected areas of concern despite their associated risk with infection, Anti-Microbial Resistance (AMR), morbidity and mortality. Limited access to improved WASH in HCFs has a direct impact on quality of care (QoC) and maternal and child survival.[2] A review of the few published studies showing the effects of WASH on maternal and child health emphasized that inadequate sanitation in HCFs was a major cause of dissatisfaction among patients, and a deterrent to women seeking institutional delivery and care.[3] The growing body of literature on WASH in HCFs and maternal and newborn health points toward the need for an enabling policy environment, nationally-mandated indicators, internal regulation, and independent quality control for WASH in HCFs as essential steps in improving healthcare delivery services.[4,5,6,7]

The objective of this *National Strategy for WASH in Healthcare Facilities and Framework* for Action 2019-2023 is to articulate a pathway that will strengthen all HCFs in Bangladesh to deliver standardized and effective Infection Prevention and Control (IPC) services and bring about a new era of quality healthcare for the people of Bangladesh, moving toward universal health coverage.

This strategy articulates a health-systems strengthening approach based on the following focal areas:

1. Developing a more robust evidence base for WASH in HCF in Bangladesh and harmonizing Monitoring and Evaluation (M&E) indicators with national and global M&E systems
2. Developing standards/guidelines, and O&M framework specifically for WASH in HCFs
3. Improving WASH infrastructure in HCFs at all levels (with special attention to gender, equity, design, and access)
4. Improving the medical waste management system for HCFs at all levels to ensure greater safety and efficiency
5. Improving IPC capacity among HCF workers at all levels
6. Engaging communities to advocate for and support WASH/IPC in HCFs
7. Establishing a coordination system and financing mechanism to ensure sustainability of WASH/IPC in HCFs
8. Documenting examples of successful strategies and approaches for improving WASH in HCFs in order to contribute to the evidence base on WASH in HCFs (learning and sharing)

This strategy document is comprised of five sections. The first section discusses the strategy background and development. The second section describes the rationale for developing a WASH in HCFs strategy.

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[2] Benova L, Cumming O, Campbell OMR. Systematic review and meta-analysis: association between water and sanitation environment and maternal mortality. Tropical Med Int Health. 2014;19(4):368–387. doi: 10.1111/tmi.12275.

[3] Shordt, K. and E. Smet. Getting it Right: Improving Maternal Health through Water, Sanitation & Hygiene. 2012 [Cited 28 October 2014]. Available from: http://simavi.org/wp-content/uploads/2015/03/Simavi-Publicatie-Getting-It-Right.pdf.

[4] World Health Organization. UN-Water Global Annual Assessment of Sanitation and Drinking-water (GLAAS) 2012 Report: The Challenge of Extending and Sustaining Services. 2012 [Cited: 1 March 2014]. Available from: http://www.who.int/water_sanitation_health/monitoring/investments/glaas_report_2012/en/.

[5] Benova L, Cumming O, Campbell OMR. Systematic review and meta-analysis: association between water and sanitation environment and maternal mortality. Tropical Med Int Health. 2014;19(4):368–387. doi: 10.1111/tmi.12275.

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[7] Shordt, K. and E. Smet. Getting it Right: Improving Maternal Health through Water, Sanitation & Hygiene. 2012 [Cited 28 October 2014]; Available from: http://simavi.org/wp-content/uploads/2015/03/Simavi-Publicatie-Getting-It-Right.pdf.

The third section highlights the Bangladeshi health care context in which the strategy will be implemented. The fourth section sets for the strategic objectives for creating the enabling environment (including standards/guidelines for WASH in HCFs), improving WASH infrastructure, elevating IPC services, engaging communities in WASH in HCF improvements, and streamlining monitoring within HCFs. The actionable objectives, activities, indicators and anticipated outcomes are laid out in the Framework for Action (Table 6). Finally, the fifth section highlights strategy management and sustainability needs.

The foundation of this strategy will be the partnerships and collaborations necessary to implement WASH in HCFs initiatives at all levels of facilities throughout Bangladesh. The initiatives will be monitored and evaluated in order to determine progress toward the strategic objectives and goals, as well as to feed forward as evidence for adjusting strategies or approaches as necessary.

STRATEGY SUMMARY

Table 1 below provides an overview of the National Strategy for WASH in Health Care Facilities (HCFs) for Bangladesh. The focus of the strategy is on improving WASH in HCFs by enhancing functionality, practice and capacity at all levels to provide adequate, consistent and quality, infection prevention and control. The purpose of this strategy is to reduce hospital acquired infection-related maternal and newborn mortality rates in Bangladesh in order to achieve the related Sustainable Development Goals (SDGs) by 2030.

Table 1. Summary of the Relevant SDGs and Components of the National Strategy for WASH in Healthcare Facilities and Framework for Action 2019-2023

Relevant Sustainable Development Goals (SDGs)	• SDG 3.1: By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births • SDG 3.2: By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births • SDG 3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all • SDG 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all (including in healthcare facilities) • SDG 6.2: By 2030, achieve access to adequate and equitable sanitation and hygiene for all, and ending open defecation, paying special attention to the needs of women and girls, and those in vulnerable situations (including in health care facilities)
Strategy Duration	2019-2023 (5 years)
Vision	By 2030, every Health Care facility, in every setting, has safely managed, reliable water, sanitation (including medical waste management) and hygiene facilities and practices to meet staff and patient needs in order to provide quality, safe people-centered care, with particular attention to the needs of women, girls and children.
Mission	Enable the government and public and private partners to implement sustained and effective WASH/IPC service delivery at all levels of HCFs that facilitates achieving universal health coverage and the SDGs for water and maternal and newborn mortality by 2023.

Goals	• Achieve at least basic WASH infrastructure in all strategy-designated[8] health care facilities[9] • Reduce the number of healthcare-associated infections (especially AMRIs) related to poor WASH/IPC practices in all HCFs • Contribute towards the reduction of maternal mortality to 121 deaths per 100,000 live births by 2023[10] • Contribute towards the reduction of newborn mortality to 18 deaths per 1,000 live births by 2023[11].
Key Intended Beneficiaries	*Primary Beneficiaries* • Health Care facility staff, including all levels of service providers, cleaners/maintenance workers, and security personnel • Health Care facility users, especially mothers and newborns and girls • Caregivers that visit health care facilities *Secondary Beneficiaries* • Community members in the health care facility catchment areas.
Implementation Authority	DGHS, DGFP, DG Nursing and Midwifery
Coordination body	National Technical Committee (NTC) under guidance of DGHS
Planned Partners	UNICEF, WHO, World Bank, JICA, Care International, Terre des Hommes, Plan International, WaterAid Bangladesh, icddr,b, Practical Action Bangladesh, PWD, HED, DPHE, Swiss Red Cross, World Vision and others

This strategy is in alignment with guiding documents that aim to streamline, improve, and expand the access and quality of Maternal, Neonatal, Infornt and Child Health (MNICH) services, especially supervised deliveries, namely the 4th Health, Population, and Nutrition Sector Programme (HPNSP) 2017-2022[12] , the Bangladesh 4th HPNSP 2017-2022/Operational Plan: Maternal, Neonatal, Child and Adolescent Health, the Bangladesh Country Strategic Plan 2017-2022,[13] , the 7th Bangladesh 5-year Plan[14], the Sustainable Development Goals (SDGs)[15], the National Hygiene Promotion Strategy for Water Supply and Sanitation Sector in Bangladesh 2012[16], and four complementary global action agendas conceptualized by UNICEF, World Health Organization (WHO) and partners, namely Strategies Toward Ending Preventable Maternal Mortality (EPMM)[17], the Every Newborn Action Plan (ENAP)[18], Standards for Improving Quality of Maternal and Newborn Care in Health Care Facilities[19,] and the Global Action Plan on WASH in HCFs[20]. The overall medical waste management will have a separate guideline and plan following WHO Standards.

[8] Strategy-designated facilities refers to those facilities that are selected for upgrades based on WASH-FIT and other analyses.

[9] Definitions of *basic services* have been developed by a global task team convened by the Joint Monitoring Programme (JMP) and incorporated into new JMP service ladders for WASH in health care facilities. See core indicators for JMP WASH in HCF services ladders and indicators further details. "Strategy-designated" refers to the selected HCFs that will undergo a WASH-FIT analysis and undergo improvements based on the analysis during the 5-year strategy period.

[10] Aligned with Bangladesh's 4th HPNSP 2017-2022.

[11] Aligned with Bangladesh's 4th HPNSP 2017-2022.

[12] 4th Sector Program (HPNSP) Available from: http://www.dghs.gov.bd/index.php/en/4822-op-2011-16-en

[13] World Food Programme (2017) Bangladesh Country Strategic Plan (2017–2020). Available from: https://docs.wfp.org/api/documents/WFP-0000072858/download/

[14] Government of Bangladesh (2012) 7th Bangladesh 5-year Plan (2016-2020). Available from: http://www.lged.gov.bd/UploadedDocument/UnitPublication/1/361/7th_FYP_18_02_2016.pdf

15 SDG Knowledge Platform. Available from: https://sustainabledevelopment.un.org/sdgs

[16] Government of Bangladesh (2012) National Hygiene Promotion Strategy For Water Supply and Sanitation Sector in Bangladesh. Available from: http://itn.buet.ac.bd/publications/sector-documents/documents/nhps.pdf

[17] WHO (2015) Strategies Toward Ending Preventable Maternal Mortality. Available from: http://apps.who.int/iris/bitstream/handle/10665/153540/WHO_RHR_15.03_eng.pdf?sequence=1

[18] WHO (2014) Standards for improving quality of maternal and newborn care in health facilities. Available from: http://www.who.int/pmnch/about/governance/partnersforum/enap_full.pdf

[19] WHO (2016) Standards for Improving Quality of Maternal and Newborn Care in Healthcare Facilities. Available from: http://apps.who.int/iris/bitstream/handle/10665/249155/9789241511216-eng.pdf?sequence=1

[20] WHO and UNICEF (2016) Global Action Plan on WASH in HCFs. Available from: http://www.who.int/water_sanitation_health/facilities/healthcare/wash-in-hcf-global-action-plan-2016-03-16.pdf

1. Strategy Background

This section provides background on why and how this national WASH in HCF strategy document came to be developed. WASH in HCFs has been identified as a new focal area that will contribute to achieving the SDGs for maternal and newborn mortality and for universal, equitable access to safe and affordable drinking water and sanitation. WASH in HCFs is part of the WHO/UNICEF Global Action Plan to address poor WASH in HCFs, with the aim of achieving universal access in all facilities, in all settings.

1.1 Rationale for WASH in Health Care Facilitites

The Need to End Preventable Maternal and Newborn Deaths

Ending preventable maternal and newborn mortality is a high priority goal among the SDGs. Focusing a spotlight on improving WASH and Infection Prevention and Control (IPC) in HCFs is a recent addition to the efforts to further reduce maternal and newborn mortality in order to achieve the relevant WASH and maternal and newborn SDGs by 2030. Table 2 shows the SDG targets, definitions, and indicators related to WASH in HCFs. In Bangladesh, achieving the SDG targets involves implementing interventions that address a major cause of maternal and neonatal mortality, namely Health Care associated infections (HCAIs).

Table 2. SDG Targets, Indicators, and Definitions Related to WASH in HCFs

Targets	Definitions	Indicators
3.1: By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	Facilities with basic infrastructure and amenities, including water, sanitation, hygiene, electricity, waste disposal, a stock of essential medicines, supplies and equipment to meet the healthcare needs of women Areas for labour, childbirth, and postnatal care that are hygienic, comfortable and organized to maintain equity and continuity of care	Maternal mortality ratio/rate
3.2: By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births	Facilities with basic infrastructure and amenities, including water, sanitation, hygiene, electricity, waste disposal, a stock of essential medicines, supplies and equipment to meet the healthcare needs of newborns and under-5 children Areas for labour, childbirth, postnatal care, and child health services that are hygienic, comfortable and organized to maintain equity and continuity of care	Newborn and under-5 mortality ratio/rates

3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	Facilities with basic infrastructure and amenities that are accessible to all and of sufficient quality to be effective while at the same time ensuring that the use of these services does not expose the user to financial hardship	Coverage of essential health services, service capacity and access, among the general and the most disadvantaged population Proportion of population with large household expenditures on health as a share of total household expenditure or income
6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all (including health care facilities)	Facilities where the main water source is improved and located on premises, with water available at the time of the survey	Proportion of health care facilities with basic water supply
6.2: By 2030 achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations (including health care facilities)	Facilities with improved toilets or latrines that are usable at the time of the survey, with at least one designated for women/ girls with facilities to manage menstrual hygiene needs, at least one separated for staff, and at least one meeting the needs of people with limited mobility Facilities with hand hygiene stations including a basin with water and soap, or alcohol-based hand rub, present at critical points of care and within 5m of toilets Facilities where waste is safely segregated in the consultation area, and infectious and sharps waste are treated and disposed of safely by incineration, burry or other methods of waste disposal	Proportion of health care facilities with basic sanitation

Mothers that deliver in an HCF, and their newborns, are at high risk for infections because their immune systems are compromised, and facility-based interventions or equipment may be unsanitary. When HCFs lack adequate WASH and have associated poor IPC, the risks increase.

Quality of Care and Universal Health Coverage

Quality health care services are critical to achieving effective Universal Health Coverage (UHC). Quality health care services cannot be achieved without adequate WASH and IPC in HCFs. Providing quality WASH services in HCFs requires trained facility-based providers who are committed to providing safe, effective, people-centered care in a timely manner to all people. In order to realize the benefits of quality UHC, health care services must be equitable, integrated, and efficient. Achieving UHC depends on the ability to provide care that does meet the quality standards for gender, ethnicity, geographic location, and socio-economic status, and that makes available the full range of health services throughout the life course, including quality maternal and newborn care critical for reducing maternal and newborn mortality. Improving WASH infrastructure in HCFs by including, for example, gender segregated latrines, will contribute to providing Quality of Care (QoC) and achieving UHC. Delivering successful UHC requires dialogue and action throughout the health care system and ministries responsible for improving public health.

The Threat of Nosocomial Infections

Facility acquired infections (i.e., nosocomial infections) threaten the survival and neurodevelopmental outcomes of infants (often leading to long-term morbidities and decrease quality of life) and increase the cost of care. Babies born in HCFs in developing countries are at increased risk of nosocomial infections because of poor intrapartum and postnatal IPC practices.[21] A recent report estimated 6.9 million cases of possible severe bacterial infection in neonates in sub-Saharan Africa, south Asia, and Latin America in 2012,[22] highlighting the potential for excess morbidity and mortality due to antibiotic resistance. Three bacterial infections (sepsis, pneumonia, and meningitis) are responsible for nearly a quarter of all neonatal deaths in low- and middle- income countries.[23] Drawing from data across 65 countries and more than 1.2 million neonatal deaths, Oza and others found the key causes of neonatal mortality to be 15.6 percent due to sepsis, 4.9 percent pneumonia, 1.7 percent tetanus and 0.6 percent to diarrhoea.[24] The risks associated with sepsis in neonates are 34 times greater in low resource settings.[25]

Addressing nosocomial and Anti-Microbial Resistant Infections (AMRIs) in HCFs that receive and treat newborns is especially urgent since common infections in neonates can become extremely difficult, if not impossible, to treat. Practical and simple infection prevention and control strategies (e.g., cleaning stethoscopes with disinfectants, disinfecting intravenous catheters, using gloves to supplement rather than replace hand washing) may significantly reduce disease transmission rates. Frequent hand washing remains the single most important intervention in infection control,[26] yet compliance with this simple measure is sub-standard in most low- and middle- income country HCFs.

Most infections (including AMRIs) can be prevented through proper hygiene practice by HCF workers, which can only be practiced where there is a functioning WASH infrastructure. Studies have shown that hand washing by birth attendants before delivery helped to reduce newborn deaths by 19 percent,[27] while a 44 percent reduction in risk of death from diarrhoeal disease was found if mothers washed their hands prior to handling their newborns.[28] Evidence-based WASH interventions that target the time around birth and newborn care can reduce infection-related neonatal deaths by more than 80 percent and generate a triple return in investment (i.e., reductions in stillbirths, neonatal and maternal deaths).[29,30] Improving the QoC for mothers who deliver in HCFs, and their newborns could prevent an estimated 113,000 maternal deaths, 531,000 stillbirths, and 1,325,000 million neonatal deaths annually by 2020 globally at an approximate cost of US$4.5 billion per year (US$0.9 per person).[31]

Effective WASH IPC practices are simple and require a coordinated and continuous approach to create barriers to infection and reduce disease transmission. WHO's (2008) *Essential Environmental Health Standards in Health Care*[32] describes essential environmental health standards for health care in low-resource settings and the methods for supporting the development and implementation of national government policies. The standards cover water quality, water quantity, water facilities and access to water, excreta disposal, wastewater treatment and disposal, health-care waste disposal as well as other environmental issues.[33] At the HCF level, the standards include: (1) improved hand washing practices among health care staff through orientation and training, (2) clear communication with patients and visitors/caregivers about hygiene, (3) safe water for drinking, medical procedures, food preparation, and personal hygiene, (4) adequate numbers of gender segregated toilets that are accessible and clean for staff, patients, and visitors, and (5) proper health care waste management.[34]

[21] Oza S, Lawn JE, Hogan DR, Mathers C, Cousens S (2015). Neonatal cause-of-death estimates for the neonatal periods for 194 countries: 2000-2013. Geneva: Bulletin of the World Health Organization; Available from: https://scielosp.org/scielo.php?pid=S0042-96862015000100019&script=sci_arttext.

[22] Seale AC, Blencowe H, Manu AA, Nair H, Bahl R, Qazi SA, Zaidi AK, Berkley JA, Cousens SN, Lawn JE (2014). Estimates of possible severe bacterial infection in neonates in sub-Saharan Africa, south Asia, and Latin America for 2012: a systematic review and meta-analysis. Lancet Infect Dis.;14(8):731–41.

[23] Lee ACC, Chandran A, Herbert HK, Kozuki N, Markell, Shah R, Campbell H, Rudan I, Baqui AH (2014). Treatment of Infections in Young Infants in Low- and Middle-Income Countries: A Systematic Review and Meta-analysis of Frontline Health Worker Diagnosis and Antibiotic Access; https://doi.org/10.1371/journal.pmed.1001741.

[25] Oza S (2015). Oza S, Lawn JE, Hogan DR, Mathers C, Cousens S (2015). Neonatal cause-of-death estimates for the neonatal periods for 194 countries: 2000-2013. Geneva: Bulletin of the World Health Organization; https://scielosp.org/scielo.php?pid=S0042-96862015000100019&script=sci_arttext.

[26] Ramasethu, J (2017). Prevention and treatment of neonatal nosocomial infections. *Maternal Health, Neonatology, and Perinatology,* 3:5.

[27] Rhee, V et al. (2008). Impact of Maternal and Birth Attendant Hand-washing on Neonatal Mortality in Southern Nepal. Arch Pediatr Adolesc Med. 162(7): 603–608.

[28] UNICEF (2000). Soap, toilets and taps: A foundation for healthy children. New York: UNICEF.

[29] UNICEF Data: Monitoring the Situation of Children and Women (2015). Available from: https://data.unicef.org/topic/maternal-health/newborn-care/

[30] Bhutta, ZA, Kas, JK, Bahl R, Lawn JE, Salam RA, Paul VK, Sankar MJ, Blencowe H, Rizvi A, Chou VB, Walker N (2014). Can Available Interventions End Preventable Deaths in Mothers, Newborn Babies, and Stillbirths, and at What Cost? The Lancet Newborn Interventions Review Group and The Lancet Every Newborn Study Group, *The Lancet,* 384(9940):347-370.

[31] Bhutta, ZA, Kas, JK, Bahl R, Lawn JE, Salam RA, Paul VK, Sankar MJ, Blencowe H, Rizvi A, Chou VB, Walker N (2014). Can Available Interventions End Preventable Deaths in Mothers, Newborn Babies, and Stillbirths, and at What Cost? The Lancet Newborn Interventions Review Group and The Lancet Every Newborn Study Group, *The Lancet,* 384(9940):347-370.

[32] WHO (2008). Essential environmental health standards in health care. Geneva: WHO. Available from: http://apps.who.int/iris/bitstream/10665/43767/1/9789241547239_eng.pdf.

[33] Adams J, Bertram J, Chartier Y, Eds. (2008). Essential environmental health standards in health care. Geneva: WHO.

[34] UNICEF, WHO , WaterAid (2014). Water, sanitation, and hygiene facilities in Asia and the Pacific. New York: UNICEF.

In order to achieve and sustain adequate WASH IPC in HCFs there must exist an enabling environment that (1) provides policy guidelines for effective WASH IPC in HCFs; (2) assures sufficient funds to meet WASH IPC needs in HCFs; (3) ensures that the WASH infrastructure in each facility meets specific national standards; and (4) supports quality WASH services through staff training and continuous, rigorous monitoring and supervision. A poorly functioning enabling environment results in poor availability and access to WASH and IPC in HCFs, poor QoC, diminished dignity to patients, and, ultimately, in poor utilization of health care facility services and poor health outcomes.[35]

1.2 A Global Call to Action for WASH in Healthcare Facilities Leads to Action in Bangladesh

In 2015, WHO and UNICEF published a global assessment of the extent to which HCFs provided essential WASH services. Data from more than 66,000 facilities in 54 low-income countries were used to draw conclusions about the state of WASH in HCFs. The findings showed that 38 percent of facilities did not have an improved water source, 19 percent did not have improved sanitation, and 35 percent did not have water and soap for hand washing.[36] The lack of basic infrastructure and services compromises the ability to provide routine care, including child delivery, and contributes to increased risk for infections, morbidity and mortality .

The WHO/UNICEF (2015) study also found that only 25 percent of 86 countries that responded to the study survey reported having a policy or fully implemented plan for drinking water and sanitation in HCFs. A comparison of countries with and without a national WASH in HCF plan showed that countries with a plan had a greater proportion of facilities with water services, indicating that national policies are instrumental for improving WASH infrastructure and services.[37]

In March 2017, WHO and UNICEF hosted a Global Learning Event[38] in Kathmandu, Nepal to orient stakeholders to the WASH in Healthcare Facilities Global Action Plan[39], and to provide an opportunity for stakeholders at all levels to share solutions for strengthening WASH in HCFs, identify ways for integrating WASH into health programming, and to identify specific actions to advance the work of WASH in HCFs. Participants from more than 20 countries, including government representatives, researchers, policymakers, health facility administrators and planners, international organizations, Non-Governmental Organization (NGOs), frontline health workers, WASH and health practitioners, and UNICEF and WHO technical staff, participated in the meeting. The outcomes of the meeting were country commitments regarding advocacy, financing, policy, HCF staff capacity building (including social and behaviour change), and monitoring to improve WASH in HCFs, as well as doing more to document lessons learned from WASH in HCF improvement initiatives.

In December 2017, the first ever National Workshop on WASH in Health Care Facilities in Bangladesh: Call for Joint Action[40] was held in Dhaka. The event brought together key people from the WASH and health sectors to review and identify key challenges with regard to WASH in HCFs. The event was hosted by DGHS, in collaboration with DPHE, UNICEF, WHO, Plan International, Terres des Hommes, Care International, World Bank, and WaterAid Bangladesh. Policy makers, development partners, and

[35] UNICEF (2016). Strategy for water, sanitation, and hygiene 2016-2030. New York: UNICEF.

[36] WHO, UNICEF (2015). Water, sanitation and hygiene in health care facilities: Status in low- and middle-income countries and way forward. Geneva: WHO.

[37] WHO, UNICEF (2015). Water, sanitation and hygiene in health care facilities: Status in low- and middle-income countries and way forward. Geneva: WHO.

[38] WHO and UNICEF (2017) Global Learning Event Meeting Report. Available from: https://www.washinhcf.org/documents/GLE-Meeting_Report_FINAL_Nov2017.pdf

[39] WHO and UNICEF (2015) WASH in Healthcare Facilities Global Action Plan. Available from: http://www.who.int/water_sanitation_health/healthcare_waste/wash-in-healthcare-facilities-action-plan.pdf

[40] National Workshop on WASH in Health Care Facilities in Bangladesh: Call for Joint Action (2017). Available from: https://www.washinhcf.org/documents/BangladeshWinHCF-Workshop_Dec2017.pdf

sector representatives formulated recommendations for joint action on WASH in HCFs in order to ensure universal access and improved QoC throughout the country, including setting service standards, managing finances and monitoring activities in community clinics, Union Health and Family Welfare Centers (UH&FWC), Upazila Health Complexes (UHCs), and District hospitals.

This WASH in HCF strategy is the result of the confluence of ideas and activities described above that were designed to accelerate the reduction in maternal and newborn mortality and morbidity around the world. Figure 1 represents the focal areas of this WASH in HCFs strategy and is based on recommendations that came out of the global and Bangladeshi learnings.

Figure 1. Focal Areas of the Bangladesh WASH in HCF Strategy

1.3 Cross Cutting Issues for WASH in HCFs

The design and implementation of WASH in HCF programmes and activities should incorporate the three relevant cross-cutting themes of gender, people with special needs, and climate change. Mainstreaming cross-cutting issues, that is, making them an integral dimension of the government standards/guidelines and each programme's design, implementation, monitoring and evaluation should involve innovation, flexibility, learning and the promotion of new norms.

Gender

The active participation of women in all aspects of WASH in HCFs intervention development, from design and planning, to Operation and Maintenance (O&M) affects and improves the sustainability of the activities.[41]

[41] Fisher J (2006). For her it's the big issue; putting women at the centre of water supply, sanitation and hygiene. Water, Sanitation and Hygiene: Evidence Report. Water Supply and Sanitation Collaborative Council (WSSCC) and Water Engineering and Development Centre (WEDC). Available from: https://genderinsite.net/sites/default/files/wsscc_for_her_its_the_big_issue_evidence_report_2006_en.pdf.

Since women make up a major proportion of the HCF workforce, it is important to involve women on management committees and to train and engage them as role models for healthcare workers, patients, caregivers, visitors and community members.

People With Special Needs and Inclusiveness

Equity of access to water and sanitation should be an important goal for WASH in HCFs programmes. Latrines and other WASH facilities must be designed and designated to accommodate the needs of all those who use and work in the HCF, especially the elderly and people with special needs. Inputs should be solicited from members of vulnerable groups in order to ensure that HCF designs/upgrades consider equity and access.

Climate Change

Floods, heavy downpours and long dry spells can impact HCF infrastructure. Changes in the distribution of weather patterns can create conditions that adversely affect water supply.[42] For example, rising sea levels may result in saline intrusion into fresh water sources which will in turn affect the supply of potable water. Research on the impacts of climate change on WASH in HCFs should be a precursor to the development of government standards/guidelines for how HCFs can assess climate change risks and adopt adaptive management strategies to be resilient.

The WASH in HCFs Strategy also contributes to cross-sectoral interventions for HIV/AIDS, nutrition, and cholera prevention. People living with HIV/AIDS (PLHIV) are especially vulnerable to and disproportionately suffer from adverse effects of inadequate and contaminated water and poor sanitation and hygiene due to their suppressed immune systems. Persistent diarrhoea greatly reduces the effectiveness of antiretroviral therapy (ART) and other interventions. Insufficient WASH in HCFs can put PLHIV at increased risk of diarrhoea and HCAIs. Mothers and newborns that have been exposed to malnutrition more likely to contract diarrhoea and infections in the absence of at least basic WASH standards and practices. Diarrhoea reduces the body's capacity to absorb nutrients, creating a cycle of malnutrition. Improved WASH in HCFs, especially in facilities with cholera treatment centers/units, will help Bangladesh to achieve the cholera targets outlined in the WHO Ending Cholera: A Global Roadmap to 2030[43].

1.4 Institutionalization and Sustainability

A key aim of the national WASH in HCFs strategy is to institutionalize WASH/IPC practices in HCFs. Important to this aim is to ensure that activities to improve WASH in HCFs are integrated into routine HCF management at all levels, as well as into monitoring and reporting frameworks. The National Technical Committee (NTC) should provide continuous national-level support to improve and maintain HCF infrastructure and equipment, and to strengthen the capacity of healthcare workers to provide quality WASH and maternal and newborn care, in order to achieve equity and dignity during delivery and for all HCF users. Monitoring data and evaluation findings should be used to determine the degree to which specific strategies/activities were effective in reducing infection rates (and in particular AMRI rates) for mothers and newborns, and then planning for scaling up and sustaining WASH in HCF investments.

Also important to the process of improving and sustaining WASH in HCFs is the meaningful inclusion of community members in HCF catchment areas. Community mobilization will raise awareness about the importance of WASH/IPC in HCFs, strengthen their understanding of their human rights to quality care, develop their capacity to advocate for better WASH/IPC services in their HCF, and motivate a sense of ownership of the HCF that will contribute to continual involvement in WASH in HCF improvements from the bottom up.

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[42]Paterson J, Berry P, Ebi K, Varangu L. (2014). Health Care Facilities Resilient to Climate Change Impacts. Tchounwou PB, ed. *International Journal of Environmental Research and Public Health*, 11(12):13097-13116.

[43] WHO Ending Cholera: A Global Roadmap to 2030. Available from: http://www.who.int/cholera/publications/global-roadmap.pdf

Gaps in human resources for maintaining standardized WASH/IPC in HCFs will require government commitment to prioritize and providing financial support to HCFs so that HCF management can incentivize and maintain cleaners to provide essential WASH/IPC services. Periodic refresher courses will be needed in order to assure continuity of quality of WASH in HCFs services.

It will be important for the Government of Bangladesh to commit to directing research to provide evidence for how, and how well, the programmes and initiatives implemented as part of this WASH in HCF Strategy have contributed to changes in the strategic objectives and goals. Involving the key beneficiaries (especially women of childbearing age) of the programmes/initiatives in the design and data collection will help to (1) more accurately reflect the experiences of the beneficiaries, (2) garner support for the sustainability of the programmes/initiatives (as appropriate), and (3) contribute to the evidence base for designing future interventions.

1.5 National Strategy for WASH in HCFs, Bangladesh Development Process

This WASH in HCF Strategy and Framework for Action was developed under the leadership of the Ministry of Health and Family Welfare (MoHFW) and with technical guidance from the Directorate General Health Services (DGHS) and the Directorate General Family Planning (DGFP) and with support from UNICEF. A National Technical Committee (NTC) was established to oversee the development and implementation of the strategy. A stakeholders' meeting was conducted on June 28th, 2018 to orient key individuals/organizations to the strategy development process, and to discuss directions and seek inputs for the strategy.

Two consultants (one national and one international-lead), supported by UNICEF, were hired to develop the national strategy and framework for action document. The two consultants:

- Reviewed relevant published and unpublished documents on such topics as WASH and maternal/newborn health, WASH assessments in hospital and community clinic settings, and medical waste management, obtained through research and provided by UNICEF, including recent findings from an observational study conducted in Moulavibazar District Hospital, Srimangal Upazila Health Complex, Kurigram District Hospital and Rajarhat Upazila Health Complex in November 2017, and results from a Bottleneck Analysis of WASH in HCFs conducted during a three day meeting in Sylhet from April 22-24, 2018, and a Nationwide Assessment of Community Clinics on WASH Services by WaterAid Bangladesh (February 2018);
- Interviewed key stakeholders in Bangladesh to understand the current context for WASH in HCFs and to obtain inputs for the strategy, including MoHFW government officials, representatives from bi-lateral/multilateral organizations operating in the WASH arena in Bangladesh, and NGO/INGO representatives;
- Conducted field visits to Manikganj District Hospital Center, Singair Upazila Health Complex, and the Maternal & Child Health Training Institute (MCHTI), Azimpur, Dhaka, to observe WASH/IPC practices and discuss issues related to WASH/IPC with facility managers and staff;
- Conducted a focus group discussion with representatives from NGOs in Bangladesh that implement WASH programmes; and
- Facilitated a stakeholders' workshop in Dhaka on June 28, 2018 during which the 70 participants worked in teams to identify key challenges and potential solutions for each of the focal areas of this strategy.

The consultants translated all inputs into a strategy and framework that was presented during debriefing meetings with UNICEF and with the NTC on July 5th, 2018. The lead consultant then developed the framework into the present National WASH in HCF Strategy and Framework for Action document based on feedback from the debriefings.

This document is intended to provide government leaders, decision-makers, programme managers, planners, and stakeholders with a 5-year roadmap to creating an enabling environment for WASH in HCFs (i.e., developing standards/guidelines), and for improving WASH in HCF infrastructure, the medical waste management system for HCFs, IPC, QoC, and monitoring and evaluation of WASH/IPC infrastructure and services/practices. It aligns with guiding documents that aim to streamline, improve, and expand the access and quality of Maternal, Neonatal, Infornt and Child Health (MNICH) services, especially supervised deliveries, namely the 4th Health, Population, and Nutrition Sector Programme (HPNSP) 2017-2022[44] , the Bangladesh 4th HPNSP 2017-2022/Operational Plan: Maternal, Neonatal, Child and Adolescent Health, the Bangladesh Country Strategic Plan 2017-2022,[45] , the 7th Bangladesh 5-year Plan[46], the Sustainable Development Goals (SDGs)[47], the National Hygiene Promotion Strategy for Water Supply and Sanitation Sector in Bangladesh 2012[48], and four complementary global action agendas conceptualized by UNICEF, World Health Organization (WHO) and partners, namely Strategies Toward Ending Preventable Maternal Mortality (EPMM)[49] , the Every Newborn Action Plan (ENAP)[50], Standards for Improving Quality of Maternal and Newborn Care in Healthcare Facilities[51], and the Global Action Plan on WASH in HCFs[52].

[44] 4th Sector Program (HPNSP). Available from: http://www.dghs.gov.bd/index.php/en/4822-op-2011-16-en

[45] World Food Programme (2017) Bangladesh Country Strategic Plan (2017–2020). Available from: https://docs.wfp.org/api/documents/WFP-0000072858/download/.

[46] Government of Bangladesh (2012) 7th Bangladesh 5-year Plan (2016-2020). Available from: http://www.lged.gov.bd/UploadedDocument/UnitPublication/1/361/7th_FYP_18_02_2016.pdf.

[47] SDG Knowledge Platform. Available from: https://sustainabledevelopment.un.org/sdgs.

[48] Government of Bangladesh (2012) National Hygiene Promotion Strategy For Water Supply and Sanitation Sector in Bangladesh. Available from: http://itn.buet.ac.bd/publications/sector-documents/documents/nhps.pdf.

[49] WHO (2015) Strategies Toward Ending Preventable Maternal Mortality. Available from: http://apps.who.int/iris/bitstream/handle/10665/153540/WHO_RHR_15.03_eng.pdf?sequence=1.

[50] WHO (2014) Standards for improving quality of maternal and newborn care in health facilities. Available from: http://www.who.int/pmnch/about/governance/partnersforum/enap_full.pdf.

[51] WHO (2016) Standards for Improving Quality of Maternal and Newborn Care in Healthcare Facilities. Available from: http://apps.who.int/iris/bitstream/handle/10665/249155/9789241511216-eng.pdf?sequence=1.

[52] WHO and UNICEF (2016) Global Action Plan on WASH in HCFs. Available from: http://www.who.int/water_sanitation_health/facilities/healthcare/wash-in-hcf-global-action-plan-2016-03-16.pdf.

2. Current Situation of WASH in HCFs and Maternal and Newborn Mortality in Bangladesh

The period around childbirth is the most critical for saving the maximum number of maternal and newborn lives. More women are now giving birth in HCFs, but poor WASH infrastructure and services in facilities is putting their lives, and the lives of their infants, at risk. Limited access to clean and reliable water supplies in HCFs has a direct impact on QoC and maternal and child survival.[53]

A review of the few published studies showing the effects of WASH on maternal and child health emphasized that inadequate sanitation in HCFs was a major cause of dissatisfaction among patients, and a deterrent to women seeking institutional delivery and care.[54] The growing body of literature on WASH in HCFs and maternal and child health points toward the need for an enabling policy environment, nationally-mandated indicators, internal regulation, and independent quality control for WASH in HCFs as essential steps in improving health care delivery services.[55,56,57,58]

This section highlights (1) the present maternal and newborn mortality figures for Bangladesh and the SDGs to be achieved by 2030, (2) the current state of WASH in HCFs in Bangladesh for each of the focal areas addressed in this strategy (Figure 1), (3) identifies the consequences of poor WASH in HCFs, and (4) describes the Health-Systems Strengthening (HSS) approach for WASH in HCFs.

It is important to note that the majority of the Bangladesh-based studies have focused on WASH in HCFs "hardware" issues, that is, on the infrastructure-related issues of water supply and sanitation facilities (through surveys and observational methods), with little attention to the "software issues" of WASH/IPC practices and precautions (including health care provider and worker knowledge, attitudes, beliefs, IPC behaviours/practices (beyond hand washing), self- and collective- efficacy, motivators, and social norms in facilities and within communities of HCF catchment areas). The paucity of data may be related to the fact that focusing on WASH in HCFs is a new direction for addressing maternal and newborn mortality, current and limited evidence of the effects of WASH/IPC interventions on maternal and newborn infection rates and related health outcomes, in Bangladesh HCFs at all levels.

[53] Benova L, Cumming O, Campbell OMR. Systematic review and meta-analysis: association between water and sanitation environment and maternal mortality. Tropical Med Int Health. 2014;19(4):368–387. doi: 10.1111/tmi.12275.

[54] Shordt, K. and E. Smet. Getting it Right: Improving Maternal Health through Water, Sanitation & Hygiene. 2012 [Cited 28 October 2014]; Available from: http://simavi.org/wp-content/uploads/2015/03/Simavi-Publicatie-Getting-It-Right.pdf.

[55] World Health Organization. UN-Water Global Annual Assessment of Sanitation and Drinking-water (GLAAS) 2012 Report: The Challenge of Extending and Sustaining Services. 2012 [Cited: 1 March 2014]. Available from: http://www.who.int/water_sanitation_health/monitoring/investments/glaas_report_2012/en/.

[56] Benova L, Cumming O, Campbell OMR. Systematic review and meta-analysis: association between water and sanitation environment and maternal mortality. Tropical Med Int Health. 2014;19(4):368–387. doi: 10.1111/tmi.12275.

[57] Cheng JJ, et al. An Ecological Quantification of the Relationships between Water, Sanitation and Infant, Child, and Maternal Mortality. Environ Health. 2012;11(4):2–8.

[58] Shordt, K. and E. Smet. Getting it Right: Improving Maternal Health through Water, Sanitation & Hygiene. 2012 [Cited 28 October 2014]; Available from: http://simavi.org/wp-content/uploads/2015/03/Simavi-Publicatie-Getting-It-Right.pdf.

2.1 Maternal and Newborn Mortality in Bangladesh

The Government of Bangladesh has made considerable progress in reducing maternal and newborn mortality rates over the past several decades. In 1990, the Maternal Mortality Rate (MMR) was 574 per 100,000 live births. In 1993, the neonatal mortality rate was 52 per 1,000 live births.[59] Nevertheless, the proportion of neonatal deaths as a percentage of all child (under 5) deaths has increased persistently from 37 percent in 1990 to 47 percent in 2000 and 61 percent in 2014. Bangladesh is ranked 157 out of 163 countries in the global ranking for neonatal deaths.[60]

Table 3 shows the current rates and SDG targets for maternal and newborn mortality. In the last 12 months, there were an estimated 5,300 maternal deaths of which only 1,231 maternal deaths in HCFs were reported, and 69,000 neonatal deaths of which only 22,131 were reported.[61, 62]

Table 3. Current Maternal and Newborn Rates in Bangladesh Compared to the SDG Targets for 2030

	Maternal Mortality Rate in Bangladesh	Newborn Mortality Rate in Bangladesh
Current Rates	176 per 100,000 live births[63]	23 per 1,000 live births[64]
SDGs for 2030[65]	70 per 100,000 live births	12 per 1,000 live births

While the MMR in Bangladesh declined between 2001 and 2010, it remained the same from 2010 to 2016.[66] A possible reason for the stagnation in MMR is the generally poor QoC for mothers and newborns.[67] A 2014 National Newborn Health Situation Analysis Report[68] stated that "Facility preparedness is a big challenge to improving newborn health, and will require special attention and support."[69] The initiatives outlined in this strategy aim to move the current maternal and newborn mortality rates to the SDG rates or lower.

2.2 The Current State of WASH in HCFs in Bangladesh

There is currently no countrywide programme to ensure that WASH infrastructure and services are present, appropriate, functional, effective and maintained at the various levels of HCFs throughout Bangladesh. As such, there is currently no national data on coverage of WASH in HCFs. Regular monitoring, using internationally recognized core and extended indicators is needed to determine the exact coverage of WASH in all regions across the country. Such monitoring will enable policymakers to prioritize improvements and interventions and measure their progress toward goals.

[59] DGHS web portal (accessed June 27, 2018): http://103.247.238.81/webportal/pages/index.php#mmr_BMMS.

[60] Ministry of Health and Family Welfare, Bangladesh, Partnership for Maternal, Newborn & Child Health, WHO, World Bank and Alliance for Health Policy and Systems Research (2015). Success Factors for Women's and Children's Health: Bangladesh, p.38.

[61] DGHS web portal (accessed June 27, 2018): http://103.247.238.81/webportal/pages/index.php#mmr_BMMS.

[62] These figures are based on an estimated 176 maternal deaths per 100,000 live births and 23 neonatal deaths per 1,000 live births, and an estimated 3 million births in Bangladesh per year.

[63] UNICEF (2015) Maternal and Newborn Health Disparities in Bangladesh. Available from: https://data.unicef.org/wp-content/uploads/country_profiles/Bangladesh/country%20profile_BGD.pdf.

[64] UNICEF (2015). Maternal and Newborn Health Disparities in Bangladesh. Available from: https://data.unicef.org/wp-content/uploads/country_profiles/Bangladesh/country%20profile_BGD.pdf.

[65] WHO (2015). SDG 3: Ensure healthy lives and promote wellbeing for all at all ages. Available from: http://www.who.int/sdg/targets/en/.

[66] NIPORT (2017). Bangladesh Maternal Mortality and Healthcare Survey 2016: Summary. Available from: http://www.niport.gov.bd/document/notice/BMMS_2016_Summary_Bangla_and_English.pdf

[67] NIPORT (2017). Bangladesh Maternal Mortality and Healthcare Survey 2016: Summary. Available from: http://www.niport.gov.bd/document/notice/BMMS_2016_Summary_Bangla_and_English.pdf

[68] Bangladesh National Newborn Health Situation Analysis Report 2014. Available from: https://www.healthynewbornnetwork.org/hnn-content/uploads/Bangladesh_NHSR_1Apr16.pdf

[69] MoHFW (2014). Bangladesh National Newborn Health Situation Analysis Report, p.3. Dhaka: MOH.

Attention will necessarily need to be directed to operational research designed to understand how facility-, behavioural-, and systems-level interventions can sustainably and cost-effectively improve WASH/IPC in HCFs. Such evidence will support subsequent national-level scale up of activities that show significant contributions to positive changes in IPC and maternal and newborn mortality and morbidity. An initial strategy activity will be to conduct a situation analysis/baseline of WASH/IPC in HCFs in Bangladesh. The findings from the situation analysis will feed forward to determining any geographic and population priorities for WASH infrastructure and capacity building improvements during the five-year strategy period.

Following is a brief description of the current state of WASH in HCFs in Bangladesh, based on a limited evidence-base, for the key focal areas of this strategy.

Policy, Standards/Guidelines, O&M: There is no current national WASH in HCFs policy, standards/guidelines, or O&M guidance in Bangladesh as yet. *The National Health Policy and National WASH Strategy* does not include WASH in HCFs. To date, only the CBHC unit of the MoHFW has developed (draft) guidelines for water supply, sanitation and hygiene practices for community clinics in August 2017 that are pending finalization.[70]

The cross-sectoral nature of WASH requires a comprehensive and enforceable WASH in HCF policy. Supportive legal mechanisms (i.e., laws, policies) for WASH in HCFs enable effective human resources management and legitimize financial support for implementing improvement initiatives. There is a need to bring together key policymakers and stakeholders to adapt WHO global minimum standards for WASH in HCFs into nationally relevant and applicable standards. The policy and standards/guidelines should be based on a review of existing national regulations and guidelines, institutional bottlenecks and opportunities for partnerships, particularly with the health sector.

WASH Infrastructure: In November 2017, an observational study was conducted in Moulavibazar District Hospital, Srimangal Upazila Health Complex, Kurigram District Hospital and Rajarhat Upazila Health Complex to determine the degree to which the facilities had adequate WASH infrastructure and IPC services. Results from the situation analysis showed that while at least 92 percent of hospitals in Bangladesh had a water supply, only 25 percent of HCFs in Bangladesh had all six essential components of WASH.[71,72] Nearly all hospitals had at least one water source for general use, but many drinking water sources were not improved or protected. The quality and safety of the water in HCFs is generally not tested for contaminants (only 15 percent of water sources in community clinics was tested for arsenic). At least 19 percent of hospitals had no toilets designated for doctors, 27 percent had no toilets for nurses or other hospital staff, and 1 percent had no toilets for patients or their caregivers. At least 36 percent of toilets for patients/caregivers in hospitals/clinics are not clean, contributing to infection. In 86 percent of community clinics, buckets were used for hand washing, and only 29 percent had functional handpumps.[73,74] Most facilities that provide delivery services (including all private hospitals) do not have the required equipment, medicines, and trained staff ready to provide quality services according to WHO criteria (including skin disinfectant).[75]

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[70] MOHFW/DGHS/CBHC (Draft, August 30, 2017). Guidelines for Water Supply, Sanitation, and Hygiene (WASH) Practices for Community Clinics (CCs) in Bangladesh. Dhaka: Government of Bangladesh.

[71] The six components include: (1) water safety and security, (2) sanitation, (3) solid and liquid waste management, (4) hygiene promotion, (5) operation and maintenance, and (6) standard operating procedures.

[72] Government of Bangladesh (December 2017). Outcomes of National Workshop on WASH in Health Care Facilities in Bangladesh: Call for Joint Action; https://www.washinhcf.org/documents/BangladeshWinHCF-Workshop_Dec2017.pdf.

[73] GoB (December 2017). Outcomes of National Workshop on WASH in Health Care Facilities (HCF) in Bangladesh: Call for Joint Action. PPT Presentation.

[74] MoHFW/DGHS/CBHC (Draft, August 30, 2017). Guidelines for Water Supply, Sanitation, and Hygiene (WASH) Practices for Community Clinics (CCs) in Bangladesh. Dhaka: Government of Bangladesh.

[75] NIPORT, ACPR, ICF (2014). Bangladesh health facility survey 2014: Final report. Dhaka: Government of the People's Republic of Bangladesh. Available from: https://dhsprogram.com/pubs/pdf/SPA23/SPA23.pdf

In April 2018, Policy Support Branch (PSB) of MoLGR&C with technical support of UNICEF conducted a bottleneck analysis to understand how healthcare facility structures and processes determine how effectively human, material and financial inputs translate into sustainable access to drinking-water supply and sanitation for patients. The purpose of the bottleneck analysis was to provide an evidence-base for formulating a strategy to improve WASH in HCFs. The outcomes from the bottleneck analysis highlighted the need for a WASH in HCF policy, standards and financial provisions to ensure the sustainability for WASH/IPC services in HCFs, as well as the need for a coordination mechanism at all levels of the healthcare system in order to efficiently and effectively operationalize WASH in HCF improvements and ongoing initiatives. Bottleneck analysis participants also prioritized the need to build capacity in IPC among healthcare facility staff, to identify WASH in HCF indicators and to include those indicators into the existing DHIS2 system.[76]

An assessment of UH&FWCs in Chittagong and Munshiganj was undertaken in 2015 to understand the processes needed to provide 24-hour normal delivery services at UH&FWCs. Key findings showed that the infrastructure was in poor condition in many of the facilities. There was a lack of essential utilities (e.g., water supply and electricity). Few UH&FWCs had a generator as an alternate source of electricity. Although there were, on average, three toilets in each facility, only 20 percent had separate toilets for males and females. Equipment and logistics in the labour and recovery rooms (which are critical for providing normal delivery services) were not fully available in the facilities; none of the UH&FWCs reported having a furnished recovery room. Family Welfare Visitors (FWVs) were largely non-residential despite having options for accommodation in the facility building, leaving gaps in normal delivery services[77].

A recent Rapid Assessment for Water Supply, Sanitation and Hygiene (WASH) in Community Clinics (CCs) was conducted by CBHC among 13,136 the CCs in Bangladesh, followed by a Validation Study conducted one-two months after the CCs assessment among 982 CCs (two clinics from each of 491 upazilas) to validate the data collected through rapid assessment.[78,79] The findings showed that in 7,983 of the 13,136 CCs, the water supply system was non-functional. Some 81 CCs had problems related to sanitation (no latrines, either inside or outside the community clinic building), and 3,205 CCs had primitive hand washing devices.[80] Other relevant findings from the studies included: at least 6,700 CCs did not have functional hand pumps, and only 588 CCs had functional piped water through taps. About 10,000 CCs (89 percent) had hand washing arrangements. Arsenic tests were conducted in only 1,800 CCs. [81,82]

A comparison of the findings from the CBHC rapid assessment study and the validation study shows notable differences in hand washing practice and sanitation facilities (see Table 4 below):

[76] UNICEF (Draft, May 8, 2018). WASH BAT Country Implementation Bangladesh: Sub-Sector Results. Sylhet, Bangladesh: April 22-24, 2018.

[77] Talukder N, Rob U, Khan AZU, Noor FR, Roy S, Noor AF (2015). Union Health and Family Welfare Centers in Chittagong and Munshigan: Are They Ready to Provide 24-Hour Normal Delivery Services? Dhaka: Population Council.

[78] MOHFW/DGHS/CBHC (August 30, 2017). Guidelines for Water Supply, Sanitation, and Hygiene (WASH) Practices For Community Clinics (CCs) in Bangladesh. Dhaka: DGHS.

[79] It is important to note that the two studies may not have been directly comparable since the data collection instruments used and the response categories differed.

[80] WaterAid (February 2018). Nationwide Assessment of Community Clinics on WASH Services. Dhaka: WaterAid.

[81] It is worth noting that data collection form used in the CBHC assessment did not have a response option for 'no water source' for the indicator of 'main source of drinking water in the community clinics' so it is possible that clinics without any water source may have selected any of the available options for sources of water for the mentioned indicator.

[82] WaterAid (February 2018). Nationwide Assessment of Community Clinics on WASH Services. Dhaka: WaterAid.

Table 4: Comparison of Rapid Assessment and Validation Study

	Rapid Assessment Study* (%)	Validation Study** (%)
Use of soap for hand washing	98.3	43.5
Functional sanitation facility within CC	68.2	79.7
Functional Sanitation facility outside CC	5.5	1.1
Emptying latrine pits in CCs	20.0	11.3
Community clinics with no "functional" latrine	27.8	19.4

Source: WaterAid (February 2018). Nationwide Assessment of Community Clinics on WASH Services. Dhaka: WaterAid.

*Based on self-reported data; **Based on direct on-site observation.

A WASH-BAT (Bottleneck Analysis Tool) exercise conducted in Khulna Division highlighted the need for contextual assessments to understand and prioritize the local needs for infrastructure development. Khulna is a disaster-prone area where there is high salinity in the water that requires improved disaster resilient WASH technology (e.g., facility based reverse osmosis technology, rain water harvesting systems)[83].

Medical Waste Management: At least 59 percent of urban hospitals have no specific disposal method for clinical waste.[84] In 2008, Hassan and others found that HCFs generated at least 5,500 kg of waste per day, about 23 percent of which was hazardous waste; the average amount for the surveyed HCFs was 1.9 kg/bed/day.[85] The study showed that there was a lack of awareness of proper medical waste management in Dhaka City, and that the (then) newly designed medical waste management system only served a limited number of facilities. In a 2012 study, Sayed and others found that almost 85 percent of sharp injuries were caused between their usage and subsequent disposal, and 20 percent of those who handled sharps had had a stick injury[86].

The management of hazardous waste in HCFs today is a growing concern in Bangladesh causing environmental problems for communities and those who work in facilities. Medical waste can damage the environment through the release of pathogens and toxic pollutants. For example, landfills where waste is disposed of improperly can contaminate drinking water, and the incineration of materials can generate human carcinogens. Hospital waste is increasing with the ever-increasing number of hospitals and number of beds in facilities at all levels, and with the growing use of single-use disposable items.

In most facilities, waste handling is left to the poorly educated and lowest category of workers (both temporary and permanent staff) that have limited or no training and minimum guidance and supervision. As a result, hazardous waste is often mixed with non-hazardous waste and is often deposited untreated within the premises of the HCF. Some facilities do separate infectious waste from non-infectious waste at the site of production (in colour-coded bins), but during disposal outside of the facility, the waste is mixed together and dumped into crude, unsanitary landfills. A few facilities incinerate waste on-site; maintaining a functioning incinerator, however, appears to be a problem.[87]

City Corporations are responsible for solid waste management in Bangladesh. PRISM is the main NGO in Dhaka city that disposes of hospital waste management for a nominal fee..

[83] Sarker S (2018). WASH BAT workshop report: Khulna Division. Dhaka: UNICEF.
[84] GoB (December 2017). Outcomes of National Workshop on WASH in Health Care Facilities (HCF) in Bangladesh: Call for Joint Action. PPT Presentation.
[85] Hassan MM, Ahmed SA, Rahman KA, Biswas TK (2008). Pattern of medical waste management: Existing scenario in Dhaka city, Bangladesh. BMC Public Health, 8:36.
[86] Sayed EH, Mutahara M, Rahman M (2012). Medical waste management (MWM) in Dhaka, Bangladesh. Home Healthcare Management and Practice, 24(3).
[87] Personal interviews with MoH/DGHS representatives, facility managers at the district and upazila levels, , and NGO representatives, June 26-July 4, 2018.

The collection of the waste, however, can be irregular, leading to unsanitary conditions near the primary collection points. Many towns do not have the capacity to collect all the waste that is generated in HCFs, leading to improper sanitary disposal.[88]

A key medical waste management issue is the clear attribution of responsibility of the appropriate handling and disposal of hazardous waste (solid/sharp and liquid). The mandates for the essential health functions like medical waste management are fragmented between various government departments and between the public and private sectors (MoLGRD&C and NGOs). A more coherent approach is required to ensure that all the players involved in medical waste management streamline collection and disposal practices according to set standards.

Infection Prevention and Control/HCF Staff Capacity: Throughout Bangladesh, and especially in government hospitals, there is an inadequate number of cleaners. The job of cleaner is often outsourced, that is, a facility employs temporary cleaning personnel, sometimes on a daily basis. The outsourced cleaners lack training in IPC, fixed responsibility within the institution, and supportive supervision to comply with basic duties. Moreover, outsourced cleaners generally receive an insufficient salary to motivate compliance with basic duties.[89] Most infectious waste is handled with bare hands and without masks and other protective measures, increasing the potential for spreading infections.

Bangladesh health facility survey, 2014 revealed that in government hospitals, hand washing agents (e.g., bar soap) were less frequently available compared to non-government hospitals.[90] Bar soap was the most common hand washing agent across all HCFs. Some 93 percent of all hospitals had available hand washing agents for doctors, 97 percent for nurses, and 87 percent for ward boys/Ayas. Hand washing agents were available to patients in only four percent of government hospitals compared to 31 percent of non-government hospitals. Caregivers of patients were able to wash their hands with bar soap in five percent in government hospitals compared to 26 percent of non-government hospitals.[91] Most daily patient care in Bangladesh hospitals is performed by family caregivers rather than hospital staff, so not having access to soap contributes to the risk of acquiring and spreading infections.

Observations from the 2014 study of WASH in HCFs revealed that given all possible hand washing opportunities before, during, and after patient care, only 46 percent resulted in any hand washing and only two percent resulted in recommended hand washing practice.[92]

Community Mobilization: Community Clinics (CCs) have positively contributed to health status of the people of Bangladesh. The land upon which most CCs are built is donated by the local community, making it a great example of a public-private partnership. Community member participation is an important element of the management and functioning of CCs. Each CC has a managing body, called a Community Group (CG), that includes local community members and elected local government representatives (including women, teachers, representatives of the landless and poorest of the poor, and adolescent girls and boys). Before the opening of a clinic, CGs are given basic training by local health authorities on how to manage the clinics, on security, cleanliness and day-to-day maintenance. A Community Health Care Provider (CHCP) appointed by the government acts as the member secretary of the CG, manages the clinic and mobilizes people to avail of the health services with the support from the Community Support Group (CSG).

[88] Personal interviews with MoH/DGHS representatives, facility managers at the district and upazila levels, , and NGO representatives, June 26-July 4, 2018.
[89] Personal interviews with MoH/DGHS representatives, facility managers at the district and upazila levels, , and NGO representatives, June 26-July 4, 2018.
[90] NIPORT, ACPR. (2014) Bangladesh health facility survey 2014. Dhaka: Available from: https://dhsprogram.com/pubs/pdf/SPA23/SPA23.pdf.
[91] NIPORT, ACPR. (2014) Bangladesh health facility survey 2014. Dhaka: Available from: https://dhsprogram.com/pubs/pdf/SPA23/SPA23.pdf.
[92] NIPORT, ACPR. (2014) Bangladesh health facility survey 2014. Dhaka: Available from: https://dhsprogram.com/pubs/pdf/SPA23/SPA23.pdf.

More women are using CCs with better water and sanitation facilities in Bangladesh thanks to the ongoing 'Rural Water Supply, Sanitation and Hygiene in Difficult and Hard-to-Reach Areas of Bangladesh' project, jointly funded by UNICEF, WHO and DPHE. [93] WASH facilities were provided in 40 selected CCs in seven districts. Gender segregated latrines were installed along with piped water systems and hand washing devices. A fee of two Bangladeshi Taka (BDT) per patient was collected to fund the upgrades. Caregivers and community clinic members were trained in WASH. To date, an increase in number of female patients has been registered and observed by the clinic staff, which is attributed to a cleaner and more comfortable environment ensuring privacy.[94]

To date, there has been no concerted effort to engage communities in clinic catchment areas in Bangladesh to advocate for political commitment and drive community action on WASH in HCFs. There is no documentation of campaigns aimed to increase understanding and awareness about the importance of WASH/IPC among community members for the purpose of motivating communities to engage with policymakers and other stakeholders to improve WASH in HCFs.

Coordination and Financing: There is currently no national or sub-national coordinating body in place to oversee WASH in HCFs. There is also insecure and insufficient financing/budgeting for WASH in HCFs. Without secured and dedicated funding for WASH in HCFs, HCFs are limited in their capacity to deliver effective infection prevention and control services.

Monitoring and Evaluation: Bangladesh has made substantial progress in health systems management by digitizing the health system. The central electronic repository for national health-related data, DHIS2, enables easier access to data for central-level and decentralized decision-making. Selected health performance indicators have been established by the DGHS Management Information System (MIS) unit. Performance is measured through (1) online reporting by HCFs, (2) on-site monitoring using a form completed by line managers, (3) physical verification by an independent team of assessors, and (4) a patient satisfaction survey to measure whether service expectations have been met.[95]

There are currently no monitoring indicators for WASH in HCFs (including indicators for behaviours and social norms associated with the practice of effective WASH/IPC) reported in the Bangladesh DHIS2 data system. An aim of this strategy is for the government and partners to develop and integrate indicators for WASH/IPC in HCFs into the DHIS2 system in order to render HCFs more accountable for applying quality WASH/IPC standards and performance measures.

2.3 The Consequences of Poor WASH Services in HCFs

Newborns bear the highest burden of HCAIs. In Bangladesh, sepsis accounts for about 20 percent of all newborn deaths and can be reduced with safe hygiene practices during delivery and the postnatal period. [96] The consequences of poor WASH infrastructure and services in HCFs include:

- Increased HCAIs for mothers and newborns, especially AMRIs because their immune systems are compromised
- Increased use, misuse and overuse of antibiotics, accelerating AMR[97,98]

[93] WHO (2018). More women are using community clinics with better water and sanitation (WASH) facilities in Bangladesh: www.searo.who.int/bangladesh/news/WASH/en.

[94] WHO (2018). More women are using community clinics with better water and sanitation (WASH) facilities in Bangladesh. Available at: www.searo.who.int/bangladesh/news/WASH/en.

[95] DGHS. Bangladesh Health Bulletin 2017, p. 107.

[96] Allegranzi B, Nejad SB, Combescure C, Graafmans W, Attar H, Donaldson L et al. (2011). Burden of endemic health-care- associated infection in developing countries: systematic review and meta-analysis. Lancet, 377: 228-241.

[97] Pearson M, Doble A, Glogows R, et al.(2018). Antibiotic Prescribing and Resistance: Views from LMIC Prescribing and Dispensing Professionals. Report to World Health Organization AMR Secretariat. Available from: www.who.int/antimicrobial-resistance/LSHTMAntibiotic-Prescribing-LMIC-Prescribing-and-Dispensing-2017.pdf

[98] Graham WJ, Morrison E, Dancer S, et al (2016). What are the threats from antimicrobial resistance for maternity units in low- and middle- income countries? Global Health Action. 9:10.3402/gha.v9.33381. Available from: www.ncbi.nlm.nih.gov/pmc/articles/PMC5027331/.

- Compromised prevention, preparedness and response to health emergencies (e.g., Ebola, cholera)[99]
- Decreased patient satisfaction and reduced uptake of care
- Increased healthcare costs
- Longer stays in hospital and repeated visits due to HCAI, especially antibiotic-resistant infections[100]
- Health care staff at community clinics fetching water, which diverts precious time from treating and caring for patients[101]
- Decreased health care worker motivation

Substandard WASH in HCFs, especially in maternity wards and newborn care units, is a key obstacle to providing quality care, improving maternal and neonatal health outcomes, and allowing mothers to give birth with dignity. Evidence-based WASH interventions that target the time around birth and newborn care and that include IPC, can reduce infection-related neonatal deaths by more than 80 percent and generate a triple return in investment.[102,103]

2.4 WASH in HCFs: Health Systems Strengthening

WASH in HCF health system strengthening (HSS) encompasses both the health system "hardware" (i.e., essential WASH infrastructure, amenities and commodities) and "software" (i.e., the organization, O&M, and practice of IPC and correct human and medical waste disposal, community engagement, and the provision of care that fosters dignity). In order to effect change in HCAI rates and related maternal and newborn mortality rates, it is necessary to address both HSS components. This national strategy for WASH in HCFs for Bangladesh prioritizes improving WASH infrastructure and adhering to correct O&M, IPC practices, waste management practices, community engagement with WASH/IPC in HCFs, and continuous monitoring and assessment of WASH in HCFs.

In order to achieve WASH/IPC in HCF improvements and strengthen the Bangladeshi healthcare system, it is necessary to engage leadership and partners to establish policy, ensure financial commitment to making changes in WASH in HCFs, and commit to continuous WASH IPC practices that meet national standards. The Government must provide support and resources to build HCF staff capacity in adequate numbers to meet HCF IPC needs, and ensure optimal recruitment, placement and retention of healthcare facility workers. HCF management must provide supportive supervision and task-shifting as necessary (e.g., expanding HCF security personnel job descriptions to included hygiene monitoring among facility visitors) to improve the health status of the facility. Professional associations (e.g., doctors/nursing associations) should also play an important role in setting professional standards for their education and core competencies related to IPC, especially in maternity wards and newborn care clinics, and in establishing positive hygiene norms for maternal and newborn care.

Increased cooperation with other sectors (such as finance, education, energy, water and sanitation, nutrition, social services, mobile communications technology and private health care services) is also needed.

[99] Abrampah NM, Montgomery M, Balle A, et al (2017). Improving water, sanitation and hygiene in health-care facilities, Liberia. Bulletin of the World Health Organization 95: 526-530. Available from: www.who.int/bulletin/volumes/95/7/16-175802.pdf

[100] World Health Organization (2011). Report on the Burden of Endemic Health Care-Associated Infection Worldwide. World Health Organization, p. 1–88.

[101] WHO, UNICEF, SHARE (2016). Workshop Report: Global strategy, burden of disease, and evidence and action priorities. Available from: www.who.int/water_sanitation_health/facilities/wash-in-hcf-london.pdf?ua=1.

[102] UNICEF Data: Monitoring the Situation of Children and Women (2015). Available from: https://data.unicef.org/topic/maternal-health/newborn-care/

[103] Bhutta, ZA, Kas, JK, Bahl R, Lawn JE, Salam RA, Paul VK, Sankar MJ, Blencowe H, Rizvi A, Chou VB, Walker N (2014). Can Available Interventions End Preventable Deaths in Mothers, Newborn Babies, and Stillbirths, and at What Cost? The Lancet Newborn Interventions Review Group and The Lancet Every Newborn Study Group, The Lancet, 384(9940):347-370.

3. Strategy Context

The context in which the present national WASH in HCFs strategy will be implemented is highlighted in this section, namely the policies and programmes that guide health care in Bangladesh, the current healthcare services context, the use of maternal health services, and the challenges to improving WASH/IPC in HCFs throughout the country.

3.1 Policies and Programmes Guiding Healthcare in Bangladesh

Bangladesh has made significant progress in the development of its healthcare system. The Government of Bangladesh's agenda for improving maternal, newborn, child, girls, adolescents and population health has been supported through decades of multi-sectoral strategies and collaborations. The key current plans for improving healthcare, achieving universal healthcare coverage, and achieving the SDGs include:

1. 2017-2022:4th *Health, Population and Nutrition Sector Development Programme (HPNSDP);*
2. 2017-2022:7th *Bangladesh Five Year Plan; and*
3. 2012-2032: *Bangladesh Health Care Financing Strategy Towards Universal Health Coverage*

The 4th *HPNSP* describes the importance of improving the QoC through the provision of WASH services at all levels of HCFs. The Ministry of Local Government, Rural Development and Cooperatives (MoRDLG&C) approved the National Sector Development Plan for Water Supply and Sanitation Sector in Bangladesh 2011-2025[104], that emphasizes the need to provide adequate access to safe water and sanitation in communities and institutions (although not specifically in HCFs).

A review of policy documents from the MoHFW, MoRDLG&C, Food and Disaster Management, Education, Finance, and Foreign Affairs, and the DPHE, revealed that there are very few references to improving WASH in HCFs as a means for improving MNH outcomes.[105] WASH documents made passing reference to improving MNH but did not associate improved MNH with improved water and sanitation in HCFs.

MNH-related documents, for example the 2007 National Strategy for Infant & Young Child Feeding in Bangladesh and the 2009 National Neonatal Health Strategy and Guidelines for Bangladesh mentioned the need for safe drinking water for pregnant and lactating women, and for both soap and water for hand washing, but did not identify a need for WASH in HCFs. A more recent document, the Bangladesh Health Population and Nutrition Sector Development Programme 2011–2016 did call for HCFs that are user and women friendly, with adequate arrangements for female toilets, hand washing, water and sanitation. Clearly there is a need to update and integrate guidelines so that there is inter-sectoral coordination and collaboration for improving WASH in HCFs as a means for improving maternal and newborn health outcomes.

[104] Government of Bangladesh (2011) Sector Development Plan (SDP) for Water Supply and Sanitation Sector in Bangladesh (FY 2011-25) https://www.ircwash.org/sites/default/files/bangladesh_sector_developoment_plan_2011-2025_summary_version.pdf.

[105] Velleman et al. (2014). From Joint Thinking to Joint Action: A Call to Action on Improving Water, Sanitation, and Hygiene for Maternal and Newborn Health. PLoS Med 11(12): e1001771. doi:10.1371/journal.pmed.1001771.

3.2 Bangladesh's Health Care Services Context

In March 2017, the Government divided the MoHFW into two divisions: (1) Health Services Division (HSD), and (2) Medical Education and Family Welfare (MEFW). The HSD is responsible for such activities as policy, management and development of primary level hospitals, matters related to the construction and maintenance of CCs and hospitals at the union, upazila, district, and division levels, and sanitation in hospitals, clinics, diagnostic centers, CCs and dispensaries. The MEFW is responsible for such areas as policy regarding medical education, medical training, and activities related to maternal and child health and family planning centers.

There are six tiers of healthcare infrastructure under the Ministry of Health and Family Welfare's Directorate General of Health Services: national, divisional, district, upazila (sub-district), union, and ward. Division-level hospitals (with 500 or more beds) are governed by a Director, while Superintendents oversee district hospitals (with 100-250 beds). Each hospital has a Director, Matron, Superintendent, and Staff Nurse in charge of the various hospital staff. Ward Boys/Ayas are in charge of cleaning activities. At the upazila level, a Health and Family Planning Officer oversees the HCFs. Table 5 shows the number of health service sites available in Bangladesh. Almost all hospitals in the country are private; only 116 hospitals with more than 100 beds are public.[106] Both private and public facilities require WASH/IPC improvements, especially in maternity wards and newborn care units.

Table 5. Number of Health Service Sites and Hospital Beds in Bangladesh

Health Service Delivery Sites DGHS	Number
Total number of government (public) hospitals[107]	607
Secondary and tertiary level government hospitals under the DGHS	130
Number of upazila and union level government hospitals under the DGHS	477
Number of private registered hospitals and clinics under the DGHS	5,023
Number of union sub-centers[108]	1,145
Number of CCs[109]	13,500
DGFP Facilities	4,673
National Level Specialization Hospitals	
Maternal and Child Health Training Institute (MCHTI)	1
Mohammadpur Fertility Services & Training Center (MFS TC)	1
District Level (Mother & Child Welfare Center (MCWC)	60
Upazila Level	
Maternal Child Health Care/Family Planning (MCH-FP) Clinic	427
MCWC	12
Union Level	
Union Health & Family Welfare Centre	3,131
MCWC (OLD)	12
MCWC (NEW)	89
Hospital Beds	
Number of hospital beds under the DGHS	49,414
Number of hospital beds in the private-sector (in private hospitals registered by the DGHS)	87,610
Total number of beds in the DGHS-run hospitals and registered private hospitals	137,024
Population per hospital bed	1,169

Source: DGHS (2017). Bangladesh Health Bulletin 2017. Dhaka: GOB/MHFW/MIS (unless otherwise noted).

[106]Interview with Prof. Dr., Kazi Jahangir Hossain, DGHS Director of Hospitals and Clinics and Line Director of Hospital Services Management, June 26, 2018, DGHS office.

[107]Government hospitals do not charge fees for service.

[108]CBHC/DHGS (February, 2018). Promotional trifold pamphlet.

[109]CBHC/DHGS (February, 2018). Promotional trifold pamphlet.

On average, there are 106 million yearly visits to CCs and 18.5 million yearly outpatient visits to UHCs. There are about 1.74 million yearly admissions to UHCs.[110]

3.3 Maternal Health Care Facilities and Use

The Government of Bangladesh has contributed towards bringing significant positive change with regard to where women give birth. In 1990, some 90 percent of deliveries in Bangladesh were home-based, compared to almost 50 percent today.[111] In 2016, there were a total of 761,082 deliveries in government facilities (MCH, DH/GH, UHCs, and other government facilities at the upazila level), and 391,458 deliveries in non-government facilities.[112] In a country of about 165 million people, where at least 25 percent of Bangladeshis live in poverty and 13 percent live in extreme poverty,[113] the use of public HCFs is generally higher than private facilities. The private sector, however, accounted for most of the increase in facility deliveries between 2010 and 2016; the percentage of deliveries in private facilities jumped from 11 percent to 29 percent, while deliveries in public facilities increased from 10 percent to 14 percent. In the public sector, 13 percent (out of the 14 percent) of the births take place in upazila and higher-level facilities. NGO facilities account for 4 percent of births, up from 2 percent in 2010.[114,115,116] Normal deliveries were high (70 percent) in government facilities, while caesarean sections were high (73 percent) in NGO/private clinics.

The *Innovative Maternal Health Voucher Scheme*, created in 2007 by the MoHFW to increase access to and use of quality maternal health services for poor pregnant women, helped women in 53 upazilas of 41 districts to receive voucher benefits. In 2016-2017, 89,618 pregnant women participated in the voucher scheme and received free health services.[117]

The Bangladesh Ministry of Health and Family Welfare is currently implementing a facility-based Emergency Obstetric Care (EOC) Programme in all districts of the country. As of 2016, all government medical college hospitals, 59 district-level hospitals, 132 upazila hospitals, 3 general hospitals, and 63 Maternal and Child Welfare Centers (MCWCs) provide comprehensive emergency obstetric care services; the remaining 69 upazila health complexes provide basic emergency obstetric care.[118] The National Newborn Health Program (NNHP) is natiowide programme and has already established SCANUs in 42 Districts and in some of urban hospitals. Newborn Stabilization Units (NSUs) are being established in Upazilla Hospitals. All SCANUs and NSUs will have Kangaroo Mother Care (KMC) services and need adequate WASH services for improving the quality of care for sick newborn and low birthweight babies.

[110]CBHC/DHGS (February, 2018). Promotional trifold pamphlet.

[111]Aizenman, N (February 25, 2018). How one country drastically cut is newborn death rate. NPR. Available from: https://www.npr.org/sections/goatsandsoda/2018/02/25/587692950/how-one-country-drastically-cut-its-newborn-death-rate

[112]DGHS. Bangladesh Health Bulletin 2017, p. 53.

[113]World Bank (2017). Household Income and Expenditure Survey. Geneva: WB.

[114]DGHS. Bangladesh Health Bulletin 2017, p. 51.

[115]NIPORT, MEASURE, icddr,b (2016). Bangladesh Maternal Mortality Healthcare Survey (BMMS) 2016 Preliminary Report. Available from: https://www.measureevaluation.org/resources/publications/tr-17-218

[116]NIPORT, MEASURE, icddr,b (2012). Bangladesh Maternal Mortality Healthcare Survey (BMMS) 2010. Available from: https://www.measureevaluation.org/resources/publications/tr-12-87.

[117]DGHS. Bangladesh Health Bulletin 2017, p. 54.

[118]DGHS. Bangladesh Health Bulletin 2017, p. 51.

3.4 Key Challenges to Improving WASH in HCFs in Bangladesh

Urbanization in Bangladesh has grown significantly in the last decade; in 2016, at least 35 percent of the total population lived in urban areas and cities.[119] The rapid expansion of the urban poor has created a challenge for Bangladesh's health system with regard to providing quality services. Large inequities exist within and among the different levels of facilities throughout the country.

As facilities expand to include more beds for patients, the number of patients increases, and the number of visitors to facilities increases exponentially. Findings from a recent study of HCAIs showed that 9.4 percent of respondents (i.e., patients admitted during the study period) developed a HCAI. At least 60 percent of patients with more than three visitors contracted a HCAI.[120]

The ability to maintain adequate and effective IPC in HCFs at all levels, especially in urban facilities, is increasingly difficult and requires the coordination and collaboration at multiple levels of the healthcare system, including policy-makers, planners, administrators, frontline health staff (including doctors, nurses, surgeons), ward boys/ayas, cleaners, engineers/O&M staff, health promotion specialists, and data entry personnel.

Improving and sustaining WASH services has mostly been viewed as an infrastructure issue, without much focus on policy, guidelines/standards, IPC training, and continuous O&M. The key challenges to improving WASH/IPC in HCFs throughout Bangladesh that emerged from the situation analysis (interviews and document review discussed in the previous section) include:

- Enabling Environment
  - Absence of WASH in HCF specific standards/guidelines, or O&M guidance to regulate and facilitate WASH/IPC improvements
  - Insufficient data (operational research) for understanding specific bottlenecks to improving WASH/IPC practices and norms, and evidence of WASH/IPC interventions that reduce maternal and newborn infections and other health outcomes in HCFs
  - The absence of a national or sub-national coordinating body in place to oversee WASH in HCFs
  - Absence of a mechanism to manage multiple partners involved in construction and O&M of WASH in HCFs
  - Insecure and insufficient financing/budgeting for improving WASH in HCFs
  - Insufficient manpower/human resources for cleaning HCFs
  - Poor sense of "ownership" of HCFs among community members
  - The absence of monitoring indicators for WASH in HCFs for tracking WASH/IPC services and progress (and consequently, the absence of WASH in HCFs indicators accessible through the DHIS2 dashboard system)[121]
- Infrastructure
  - Poor WASH infrastructure and its O&M in the majority of Bangladesh HCFs
  - Poor WASH design in HCFs
  - Absence of gender segregated facilities and facilities for people with special needs
  - Poor water quality monitoring (absence of monitoring for bacterial contaminants) [122]

[119] Bangladesh: Urbanization from 2006 to 2016. Available from: https://www.statista.com/statistics/455782/urbanization-in-bangladesh/.

[120] Afroz, H, Fakruddin, Md, Rana Masud, Md, Islam, K (June 2017). Incidence of and risk factors for hospital acquired Infection in a tertiary care hospital of Dhaka, Bangladesh. Bangladesh Journal of Medical Science, 16(3):358. DOI: 10.3329/bjms.v16i3.32847.

[121] Key stakeholder interviews conducted by consultants June 25-July 4, 2018.

[122] Klawitter, S (November 2017). WASH BAT country implementation Bangladesh: Subsector results – National WASH in healthcare facilities, Sylhet. UNICEF: Bangladesh.

- IPC Capacity
  - Poor IPC knowledge and skills/capacity (i.e., training) among HCF workers at all levels
  - Insufficient IPC training for doctors and nurses (including skills development and normative changes)
  - Poor IPC knowledge and practices among patients and visitors
  - Poor cleaning practices of equipments, utensiels, wards and HF's surroundings
  - Poor prioritization of practicing IPC by doctors and nurses due to high patient loads (i.e., not making time to wash hands with soap or sanitizer between patients)
  - Poorly managed medical waste disposal system
  - Poor maintenance of infrastructure and equipment

This WASH in HCFs Strategy and Framework for Action address these challenges and proposes strategic approaches and initiatives for improving WASH in HCFs throughout Bangladesh.

4. WASH in HCFs Strategy and Framework for Action

This section lays out the fundamentals of the WASH in HCFs strategy for Bangladesh, beginning with the overall approach, the vision, mission, goals and key anticipated outcomes. The key beneficiaries of the strategy initiatives are identified. A theory of change is presented, and the nine strategic objectives/focal areas are highlighted. Finally, a framework for action is provided that specifies the actionable objectives, activities, indicators, and anticipated outcome for each strategy focal area.

4.1 Overall Strategic Approach

The present strategy is based on an HSS approach. HSS recognizes that health systems are complex, with multiple interconnecting components, and should be addressed in a holistic manner. HSS requires that all elements of a health system be reviewed and developed or ameliorated, including policy, leadership/management, financing, infrastructure, workforce capacity, accountability tracking/research, and service delivery. Addressing these elements can increase the quality of service delivery more comprehensively than vertical programmes that target just one component and can drive broader progress in health outcomes. Careful consideration should be given to the perspectives of patients and healthcare workers, and ensuring improvements meet the needs of marginalized and vulnerable people.

This strategy is also grounded in a human-centered/user-centered design approach, which is about designing something with and not just for the end user. Actively engaging the end-users (e.g., HCF workers, including cleaning and O&M staff, and part-time workers or volunteers) and other stakeholders throughout the development process helps to understand the motivations and incentives that drive HCF provider/worker and user behaviours and social norms and contributes to designing solutions that are aligned with the end-user and therefore more sustainable.

The strategic objectives closely align with the five change objectives (COs) and four pillars outlined in the Global Action Plan on WASH in HCFs[123]. The global change objectives and pillars are:

Pillar	Change Objective	Description
P1: Advocacy & Policy	**CO1**	WASH in health care facilities is prioritized as a necessary input to achieving all global and national health goals, especially those linked to Universal Health Coverage. Key decision makers and thought leaders champion WASH in health care facilities.
	CO2	All countries have national standards and policies on WASH in health care facilities and dedicated budgets to improving and maintaining services.
P2: Monitoring	**CO3**	Global and national monitoring efforts include harmonized core and extended indicators to measure WASH in health care facilities.
P3: Evidence & Research	**CO4**	The existing evidence base is reviewed and strengthened to catalyse advocacy messages and improve implementation of WASH in health care facilities.
P4: Standards & Facility Improvements	**CO5**	Health care facility staff, management and patients advocate for and champion improved WASH services. Risk-based facility plans are implemented and support continuous WASH improvements, training and practices of health care staff.

[123]WHO and UNICEF (2016) Global Action Plan. Available from: http://www.who.int/water_sanitation_health/facilities/healthcare/wash-in-hcf-global-action-plan-2016-03-16.pdf

4.2 Strategy Vision, Mission, Goals, and Key Anticipated Outcomes

Strategy Vision	By 2030, every health care facility, in every setting, has safely managed, reliable water, sanitation (including medical waste management) and hygiene facilities and practices to meet staff and patient needs in order to provide quality, safe people-centered care, with particular attention to the needs of women, girls and children
Strategy Mission	To create an enabling environment for improved WASH/IPC in strategy-designated facilities in Bangladesh by 2023.[124]
Strategy Goals	• Achieve at least basic WASH infrastructure in all strategy-designated healthcare facilities[125] • Reduce the number of HCAIs (especially AMRIs) related to poor WASH/IPC practices in all HCFs • Contribute towards the reduction of maternal mortality to 121 deaths per 100,000 live births by 2023[126] • Contribute towards the reduction of newborn mortality to 18 deaths per 1,000 live births by 2023[127]
Key Anticipated Outcomes	**Immediate & Intermediate Outcomes** • WASH in HCFs national standards/guidelines to guide WASH improvements in HCFs • Reduced rates of HCAIs, including AMRIs, and outbreaks (e.g., cholera, dysentery, diarrhoea) • Increased client confidence in, demand for, and use of, HCFs for maternal and child care (including safe delivery, early childhood disease care seeking and vaccinations) • Improved occupational health and safety • Improved QoC • Improved monitoring and evaluation of WASH in HCF • Improved availability of research/evidence about the effects and effectiveness of WASH in HCFs. **Long-Term Outcomes** • Reduced maternal mortality and morbidity from HCAIs, including cholera, dysentery, and diarrhoea • Reduced newborn mortality and morbidity from HCAIs, including cholera, dysentery, and diarrhoea • Reduced inequity in healthcare delivery • A robust evidence base for WASH in HCFs • Improved healthcare coverage • Healthier, more productive families and communities.

[124] The enabling environment for WASH in HCFs is a set of interrelated components that enable the government and public and private partners to implement sustained and effective WASH/IPC service delivery at all levels of HCFs that facilitates achieving universal health coverage and the SDGs for water and maternal and newborn mortality.

[125] Definitions of basic services have been developed by a global task team convened by the Joint Monitoring Programme (JMP) and incorporated into new JMP service ladders for WASH in health care facilities. See core indicators for further details. "Strategy-designated" refers to the selected HCFs that will undergo a WASH-FIT analysis and undergo improvements based on the situation analysis, during the 5-year strategy period. This goal will contribute to achieving SDG6 by 2030.

[126] Aligned with Bangladesh's 4th HPSNSP 2017-2022.

[127] Aligned with Bangladesh's 4th HPSNSP 2017-2022.

4.3 Theory of Change

Figure 2 below illustrates the theory of change for the proposed strategy. Establishing an evidence-base for the WASH/IPC needs of HCFs at various levels will lead to more efficient and effective WASH strengthening initiatives. The evidence will point to specific improvement in the core areas of policy and standards/guidelines for WASH in HCFs, WASH infrastructure development, medical waste disposal/management, building IPC capacity among HCF workers, and creating demand for HCFs with standardized IPC, and a sense of ownership within communities. Achieving improvement to WASH in HCFs will lead to improved coordination of activities and funding, reduced infection rates, improved staff morale, and better quality and more equitable healthcare. Ultimately, the strategy activities will contribute to mothers delivering with dignity, reduced maternal and newborn mortality and morbidity, healthier, more productive families, and better tracking and accountability of WASH/IPC in HCFs.

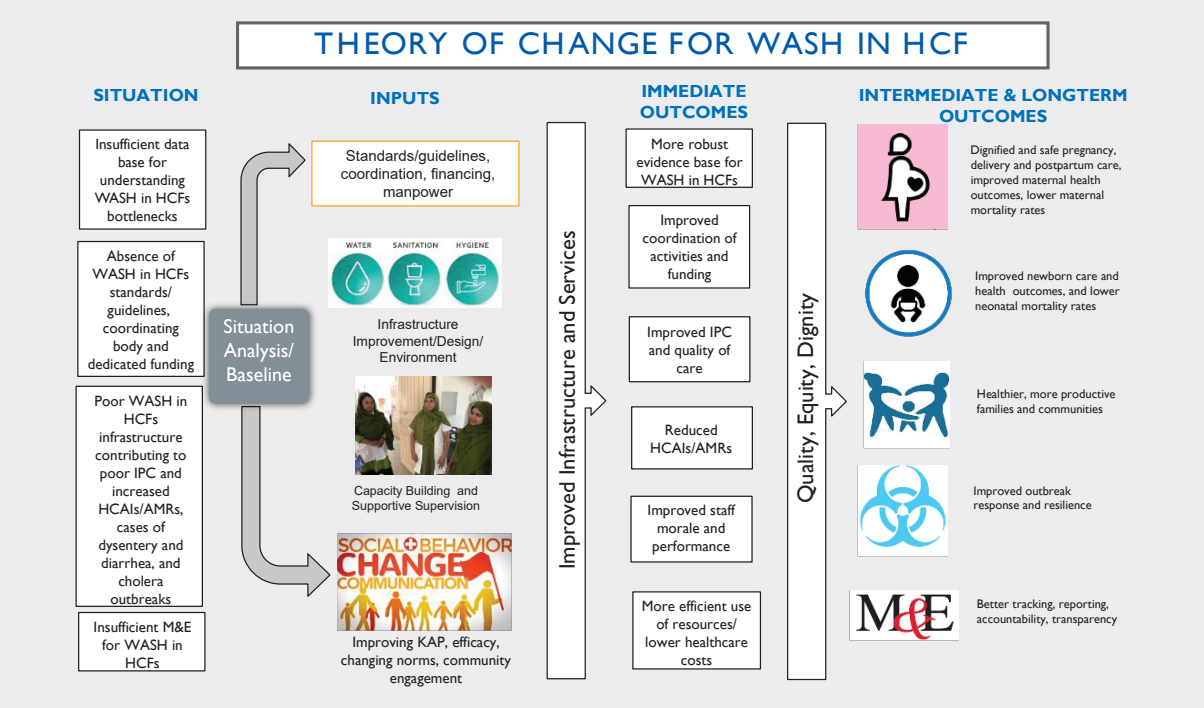

Figure 2. Theory of Change for WASH in HCFs in Bangladesh

There are important assumptions underlying this theory of change, namely:

1. The Government of Bangladesh is willing to fully support this new direction of WASH/IPC in HCFs to effect more significant change in maternal and newborn mortality and morbidity rates;
2. The Government of Bangladesh (at all levels) is fully committed to gender equity and improving the QoC for mothers and newborns;
3. The situation analyses to be conducted prior to implementing the majority of WASH/IPC in HCF improvement activities will determine the specific directions of the activities (e.g., types of upgrades to facilities, types of IPC skills-building activities) and priorities for the five-year strategy period;
4. All activities identified in the Framework for Action (see Table 6) are implemented in close collaboration with government and non-government partners (including professional associations and private sector actors) to avoid duplication of activities;
5. The effects of some of the activities may take longer to manifest than anticipated, depending on the integrity with which activities are implemented;

6. Monitoring and evaluation are essential to understanding the process of change and must be given adequate financial support and skilled staff to implement.

The key potential risks associated with this theory of change are (1) that changes in government or to the structures of government that will be involved in supporting the WASH in HCFs strategy implementation may limit the implementation of activities; (2) even after training and education, facility staff, patients, visitors/caregivers may not consistently practice recommended IPC; (3) financial commitments and resources may not be carried through; and (4) climate-related events/emergencies may delay the implementation of activities and assessments.

4.4 Key Intended Beneficiaries

Primary Beneficiaries

- Health Care facility staff, including all levels of providers, cleaners/maintenance workers, and security personnel
- Healthcare facility users, especially mothers and newborns
- Caregivers that visit HCFs

Secondary Beneficiaries

- Community members in the HCF catchment areas

4.5 Strategic Objectives

Strategic Objectives

The following strategic objectives (SO) for the Bangladesh WASH in HCFs strategy are aligned with the focal areas described in Figure 1:

SO 1	**Evidence Base (Situation Analysis/Baseline, M&E)**	Generate an evidence base for WASH in HCFs that can be used to develop effective needs-based facility and IPC improvements by 2019, and to establish WASH in HCF monitoring and evaluation indicators and mechanisms that can be used as an evidence base for future WASH in HCF programming, by 2019. Demonstrate the impact of WASH in HCF by 2023.
SO 2	**Policy & Standards Development**	Establish a national WASH in HCFs standards/guidelines, O&M framework, by 2019.
SO 3	**WASH Infrastructure Improvement**	Initiate structural improvements in all HCFs in Bangladesh to achieve at least basic and inclusive WASH services as per the level and service provision of the facility and incorporate newly developed climate resilient WASH infrastructure in HCF standards for new facility construction, by 2023.[128]
SO 4	**Medical Waste Disposal Improvement**	Improve the existing Department of Environment and Health Department standardized medical waste disposal system and enforcement of the system, so that it is strictly adhered to within HCFs (at all levels), by 2020[129].
SO 5	**IPC Capacity Building**	Ensure all health care workers consistently practice recommended standardized IPC in all HCFs (especially for maternal and newborn care) by 2023.

[128] Definitions of basic services have been developed by a global task team convened by the Joint Monitoring Programme (JMP) and incorporated into new JMP service ladders for WASH in health care facilities. See core indicators for further details.

[129] There should be a separate guidelines for the overall Medical Waste Management following WHO Standards

SO 6	**Community Mobilization**	Increase community awareness and perceived ownership of WASH in HCFs by 2020.
SO 7	**Coordination & Financing**	Establish a national coordination mechanism to facilitate strategy initiatives and carry over to ensure compliance with WASH/IPC standards in HCFs and mobilize and secure adequate resources (human and monetary) from public and private sources for the implementation, O&M of WASH in HCFs at all levels, by 2019.
SO 8	**Institutionalization and Sustainability**	Ensure that activities, including O&M and financing to improve WASH in HCFs are integrated into routine HCF management at all levels, and into monitoring and reporting frameworks.
SO 9	**Learning & Sharing**	Share evidence of the impact of WASH in HCFs on MNH, Quality Improvement (QI), infection rates (including AMRI rates) and other related outcomes by 2023.

Operations research is essential for informing effective implementation of WASH in HCFs improvements. WASH-FIT (Water and Sanitation for Health - Facility Improvement Tool) analyses should be conducted (1) to determine the degree to which HCFs require development/upgrading to achieve at least basic WASH infrastructure; (2) determine appropriate/optimal placement of WASH structures and materials (e.g., placement of wash basins) to increase functionality; and (3) identify solutions and develop costed action plans to address bottlenecks. A system analysis is required to determine where in the process of medical waste disposal system breaking down and leading to unsafe medical waste disposal and unhealthy environments for healthcare workers and community members.

Evidence-based research is also necessary for (1) understanding the current IPC-related levels of awareness, knowledge, practices, skills, and perceived individual and community efficacy within HCFs and in the community, as well as motivators for behaviour change and channels of communication for behaviour and social norm messaging; (2) understanding specific relationships between WASH services, IPC practices, risk of infections, outbreak of cholera and health outcomes (especially maternal and newborn outcomes); and (3) identifying positive deviance behaviours/activities that can be replicated to scale.[130]

Monitoring indicators and mechanisms will play an important role (1) in tracking the progress of the activities associated with achieving each strategic objective; (2) for identifying whether strategy benchmarks are being met; and (3) for alerting programme implementers/managers to areas of implementation that require immediate attention. To be effective for tracking the effects of WASH/IPC on mothers and newborns, the monitoring strategy must include gender sensitive measures and include patient satisfaction indicators.

Midline and end-of-strategy impact evaluation studies will provide feedback with regard to the impact of WASH in HCFs activities on IPC and health-related outcomes and the cost versus benefit of implementing the strategy activities. Joint planning, implementation, monitoring, evaluation, and proactive information sharing will be key to ensuring that the strategy is executed with integrity. The findings from M&E will feed forward into the design of subsequent programmes and become part of the evidence-base for strategies and programmes in Bangladesh. An important outcome of the strategy initiatives will be to generate, synthesize, and share evidence of the value of WASH in HCFs in order to enable others working in the same area to advocate with policy-makers for greater investments and actions regarding WASH in HCFs.

[130] Positive deviance refers to practices in a facility or community that are uncommon but successful behaviours or strategies that contribute to lower healthcare facility infection rates and better healthcare facility associated maternal and newborn health outcomes compared to other facilities or communities, without extra resources or knowledge than their peers.

Achieving the strategic objectives will require commitments from governments at all levels, international and local organizations, donors, private sector actors and civil society/communities across a wide range of fields (e.g., WASH, health, engineering, research). Policy efforts will be focused primarily at the national level. Strengthening the governance and accountability for WASH in HCFs will assure that it remains a critical component of reducing maternal and newborn mortality and morbidity in Bangladesh. Coordination and financing mechanisms for implementing WASH in HCFs activities will support stakeholder/partner collaborations, enable inclusive, consistent, and transparent actions, and encourage a greater sense of national ownership of the strategy inputs and outcomes.

4.6 Framework for Action

Table 6 is a Framework for Action with the actionable objectives, key activities, key indicators, and anticipated outcomes for each strategic objective. The indicators for WASH infrastructure are aligned with the WHO/UNICEF (2016) *Joint Monitoring Programme for Water Supply and Sanitation (JMP)* core indicators for WASH in HCFs[131] developed to enable countries at different stages of development to track the degree to which WASH infrastructure is available in a health facility, and to compare progress in infrastructure improvements. Monitoring indicators for the behavioural and normative components of WASH/IPC implementation will be developed in the initial phase of the strategy implementation.

Table 6. Framework for Action for Improving WASH in HCFs in Bangladesh (2019-2023)

Strategic Objectives	Actionable Objectives	Key Activities	Key Indicators	Anticipated Output
SO 1: Evidence Base (Situation Analysis/ baseline, M & E)	1.1 To generate evidence-based information of WASH in HCFs and medical wastes management by 2019	1.1.1 Conduct situation analysis of WASH in HCFs and medical wastes management	A comprehensive situation analysis/ baseline report on WASH and waste management in HCFs	A current, more robust and representative situation analysis or baseline information of WASH and waste management in HCFs in Bangladesh
		1.1.2 Determine the situation/baseline information of WASH and medical waste in HCFs		
		1.1.3 Determine specific infrastructure/ design improvement needs (including gender Specific, disability and menstrual hygiene needs)	Standard design of WASH infrastructures	Gender segregated standard design of WASH infrastructures developed
		1.1.4 Conduct bottleneck analysis to understand specific areas that require strengthening and to establish priority	Need based assessment done	Identified priority areas those need strenthening
		1.1.5 Determine the improvement needs of the existing waste disposal management system in designated HCFs	Areas need improvement	Areas identified for improvement
		1.1.6 Conduct study/ R & D activities for WASH in HCFs	# of study or R&D activities done	Available evidence-based information
		1.1.7 Conduct an inventory of the HCF maintenance/cleaner needs, vacancies and Turnover	# of Cleaners need	Available information on cleaners of health care facilities
		1.1.8 Prepare mapping of current stakeholders engaged in WASH in HCFs in Bangladesh	# of WASH partners engaged in HCF	List of stakeholders/ partners available

[131] UNICEF Joint Monitoring Programme (November 25, 2016). Monitoring WASH in healthcare facilities: Final core indicators and questions. New York: UNICEF.

Strategic Objectives	Actionable Objectives	Key Activities	Key Indicators	Anticipated Output
	1.2. To develop monitoring indicators for WASH/ IPC infrastructure and IPC ractices/ behaviours by 2019	1.2.1 Identify WASH in HCF core monitoring indicators infection, Prevention and Control (IPC) practices	Monitoring indicators for WASH in HCFs including IPC practices	A set of monitoring indicators that form the foundation for reporting on WASH/IPC and medical waste management
		1.2.2 Integrate Indicators into national DHIS2 system	Harmonised monitoring system for WASH in HCFs	Better access to timely, accurate and high-quality WASH in HCF monitoring data through DHIS2
		1.2.3 Train HCF staff and Focal Person and equip to collect monitoring data and feed into the DHIS2	Harmonised monitoring system for WASH in HCFs # of HCF staff trained	Better access to timely, accurate and high-quality WASH in HCF monitoring data through DHIS2 Available skilled human resources
	1.3. To understand the impact of strategy activities at the mid-point and end of strategy period	1.3..1 Conduct impact evaluation at the mid point and end of strategy period and cost effectiveness analysis	A mid-point and end of strategy valuation reports are available	Better knowledge on impact of strategy for WASH in HCFs
SO 2: Policy and Standards/ Guide Lines Development	2.1 To prioritize WASH in healthcare facilities as a necessary inputto achieveing all national goals especially those linked to UHC, Maternal & Child health anf AMR	2.1.1 Advocacy to key policy decision makers, health & WASH professionals, practioners and staff for prioritizing WASH in HCFs as necessary input to achieving all national health goals	WASH in HCFs is considered as a priority in the policy and OPs of the government program plan of actions	WASH in HCFs is a national agenda National standards and guidelines for Improved WASH/ IPC in HCFs
	2.2 To develop standards and guidelines for WASH infrastructure/design, IPC practices/behaviours and medical wastes disposal/ management in HCFs for Bangladesh by 2019	2.2.1 Convene a taskforce to develop national standards and guidelines (aligned with JMP, WHO, UNICEF and other existing national/global standards)	National standards/ guidelines for WASH/IPC in HCFs available	
	2.3 To develop an O & M framework and guidelines for WASH/IPC in HCFs by 2019	2.3.1 Develop an O&M framework and guidelines for all levels of facilities	O&M framework for WASH in HCFs	Developed O & M framework and guidelines
	2.4 To develop/Update medical wastes management guidelines	2.4.1 Review and update of the existing medical waste management guidelines	Revised medical waste management guideline available	Revised medical waste management guidelines
	2.5 To ensure that all ublic and private HCFs in Bangladesh are aware of and implementing the new policy and strategy, standards, guidelines and O & M framework by 2023	2.5.1 Distribute the new policy and strategy, standards, guidelines and O&M framework to all public and private HCFs in Bangladesh	Public and Private HCFs have access to WASH and waste management documents and information	All stakeholders are aware of information and documents and availble to them for use and practice
		2.5.2 Conduct media events to raise awareness about the new regulatory initiatives for WASH in HCFs	# of events and initiatives undertaken	Built awareness

Strategic Objectives	Actionable Objectives	Key Activities	Key Indicators	Anticipated Output
SO 3: WASH Infrastructure Improvement	3.1 To achieve at least 75% of the HCFs basic WASH infrastructure by 2023	3.1.1 Develop facility based costed action plans for addressing basic WASH infrastructure	Percentage of HCFs have costed action plan	HCFs with at least basic WASH infrastructure
		3.1.2 Implement facility based costed action plans	Percentage of HCFs have at least basic WASH infrastructure	HCFs with basic WASH infrastructure
		3.1.3 Develop and carry out certification programme for O&M activities using O&M framework	Percentage of HCF has at least one certified &M worker	Skilled worker for O&M activities
	3.2 To achieve at least 75% of the HCFs that tests water for arsenic and bacteria according to Bangladesh Standards	3.2.1 Carry out water test for arsenic and bacteria following the Bangladesh Standard in designated HCFs	Percentage of HCFs that tested water for both arsenic and bacteria	Available arsenic and bacteria safe water in HCFs.
SO 4: Medical Waste Disposal Improvement	4.1 To achieve at least 75% of HCFs have correct handling, segregation, and disposal of medical waste within HCF by 2023	4.1.1 Develop medical waste management training curriculum for HCF workers following the new national standards and guidelines	Percentage of HCFs have adequately rained staff on waste anagement	Safe disposal of medical waste in designated landfills
		4,1,2 Carry out mandatory training for health workers using training curriculum	Percentage HCFs that have adequate, appropriate and strategically placed medical waste receptacles	Reduce potential risks of reuse/ resale/recycling of medical waste
	4.2 To achieve 75% of HCFs safely dispose medical waste to a designated landfills or incinerators by 2023	4.2.1 Equip HCF with adequate , appropriate and strategically placed medical waste receptacles (e.g. bags, colour coded bins carts available etc.)	Percentage of HCF equipped with adequate, appropriate and strategically placed medical wastes receptacles	Clean and safer environment within HCFs
		4.2.2 Assign Focal Person for waste anagement and monitoring	Percentage of HCFs have assigned FPs for monitoring wastes mangement	Focal Person assigned with specific responsibility
		4.2.3 Regular monitoring of waste management activities	Regular monitoring of wastes management	Information on wastes management available
		4.2.4 Conduct both regular and random inspections of medical waste disposal agency operations	Percentage of HCfs have regular inspection	Regular inspection done
SO 5: IPC Capacity Building	5.1 To increase to 80% the # of HCFs workers that are **aware** of the importance of IPC by 2023	5.1.1 Identify and piloting test of low-cost appropriate technologies and behaviours for IPC	Proportion of HCF staff that received WASH/ IPC training	HCF workers that practice IPC protocols that meet national standards
	5.2 To increase to 75% the # of HCF worker that **Practices** at least 5 critical IPC practices by 2023	5.2.1 Scale up low cost appropriate technologies and IPC behavioural activities under yearly action plan	Proportion of HCF staff that are certified in WASH/IPC	HCF rofessionals that practice IPC protocols that meet national standards

Strategic Objectives	Actionable Objectives	Key Activities	Key Indicators	Anticipated Output
SO 5: IPC Capacity Building	5.3 At least 75% the # of HCF **professionals** that correctly follow the national standards/guidelines for WASH/IPC by 2023	5.3.1 Develop an IPC training programme for staff with a curriculum based on national standards including appropriate training materials	Proportion of HCF medical/ non-medical service providers that correctly implement WASH/IPC practices in last 3 months	Decrease HCAIs
	5.4 To increase to at least 75% the # of HCF **non-professional workers** that correctly follow the national standards/guidelines for WASH/IPC by 2023	5.4.1 Conduct competency based training (CBT) to develop pool of trainers	Proportion of HCFs with an IPC team/FP	Increase HCF staff morale
	5.5 To increase to 75% the # of **HCF workers** that receive orientation to WASH/IPC when hired in 2023	5.5.1 Conduct training for HCF workers	# of HCF worker trained	Improved skill of HCF worker
	5.6 To increase to 100% the # of **HCF managers** that practice supportive supervision for WASH/IPC standards implementation by 2023	5.6.1 Develop highly visual materials with critical IPC protocols and post in critical areas	Visiual materials developed	Scale up innovated IPC practices that ready
		5.6.2 Create an IPC team or a Focal Person accountable for IPC activities inline with Quality Improvement Framework	Percentage of HCFs have focal person with specific TOR	Focal person assigned with specific responsibility
		5.6.3 Create collective incentive mechanism tied to IPC performance	Reward system introduced	Best performer identified
		5.6.4 Develop and launche SBCC campaign to promote HCFs with improved WASH/IPC among HW	SBCC materials developed	Awareness and practice improved
SO 6: Community Mobilization	6.1 To increase to75% the # of **community members** that know at least 3 critical facility related IPC practices by 2023	6.1.1 Conduct KAP Survey and develop SBCC strategy Create awareness about the importance of WASH/IPC in CC and the right to demand quality healthcare through FGDs, community meetings, radio programmes social media, hampions/opinion leaders etc.	Proportion of community members that know at least 3 critical facility-related IPC practices	Improved IPC knowledge
	6.2 To increase to 75% the # of community members that practice at least 3 critical facility related IPC practices when visits HCF by 2023	6.2.1 Inform community members about critical IPC practices when visits CC/HCF through FGDs, community meetings, radio programmes social media, champions/opinion leaders etc.	Proportion of community members who visits CC that practiced at least 3 critical facility-related IPC practices	Improved IPC practices
	6.3 To increase to 75% the # of community groups that develop and implement an action plan for collaborating with the CC to improve WASH/IPC by 2023	6.3.1 Establish community monitoring of WASH/IPC in CC by patients, caregivers, management and the community	Proportion of ommunity groups with WASH/IPC improvement action plans	WASH/IPC improvement plan developed
	6.4 To increase to 75% the # of community groups that actively monitor WASH/IPCin their CC by 2023	6.4.1 Create a feedback mechanism to enable community members to provide inputs to community groups related to improved WASH/IPC in CCs	Proportion of community groups that participate in CC monitoring activities	Coummunity participation in CCs

Strategic Objectives	Actionable Objectives	Key Activities	Key Indicators	Anticipated Output
SO 7: Coordination and Financing	7.1 To develop coordination mechanism for implementing the WASH/IPC of the strategy activities by 2019	7.1.1 Formation and activation of various committees at different level (steering committee at ministry, NTC at national level, coordination committees at district and upazila level) by 2019	Fully functioning coordination ody at various levels	Coordination bodies at various level are actively involved
		7.1.2 Supervision and monitoring of district and upazila committees by NTC in every three months	# of HCFs visited by NTC	Greater accountability and transparency of HCF activities
	7.2 To secure sustainable financing for WASH in HCFs by including in OPs budget by 2020	7.2 1 Conduct financial and resource gap analysis	Separate WASH budget for HCFs at National level	Shor fall of WASH budget identified
	7.3 To secure resource mobilization at local level	7.3.1 Develop costed advocacy briefs and advocate for financing for WASH in HCFs strategy activities	Advocacy tools available	Available of funds for WASH budget for HCFs
		7.3.2 Allocate resources for WASH infrastructure improvement, O&M, waste management and training from the OPs	Financial resource available	Sustain WASH infrastructure improvement, O & M , Wastes management and training activities
		7.3.3 Secure funds locally using advocacy briefs	Locally fund raised	Community participation anmd ownership developed
SO 8: Institutionalization and Sustainability	8.1 To institutionalize WASH/IPC practices/ behaviors in HCFs and sustainable reporting system by 2023	8.1.1 Conduct a regular health systems analysis to ensure that WASH standards/guidelines for infrastructure, IPC practice/behaviors, medical wastes management, resource allocation,(financial, human and materials) and M&E are being practicing consistently, and in a timely and sustainable manner	# of HCF has harmonised monitoring system in place	Developed harmonized monitoring system linked with national data base
		8.1.2 NTC should provide continuous national-level support to ensure that WASH in HCFs management, activities and M&E practices are integrated into routine HCF management, and into monitoring system at all levels	National support through NTC	Continuous and correct data available on implementation and impacts of WASH in HCFs activities
SO 9: Sharing and Learning	9.1 To share evidence from the development and implementation of the WASH in HCFs strategy/ activities, and of the impact of WASH in HCFs on MNCH, QI, AMRIs and other related outcomes, by 2023	9.1.1 Identify platforms and/or tools for sharing evidence-based findings from implementing the WASH in HCFs strategy with local, national, regional, and global	# of WASH in HCF practitioners/ agencies that report uptake and use of the knowledge exchange information for program decision-making and/or implementation	Attained and developed better capacity and better approaches

Strategic Objectives	Actionable Objectives	Key Activities	Key Indicators	Anticipated Output
SO 9: Sharing and Learning		9.1.2 Create templates for elucidating key elements of strategy/program development, implementation, and outcomes	# of WASH in HCF practitioners/ agencies that report improvements in program effectiveness and/or capacity to develop new and better approaches to overcome challenges as a result of participation in the learning & sharing platform(s)	Diffused effective knowledge and practices related to WASH/IPC in HCFs
		9.1.3 Create yearly joint sharing and learning sessions for interested parties working in WASH in HCFs	# of stakeholder shared information and learnings	Foster partnership

5. Strategy Management

5.1 Management Structure for Implementing the WASH in HCFs Strategy

The National Strategy for WASH in HCFs and Framework for Action will be the responsibility of the MoHFW and will be under the oversight of the DGHS and DGFP. A National Technical Committee (NTC) of key stakeholders/partners from government units, bilateral agencies (funders), and NGOs/INGOs has been created and is operational under the auspices of the DGHS; a dedicated focal point has been selected to oversee the NTC. Private sector representation should be added to the NTC. The group should meet quarterly or as needed, and be responsible for:

- Finalizing and launching the National Strategy for WASH in HCFs and Framework for Action 2019 - 2023
- Mobilizing resources for implementing the strategy activities
- Facilitating collaboration between partners
- Facilitating the integration of new standards/guidelines and monitoring mechanisms
- Coordination and standardization of strategy initiatives
- Review progress and resolve bottlenecks that impede strategy progress
- Sustain advocacy for the National Strategy for WASH in HCFs and related activities
- Provide strategic technical support as necessary
- Providing opportunities for sharing learning

Since WASH in HCFs is a cross-cutting issue for a number of directorates including DGHS, DGFP, DGNS, HEU and HED Division of the MoHFW, PWD, DPHE, DoE and LGIs a ministerial level multisectoral committee (e.g. Multisectoral Task Force or Steering Committee) should be assembled to incorporate and oversee the directorates and stakeholders to:

- Oversee the NTC assembled to develop and support implementation of the strategy
- Endorse the National Strategy and Framework for Action approved by the NTC
- Endorse the standards/guidelines approved by the NTC
- Provide direction for mobilizing resources to implement strategy activities
- Approve the budget proposal of the NTC
- Review progress and resolve bottlenecks that impede strategy progress
- Facilitate multisectoral coordination and collaboration

At the district and upazila levels, coordination committees will work to oversee, supervise, monitor, and provide guidance. Annex 1 provides a list of the strategy guidance committees for each healthcare facility level. Risk-based management plans will be developed at the facility levels to guide the strategy activities, including WASH infrastructure improvements, trainings, and facility staff practices.

Funding for the strategy will be sourced from multiple government and non-government agencies and will flow through existing financial management systems of the MoHFW/DGHS/DGFP. The management arrangements will also conform to the existing management arrangement of the MoHFW/DGHS with partners.

While the HCFs belong to the DGHS and DGFP, the HED and PWD are involved in the construction and renovation of the HCFs. Budget allocations should be earmarked for WASH in HCFs Strategy activities in the Operational Plans of the DGFP, the HED and the PWD, especially for construction, renovations, capacity building and training of healthcare facility workers, procurement of consumables, and purchasing services. DPHE may also be engaged as specialized government agency on WASH in water source and water quality management at all levels including LGIs.

Annex 1: Strategy Guidance Committees (Proposed)

S/N	Title/Name of Committee	TOR	Composition
	Steering Committee at the Ministry (SC)	Oversee the National Technical Committee (NTC) assembled to develop and support implementation of the national strategy for WASH in HCF; Endorse the national strategy and framework for action approved by the National Technical Committee; Endorse the standards/guidelines approved by the National Technical Committee; Provide direction for mobilization resources to implement strategy activities; Approve the budget proposed by the National Technical Committee; Review progress and resolve bottlenecks that impede strategy progress; and Facilitate multi-sectoral coordination and collaboration.	Chairperson- Secretary, HSD Co-Chairperson-Secretary, FP Member: DG, DGHS, DG, DGFP, DG, HE, DG, Nursing Joint Secretary, LGRD&C Joint Secretary, Finance Joint Secretary, FP Joint Secretary, Planning Director, DOE, Addl. CE, PWD, Addl. CE, HED, Addl. CE, DPHE All NTC members Joint Secretary, HSD of concerned desk will work as member-secretary
	National Technical Committee (NTC)	Finalizing and launch the WASH in HCFs Strategy and Framework for Action; Mobilizing resources for implementing the strategy activities; Facilitating collaboration between project partners; Facilitating the integration of new standards/guidelines and monitoring mechanisms; Coordination and standardization of strategy initiatives; Review progress and resolve bottlenecks that impede strategy progress; Sustain advocacy for the WASH in HCFs Strategy and related activities; Provide strategic technical support as necessary; and Providing opportunities for sharing learning	Chair-ADG Admin, DGHS; Co-Chair- Line Director, HSM, DGHS and Line Director, CBHC, DGHS; Members : Line Director: Hospital Line Director, PMR, DGHS; LINE Director, PMEFP, DGFP; Director Nursing Line Director, MIS, DGHS; Line Director, MIS, DGFP Line Director, CDC, CDC; National Consultant, CSC, DGHS; -Representative from CE, PWD; Representative from CE, DPHE; Representative from CE, HED; Representative from UNICEF (Health); Representative from UNICEF (WASH); Representative from WHO WASH & HSS); Representative from World Bank (WASH); Representative from JICA; Representative from MSF;

S/N	Title/Name of Committee	TOR	Composition
			Representative from icddr,b Representative from WaterAid; Representative from Plan Bangladesh; Representative from Care Bangladesh; Representative from Tdh; Representative from BRAC; Director, ITN-BUET; and Assistant Director (coordination) -Member Secretary
	District Co-ordination Committee	Facilitating collaboration among partners; Oversee and Review progress and resolve bottlenecks that impede activities progress; Facilitating the integration of new standards/guidelines and monitoring mechanisms Regular reporting of WASH monitoring data through DHIS 2; Mobilizing resources for implementing the WASH related activities; Sustain advocacy for local resource mobilization Sustain advocacy for the WASH in HCFs related activities; Provide strategic technical support as necessary; and Providing opportunities for sharing learning. Working closely with Quality Improvement Committee	Chairperson-Civil Surgeon Members: Representative from DDFP; Superintendent of District hospital; Representative from EE, PWD; Representative from EE, HED; Representative from EE, DPHE; All UH&FPO; Related NGO representative; Representative from private hospital; Representative from City Corporation/Pourashava MO of the CS office will work as member-secretary
	Upazila Co-ordination Committee	Facilitating collaboration among artners; Oversee and Review progress and resolve bottlenecks that impede activities progress; Facilitating the integration of new standards/guidelines and monitoring mechanisms; Regular reporting of WASH monitoring data through DHIS 2; Mobilizing resources for implementing the WASH related activities; Sustain advocacy for local resource mobilization Sustain advocacy for the WASH in HCFs related activities; Provide strategic technical support as necessary; and Providing opportunities for sharing learning. Working closely with Quality Improvement Committee	Chairperson-UH&FPO Members: Representative from UHFWC; Representative from EE, PWD; Representative from EE, HED; Representative from AE, DPHE; Representative from all UHCs, CC; Related NGO representative; Representative from private hospital/ clinic; and Representative from Upazila/Union RMO of Upazila hospital will work as member secretary.

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