Joint Intra-Action Review of the Public Health Response to COVID-19 in Bangladesh

14 to 21 December 2020

Directorate General of Health Services
Ministry of Health & Family Welfare
Government of the Peoples' Republic of Bangladesh

World Health Organization Bangladesh

DGHS.MOH&FW BANGLADESH

IEDCR

আপনার স্বাস্থ্য আমাদের অঙ্গীকার
HPNSP
স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়

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Preface

Md. Abdul Mannan
Secretary
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Government of the People's Republic of Bangladesh

The COVID-19 pandemic that reached 223 countries and territories has caused an unprecedented impact on essential health services in all countries including Bangladesh and has led to a drastic reduction in utilization of major essential health services across all levels of health systems. However, we have been able to restore the essential health services all over the country, taking appropriate timely action such as recruitment and deployment of health workforce and ensuring the provision of essential equipment and supplies to health facilities.

Under the strong leadership of our Hon'ble Prime Minister Sheikh Hasina, we have taken immediate steps in response to COVID-19 in mitigating public health impact of the disease with technical support of WHO and other development partners. We have provided PPE and laboratory testing kits and strengthened intensive care units and established make-shift hospitals and COVID designated hospitals.

I convey my sincere appreciation to WHO for providing all-out support to the Ministry of Health to conduct an Intra-Action Review (IAR) for the COVID-19 response in Bangladesh. It is a dependable mechanism to identify challenges and opportunities for improvement and better response to the COVID-19 pandemic. I am glad to know that the IAR comprehensively covered the ten key pillars of the Bangladesh Preparedness and Response Plan (BPRP) for COVID-19 response to evaluate the COVID-19 response.

I would like to acknowledge the sincere efforts of participants from the Government of Bangladesh, various UN agencies and non-government organizations for contributing valuable inputs, comments and suggestions to finalize the report.

I also extend my appreciation to the Directorate General of Health Services and the World Health Organization for publishing this report.

Md. Abdul Mannan

Prof. Dr Abul Bashar Mohammad Khurshid Alam
Director General (Health)
Directorate General of Health Services (DGHS)
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh

I am delighted to write this message as it was the most time demanding activity to have a self-assessment of COVID-19 response activities. It allowed us exchange of experiences on what happened and what can be improved in ongoing response through best practices, lessons learned and root cause analysis of the problems. COVID-19 Intra-Action Reviews not only helped to improve response activities but also contribute towards long-term health security of the country.

When the country has over half million cases and over eight thousand deaths from COVID-19, an Intra-Action Review of response activities was a need of the country. With the support of WHO Health Emergency team, Institute of Epidemiology, Disease Control and Research and IHR unit of Communicable Disease Control division, DGHS successfully conducted the IAR. The meeting gathered around 150 resource persons from government health departments and institutions, the Ministry of Health, community leaders, UN agencies, other development agencies and multisectoral departments of the government. Through the review process a set of useful recommendations were agreed upon cutting across 10 pillars of the Bangladesh Preparedness and Response Plan.

DGHS will undertake the implementation of the recommendations of the IAR. The review helped to assess response activities and revise current national and subnational COVID-19 response strategies, to minimize morbidity, mortality, and to mitigate the indirect impact on essential health services.

I want to thank all the contributors and advisors for their dedicated and coordinated effort in completing the IAR in due time. Thanks to WHO for their dedication and successfully organizing the events and for publishing the report.

24.2.21

(Prof. Dr Abdul Bashar Mohamad Kurshid Alam)

Preface

Dr Bardan Jung Rana
WHO Representative to Bangladesh

The world has learnt a lot from the COVID -19 pandemic that reached 223 countries and territories, causing over 112 million cases and 2.5 million deaths during the last 14 months. All our initial efforts were spent to know the virus, how to suppress transmission and how to reduce mortality among severe cases. WHO supported the government of Bangladesh by providing guidelines, Standard operating procedures, testing equipment and supplies, capacity building in IPC, contact tracing, by supporting IEDCR and through HR support.

While COVID-19 transmission is being brought under control, Bangladesh slowly opened and resumed economic activities. In this transition, an Intra-Action Review (IAR) of COVID-19 Response in the country was essential to identify strengths, challenges, and way forward for a better and coordinated response. The WHO supported the government to conduct an Intra-action review on COVID-19 response by customizing the WHO guidance for conducting COVID-19 IAR as per the country perspective.

I am pleased to note that the Intra-Action Review was completed successfully, having inputs from government officials, development partners, academicians and advisors across the country. This IAR provided an opportunity to learn lessons and plan the following steps to improve the response against the pandemic. WHO will support the government in implementing the key recommendations identified in the Intra-Action Review report.

I express my sincere gratitude to the Secretary, Director General of Health and other government officials and partners who participated in making this review a successful exercise. I believe this report will guide our further response to this pandemic.

Dr Bardan Jung Rana

Acknowledgements

We are grateful to the Director-General of Health Services, Prof. Dr Abul Bashar Mohammad Khurshid Alam, Additional Director General Planning Prof. Dr Meerjady Sabrina Flora, Director Disease Control & Line Director Communicable Disease Control Prof. Dr Shahnila Ferdousi for their valued contributions and participation to this report.

Special thanks to the WHO Health Emergency team and the members of the WHO Country Office Incident Management for COVID-19 response and IHR unit of Communicable Disease Control division, DGHS, for conducting the IAR workshop successfully.

Table of Content

Abbreviation

ANC	Antenatal Care
BPRP	Bangladesh Preparedness and Response Plan
CMSD	Central Medical Stores Depot
CMT	Crisis Management Team
COVAX	Corona Vaccine
CS	Civil Surgeon
DGDA	Directorate General of Drug Administration
DGHS	Directorate General of Health Services
DHIS2	District Health Information Systems 2
DP	Donor Partner
ECMO	Extracorporeal Membrane Oxygenation
EHS	Essential Health Care Service
EPI	Expanded Programme on Immunization
EQAS	External Quality Assurance Services
ERT	Emergency Response Team
FETP, B	Field Epidemiology Training Program, Bangladesh
HCP	Health Care Providers
HDF	Health Declaration Form
HFNC	High Flow Nasal Cannula
HR	Human Resources
HSIA	Hazrat Shahjalal International Airport
IAR	Intra Action Review
ICT	Information Communication Technology
IEC	Information, Education and Communication
IEDCR	Institute of Epidemiology, Disease Control and Research
IMCI	Integrated Management of Childhood Illness
IPC	Infection Prevention and Control
KAP	Knowledge Attitude and Practice

LGRD	Local Government and Rural Development
MIS	Management Information System
MOHFW	Ministry of Health and Family Welfare
MOF	Ministry of Finance
MOPA	Ministry of Public Administration
NCC	National Coordinating Committee
NRM	Non-rebreather mask
NILMRC	National Institute of Laboratory Medicine and Referral Centre
NPRP	National Preparedness and Response Plan
PHEIC	Public Health Emergency of International Concern
PoE	Points of Entry
RCCE	Risk Communication and Community Engagement
RT-PCR	Reverse Transcription Polymerase Chain Reaction
SARS-COV	Severe Acute Respiratory Syndrome-Corona Virus
SOP	Standard Operation Procedures
UHC	Upazila Health Complex
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

Executive Summary

Based on the WHO's guidelines, the Intra-Action Review exercise was implemented in Bangladesh using interviews and stakeholders' discussions and tabletop exercise on 21 December 2020. The exercise was led by the government and was supported by the WHO. Around 150 resource persons from the government include Ministers, Directorates, and public health institutes; UN agencies and development partners and other stakeholders participated.

The key strengths of the COVID-19 response are strong ownership at the Prime Minister level and setting up of COVID-19 dedicated committees in various Ministries, Directorates and at District Levels, which resulted in better coordination of COVID-19 response. WHO guidelines and SOPs were adopted. An integrated control room was set-up at DGHS for a coordinated response. The existing resources, including human resources, were repurposed to tackle the pandemic. The government expanded the laboratory network from 1 to 180 as of the date and introduced the Rapid Antigen test. The rapid establishment of COVID-19 dedicated public and private hospitals with testing and diagnostic facilities enabled the public to get COVID and essential health services. Screening capacity at PoEs was strengthened to screen incoming and outgoing passengers. Locally produced PPE decreased the effect of global shortages, saving time and resources. Enforcement of the "No mask no service" policy by the government and imposition of mobile penalty courts worked as a good control measure to suppress the infection.

The key challenges identified in COVID-19 response were lack of coordination between Health and Local government in urban areas, particularly in major city corporation areas; deficiencies in data collection and lack of data integration between IEDCR, labs and MIS in DGHS; delays in procurement; lack of IPC training at field level; disruption of essential services; inadequate engagement of community; challenges in the roll-out of contact tracing; social stigma and reluctance to observe public hygiene measures.

The major recommendations that emerged were improved coordination between Health and other Ministries and Departments, including Local Government for enhanced surveillance, contact tracing and community engagement in urban areas, particularly in major city corporations; increasing COVID-19 testing capacity, including broader use of Rapid Antigen tests. It was also recommended to upgrade the Divisional Level laboratory network by strengthening existing labs in Medical colleges and hospitals; standardize data collection forms; integrate data among various organizations; ensure setting-up of triage in health facilities and IPC compliance; simplify and streamline procurement procedures and provide timely custom and other clearances to prevent delays in delivery of equipment and supplies; regular monitoring and supportive supervision of response at different levels (national/divisional/district/sub-district); and engage community leaders for better compliance of public hygiene and safety measures.

1. Introduction

On 31 December 2019, WHO received a notification from China of a cluster of pneumonia-like cases in Wuhan, China. On 30 January 2020, the Director-General of WHO declared the COVID-19 outbreak a public health emergency of international concern (PHEIC). The pandemic quickly spread to 204 countries, including Bangladesh.

On 1 February 2020, 312 Bangladesh citizens were brought back from China's Wuhan city and quarantined for 14 days. Eight of them were immediately isolated, and three more were subsequently isolated upon showing symptoms. Their samples were tested on 2 February 2020 in the laboratory of the Institute of Epidemiology, Disease Control and Research (IEDCR) and found negative for COVID-19. On 8 March 2020, Bangladesh confirmed its first COVID-19 case. On 11 March 2020, WHO declared COVID-19 a pandemic. On 18 March, the first death from COVID-19 was reported in Bangladesh. In week 53, a total of 516,019 confirmed cases and 7,626 deaths are reported.

The Government of Bangladesh rapidly implemented several interventions to suppress the spread of the virus. High-level committees were set-up at the Prime-Minister's level, at Ministry and Department levels. The integrated control room was set up under the direct supervision of the Director General of Health Services. Health screening at POEs for incoming and outgoing passengers were enhance by IHR program, CDC, DGHS. All educational institutes were closed, and public holidays were declared, closing all government and private offices. WHO guidelines were adopted. COVID testing lab facilities were increased from 1 lab to 180 labs to date. Quarantine facilities were set-up. COVID dedicated hospitals were declared. **No mask No service** policy was implemented, and penalties were enforced through mobile courts.

On 5 March 2020, Bangladesh prepared its National Preparedness and Response Plan (NPRP), which was subsequently replaced by Bangladesh Preparedness and Response Plan (BPRP). The plan is based on multisectoral coordination and has ten technical pillars, namely planning and coordination; surveillance, laboratory; contact tracing; points of entry (PoEs) and quarantine; infection prevention and control; clinical case management; essential health services; procurement, logistics; risk communication and community engagement; and research.

To assess the COVID-19 response in Bangladesh, Intra Action Review (IAR) was conducted in Bangladesh based on WHO's guidelines. The IAR was led by the government and supported by the WHO. The objective of IAR was to analyze the ongoing COVID-19 response activities, to share experiences to identify critical gaps and challenges and to provide recommendations on mid-course corrections required to minimize the impact of the pandemic. The feedback and suggestions were obtained from all levels- field, district, division and national.

2. Objectives

1. to share experiences and collectively analyze the ongoing in-country response to COVID-19 by identifying challenges and best practices;

2. to facilitate consensus building and compiling the lessons learned by various stakeholders during the response;
3. to improve the current response by sustaining best practices that have demonstrated success;
4. to document and apply lessons learned to enable health systems strengthening;
5. to provide a basis to validate and update the Country COVID-19 strategic preparedness and response plan.

3. Methodology adopted

During the planning phase, preparatory meetings were conducted with government officials, and facilitators and advisors were identified.
IAR was conducted in three steps which are as follows:

1. **Sensitizing workshop:**

   An online Sensitization workshop was conducted on 14 December 2020 for about three hours with 64 participants. During the sensitization workshop, the participants were given orientation on IAR background, objectives, methodology, trigger questions, outcome. During the sensitization, WHO's toolkit was adapted to the Bangladesh context for IAR group discussion.

2. **Group discussion with resource persons:**

   A group discussion with 89 resource persons was conducted on 15 December 2020 using the WHO's adapted toolkit to elicit responses through group discussions to facilitate experience sharing among the frontline field responders.

3. **IAR workshop:**

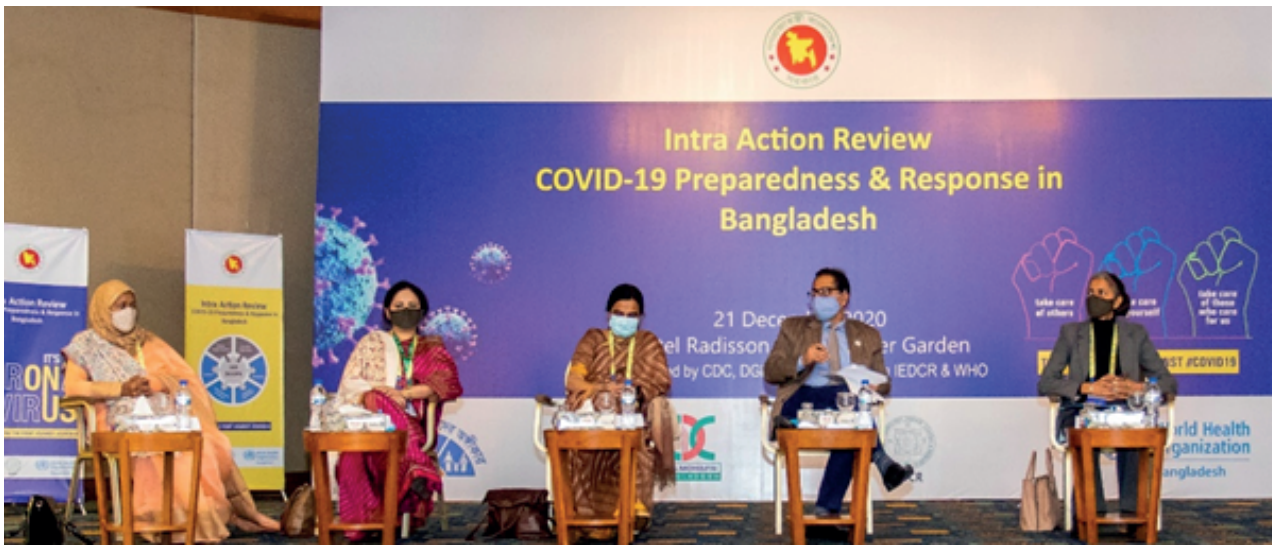
   The IAR workshop was conducted at Hotel Radisson Blue, Dhaka, on 21 December 2020. Sixty-three resource persons attended the workshop physically, while four resource persons attended online, including WHO SEARO. The IAR was presided over by the Secretary, Health Service Division, MOHF&W, and attended by senior health officials including Additional Director General, Administration; Additional Director General (Planning and Development); Director Disease Control (National IHR Focal Point and); and Director IEDCR. Senior health advisors like Ex-Director General and Ex- Directors also participated as advisors. The other participants came from:
   - Ministry of Health and Family Welfare
   - Director-General of Health Service
   - Institute of Epidemiology Disease Control and Research (IEDCR)
   - Institute of Public Health (IPH)
   - National Institute of Preventive and Social Medicine (NIPSOM)
   - Hazrat Shahjalal International Airport (HSIA)
   - International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDRB)
   - UN agencies (WHO, IOM, UNICEF),
   - Development partner (USAID)

   The final event's agenda is in Annexure 7.1, and the list of participants is in Annexure 7.2 of this document.

The IAR focused on the following ten pillars of the national response:

Group	Pillar areas
Group 1	Planning, Coordination and Response Strategy
Group 2	Surveillance and Laboratory Support
Group 3	Contact Tracing and Mitigating Community Transmission
Group 4	Points of Entry and Quarantine
Group 5	Infection Prevention and Control
Group 6	Case Management, Including Telemedicine
Group 7	Ensuring Essential Health, Population and Nutrition Services Delivery
Group 8	Procurement, Logistics and Supply Management
Group 9	Risk communication and Community Engagement
Group 10	Research

While this review's primary intent is to strengthen Bangladesh COVID-19 response, the findings may be of interest to other countries as they plan or revise their responses.



Key note address by Secretary MoH&FW along with Director CDC, Director IEDCR, ADG Planning & Development, MoH&FW and WHO Representative (Ag)

4. Output of the Exercise

4.1 Pillar 1: Planning, Coordination and Response strategy

4.1.1. Strengths and Challenges

Strengths	Challenges
• **Strong ownership** and leadership at the Prime Minister level. • **Functional COVID-19 dedicated Committees** have been set up in various ministries, directorates, and district levels for better coordination, monitoring, and supervision. • **Rapid establishment of COVID-19 dedicated** hospitals in public and private with testing and diagnostic facilities for rapid detection and treatment of cases. • **UN agencies, Donors and Development Partners** gave immediate support to the government in the COVID-19 pandemic. • **Public and private partnerships** facilitated the provision of an Institutional Isolation centre on an immediate basis. • **WHO-led Health Cluster meetings** were conducted regularly to share COVID-19 related information among the stakeholders.	• **The Urban Health system** was not systematically engaged in the planning and implementation strategy under the Ministry of Health as Urban Health comes under the Ministry of Local Government. • **Direct Civil-Military Coordination** at the response level needs improvement. • **The Public Health Emergency Operations** Centre (PHEOC) requires strengthening at national and sub-national levels. • **Various departments need to be involved** with the Health Department in a more coordinated manner for COVID response at the national/divisional and district level. • **Lack of strong monitoring and evaluation system and supportive supervision** at divisional and district levels led to information and implementation gaps.

4.1.2. Recommendations

Immediate	Mid to long-term
• **Regular meetings of various departments with the Health Department** at the national and divisional level to ensure a more coordinated response to the COVID-19 pandemic. • **Regular meetings between Deputy Commissioners and Civil Surgeons and other department officers** are required to have a coordinated pandemic response at the district level.	• **Strengthen Civil-Military Coordination** at the implementation level. • **National Action Plan for Health Security** (NAPHS) needs to be endorsed and implemented.

• At the **sub-district level**, regular meetings of Upazila Health officer with community representatives are required to encourage community involvement. • **Human resource** vacancies to be filled up • **Capacity building of staff** to be enhanced. • **Divisional levels Public Health Emergency Operation Centre (PHEOC)** need to be strengthened.	

4.2 Pillar 2: Surveillance and Laboratory Support

4.2.1. Strengths and Challenges

Strengths	Challenges
• **Expansion of the lab network** in a short period. • **Training modules, SOP,** laboratory assessments checklist available. • **Lab quality assessments** conducted. • **A pool of experts was established to support lab testing facilities for on-site, hands-on training, mentoring, and regular lab performance monitoring.**	• **Lack of skilled human resources** and inadequate logistic and equipment at reference labs resulted in fewer tests, less case identification and a smaller number of checking reference samples for quality control purposes. • **Inadequate lab, sample collection kits and transportation** in hard-to-reach areas led to less case identification. • **Severe Acute Respiratory infection (SARI)/ Influenza-Like Illness (ILI) surveillance sites are not integrated with COVID-19 testing** in all places. • **Incomplete data entry at the point of sample collection** adversely affected the surveillance. • **Inadequate coordination with urban Health in city corporation areas** adversely affected surveillance and contact tracing activities.

4.2.2. Recommendations

Immediate	Mid to long-term
• **Periodical Epidemiological data analysis** needs to be ensured. • **The quality of testing** of all laboratories needs to be ensured.	• **Upgrade Divisional level RT-PCR lab** by providing required equipment, RT-PCR machine with backup, Bio-safety cabinets (level II), online UPS (3hrs power supply backup) with consumables.

• **Establish a precise surveillance mechanism in all city corporations** by ensuring coordination between DGHS, MoHFW, Ministry of LGRD, and City Corporations. • Regular **District/Divisional Coordination Meetings** with stakeholders, including Development partners on the ground for improving testing, contact tracing and treatment. • **Ensure adequate PPE and refresher training for the sample collectors, handlers and laboratory personnel.** • Ensure **regular fund** for sample collection and transportation from the collection site to the testing laboratory. • **COVID testing should be free of cost.**	• **A real-time dashboard** will be developed for COVID-19 data as a single platform. Current management of information, especially for COVID-19, will be reviewed for harmonization and standardization of data collection forms.

Pillar based group discussion

4.3 Pillar 3: Contact Tracing and Mitigating Community Transmission

4.3.1. Strengths and Challenges

Strengths	Challenges
• **Contract tracing guidelines available** in most cities, districts and subdistricts for COVID response. • **Strong Field Epidemiology Training Program,** Bangladesh (FETP, B) available in the country. • **Advanced contact tracing tools,** including mobile phone-based apps, developed. • Implementation of **No mask no service** policy by the government and imposition of penalty by mobile courts.	• **Incomplete data and missing information** (e.g., phone number, address etc.) hampers contact-tracing. • The reluctance in observing public health and safety measures by the community. • No mechanism of community engagement.

4.1.1. Strengths and Challenges

Immediate	Mid to long-term
• **Electronic data management** of contacts by the implementation of GoData software. • **Periodical assessment of classification of transmission** levels using the recent Public Health and Social Measures (PHSM) guideline as recommended by WHO. • In addition to Health, **engage non-health staff, community and local leaders** for contact tracing and monitoring quarantine. • **Improve the quality of data entry** for cases and contacts. • **Rapid antigen testing** should be scaled up widely.	• **Integration of IEDCR & MIS** data to support surveillance and contact tracing. • **Enhance Health education** and awareness among the public for appropriate control measures.

4.4 Pillar 4: Points of Entry and Quarantine

4.4.1. Strengths and Challenges

Strengths	Challenges
• **Syndromic surveillance available at PoE** with guidelines, SOP, and protocols, RT-PCR test facilities to respond to any unusual health events.	• **Inadequate screening space at airports and other POEs and outdated organogram** to support current requirement.

• **Early preparedness** for public health emergency was ensured by conducting simulation exercises and ensuring the availability of equipment for rapid health screening measures of incoming and outgoing travellers at IHR designated POEs. • **Synchronization** among concerned **stakeholders** at PoEs, e.g., organizing Crisis Management Team (CMT), WhatsApp Group, Emergency Response Team (ERT), and coordination and monitoring meetings. • **Training of** Health Care workers and other staffs at PoE in donning and doffing **PPE and Infection Prevention and Control (IPC) practices.** • Developed **necessary documents at all PoE** for all travellers, e.g., development of Health Declaration Form (HDF), Passenger Locator Form, Health Card, IEC materials, Health Clearance Form and SOPs. • **Digitalization of Surveillance data at PoEs** enabled prompt sharing of information among the concerned stakeholders and respective health managers at POEs.	• Most of the **quarantine centres are not within the vicinity of POEs.** • I**nadequate transport and accommodation facilities** of service providers at PoEs caused less motivation for healthcare providers to manage COVID affected travellers. • **Absence of lab testing facilities at most PoEs.**

4.4.2. Strengths and Challenges

Immediate	Mid to long-term
• **Continuation of ongoing coordination and communication** among stakeholders of all PoEs with IHR National Focal Point by arranging functional CMT/multisectoral coordination meetings and sharing of the meeting minutes. • **Regular training and refresher training** of all PoE Health Care Providers and relevant Staffs • **Provision of transport facility** to carry suspected passengers from PoEs to the nearest quarantine centre. • **Ensure facilities** for Safe Water, Sanitation and Hygiene (WASH facilities) at PoEs.	• **Adequate infrastructure including logistics and updated organogram** at air/land /sea-ports. • **Ensuring COVID testing facilities** at PoEs • Provide a**dequate space for health screening** at PoEs. • **Ensure PoE surveillance.**

Pillar based group discussion

4.5 Pillar 5: Infection Prevention and Control (IPC)

4.5.1. Strengths and Challenges

Strengths	Challenges
• **IPC guidelines** developed (for Health Facilities, airports, aircraft, transport system, readymade garment workers, workplaces, observance of celebrations and, safe burial) in the local language and English and circulated. • **Health Facility Readiness Assessment** conducted using WHO tools to identify needs for IPC training, case management training and rational allocation of resources, e.g. critical supply such as PPE, oxygen concentrator, ventilators, High Flow Nasal (HFN) cannula etc. • **On-site and virtual IPC training** was conducted for health care workers at the district level supported by WHO, CDC, and other partners, which helped improve the knowledge on IPC for COVID-19 response. • **Physical distancing** was ensured in waiting areas in health facilities.	• **Inadequate monitoring** of infection control among Health Care Workers. • **Inadequate IPC training** for the support staff and the nurses at Upazila levels below caused hesitancy to provide services for fear of getting infected. • Wearing the mask and ensuring physical distance in public transport was not regulated. • Improper disposal of medical waste.

4.5.2. Strengths and Challenges

Immediate	Mid to long-term
• **Develop IPC Master Trainer Pool at Division/ District** levels who can train and supervise the lower levels and provide basic & refresher training. • **Ensuring the handwashing facility is functional** in health care facilities.	• **Ensuring availability of IPC equipment and supplies** and adequate stock for three months to ensure uninterrupted supply.

4.6 Pillar 6: Case Management and Telemedicine

4.6.1. Strengths and Challenges

Strengths	Challenges
• **Updating of a national guideline for COVID-19 case-management** including telemedicine services. • **Rapid installation of logistics related to oxygen supply** to manage COVID 19 patients such as central oxygen supply systems and various oxygen delivery devices such as O2 concentrator, Non-rebreather mask (NRM), High Flow Nasal Cannula (HFNC) etc. for an instant supply of O2 as per requirement. • **Active involvement of health care workers for COVID management** was a bold step by the nation, which was achieved through training on IPC and national guidelines by CDC and the adequate supply of PPE. • Availability of **Training Module, SOP and Expert Pool for Health Care Providers.** • The readiness of **private hospitals** to combat COVID-19 in coordination with DGHS.	• **Inadequately skilled service providers** and supporting staff for COVID-19 management. • **Delayed Health seeking behaviour** due to social stigma. • Inadequate equipment for life care support (ECMO, Ventilator etc.). • Non-availability of guidelines for **post-COVID management.** • **Disruption of essential services**.

4.6.2. Recommendations

Immediate	Mid to long-term
• Strengthening **telemedicine services.** • **Availability of all types of life care support equipment** such as ventilators, and if possible, ECMO support . • **Guidelines for Post-COVID-19 complication management** needs to be put in place.	• **Provision of simultaneous COVID 19 and non-COVID services at health care facilities.** • Need to start **the Infectious Disease Department in every medical college and Medical University** for COVID management and future epidemics.

4.7 Pillar 7: Ensuring delivery of Essential Health, Population & Nutrition Services

4.7.1. Strengths and Challenges

Strengths	Challenges
• **Separate zones** created for COVID-19 and Non-COVID patients at health facilities (yellow, red and green zone). • Development and dissemination of **SOPs and guidelines** in essential health services. • **Non-COVID-19 hospitals** ensured uninterrupted provision of essential health services. • **Monthly meetings at DGHS** were conducted to restore Essential Health Services.	• Delayed health-seeking behaviour due to social stigma. • Fear of infection among health care providers due to lack of IPC training and lack of PPEs. • EPI, IMCI and ANC services suffered initially for a few months, including in urban areas. • Field level supervision and monitoring visits for health services were hampered.

4.7.2. Recommendations

Immediate	Mid to long-term
• **IPC training and refresher training** for all frontline workers should be done regularly. • **A triage system** should be established in all health care facilities to ensure services for both COVID-19 and Non- COVID patients.	• **Monitoring and supportive supervision of** health facilities to sustain the continuity of EHS.

4.8 Pillar 8: Procurement, Logistics and Supply Management

4.8.1. Strengths and Challenges

Strengths	Challenges
• **The government provided adequate PPEs to all facilities.** • **Locally produced PPE** increased the availability of PPE supply and saved resources. • **Ensuring equipment and supplies for dedicated COVID-19 hospitals** helped to provide treatment facility. • **Availability of test kits at IEDCR, NILMRC, IPH and other laboratories** helped increase national testing capacity.	• Prolonged delays in custom and other clearances resulting in delay delivery of equipment and supplies. • **Lack of quantification and forecasting system** resulted in difficulty in estimating the requirement. • Lack of capacity in DGDA to test the quality of PPE and other products. • **Improper labelling of medications** for the treatment of COVID-19 resulted in inappropriate use of medical products. • **Global shortages and non-availability of resources** delayed procurement and logistics services.

4.8.2. Recommendations

Immediate	Mid to long-term
• **Quantification and forecasting system** to be improved. • **Logistics Management Information Systems (LMIS)** to be improved. • **Capacity building regarding procurement, logistics and quality assurance** to be built-up. • During pandemics, **procurement procedures need to be simplified and streamlined. Customs clearance and removing CD VAT for medical products to be expedited.** • **Close coordination with the national regulatory authority DGDA in an emergency** to be ensured.	• **Pharmaceutical services** need to be integrated within DGHS/MOHFW. • **Strengthening of the supply chain required** • **Transparency and accountability in procurement practices** to be ensured. • **Quality assurance systems for procurement** to be improved. • **Communication on procurement and supply issues during an emergency** to be improved.

4.9 Pillar 9: Risk Communication and Community Engagement

4.9.1. Strengths and Challenges

Strengths	Challenges
• **Previous experience in RCCE during outbreaks** helped in conducting RCCE activities.	• **Urban and rural primary health care work under various Ministries,** which resulted in low coordination between MoHFW and City Corporations in risk communication activities. • **Lack of knowledge to** understand why people are not observing pubic hygiene and protection measures. • **The community not fully engaged**.

4.9.2. Recommendations

Immediate	Mid to long-term
• **Engage community** leaders to ensure compliance with public hygiene and safety measures. Ensure two-way communication between health authorities and at-risk populations in response to COVID-19. • **Conduct behaviour** assessment using WHO's audience assessment questionnaire toolkit. • **Allocate more resources** (financial and workforce) for community engagement and risk communication. • **Mobilization** of medical students & Medical Colleges and other categories of students for RCCE activities.	• **Strengthen the Health Education Bureau of DGHS** to be more involved in the RCCE activities. • **Utilize medical colleges,** especially the community health departments, for better involvement in community engagement.

4.10 Pillar 10: Research

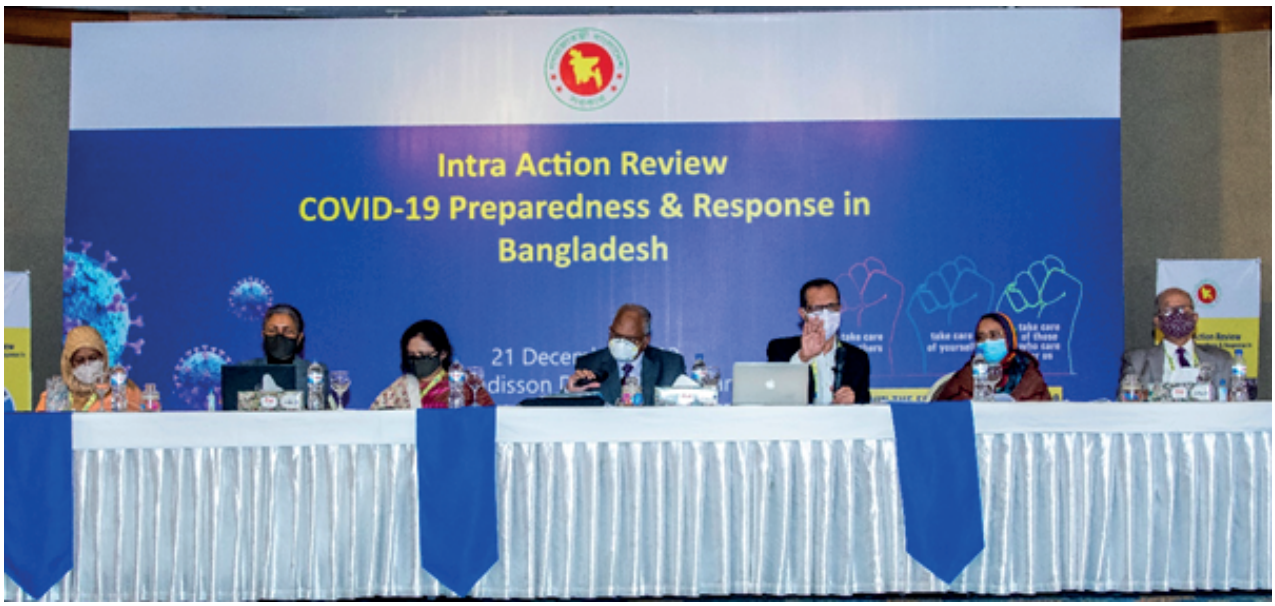
4.10.1. Strengths and Challenges

Strengths	Challenges
• **Research on COVID-19 clinical management/ treatment** initiated in Bangladesh. • **WHO Solidarity Trial** (for Covid-19 Therapeutics trial): an international	• **Inadequate funding** resulted in inadequate research. • **Lack of coordination or multiple** organization while researching the same topics or subject.

randomized trial of additional treatments for COVID-19 in hospitalized patients ongoing in Bangladesh. • **Unity study:** Population-based seroepidemiological investigation for COVID-19 infection and Household transmission investigation ongoing in Bangladesh. • **Case-control study:** Assessment of risk factors for COVID-19 among health workers ongoing in Bangladesh.	• **Lack of trained workforce/expert/ dedicated human resources** for research led to poor quality research.

4.10.2. Recommendations

Immediate	Mid to long-term
• **Conduct research based on** operational research needs. • **Capacity building** on research.	• Need to coordinate research activities across organizations.



The panel of Advisors finalizing the recommendations

5. COVID vaccination in Bangladesh

The national vaccination programme was launched on 27 January by Her Excellency Prime Minister Sheikh Hasina. The vaccination drive rolled out throughout the country from 7 February as per the National Deployment and Vaccination Plan (NDVP). The vaccination is provided through > 620 government hospitals. Health workers, high-risk population and people aged 40 and above are targeted for vaccination.

Bangladesh has received 2 million Astra Zeneca vaccine doses from the Government of India as a donation and has signed an MoU to procure 30 million doses of Astra Zeneca/Oxford vaccine through a bilateral agreement with the Serum Institute of India (SII). As of date, 5 million doses have been received from SII. The government has received the first tranche of vaccine from COVAX.

Bangladesh is using Covishield, Serum Institute of India vaccine in 2 doses. As of 7 March, a total of 3,789,356 people have been vaccinated. A total of 848 AEFI have been reported.

6. Conclusion and recommendations

The major recommendations that emerged are:

1. Improved coordination between Health and various Ministries and Departments, including Local Government for enhanced surveillance, contact tracing and community engagement in urban areas, particularly in major city corporations. Better coordination between Health and various Ministries/Departments is required like public transport, industry etc.;
2. Increasing COVID-19 testing capacity, including broader use of Rapid Antigen tests;
3. Upgrading the Divisional Level laboratory network by strengthening existing labs in Medical colleges and hospitals;
4. Standardization of data collection forms and integration of data among various organizations;
5. Ensuring setting-up of triage in all health facilities and IPC compliance;
6. Hands-on IPC training should be rolled out at the divisional level;
7. National Action Plan for Health Security (NAPHS) should be endorsed and implemented.
8. Simplifying and streamlining procurement procedures and providing timely custom and other clearances to prevent delays in delivery of equipment and supplies;
9. Regular monitoring meetings and supportive supervision of response at different levels (national/divisional/district/sub-district);
10. Strengthening of surveillance and core capacities at the PoE; and
11. Engaging community leaders for better compliance with public hygiene and safety measures.

7. Annexures

7.1 Agenda of the Final Event

Time	Inaugural Session	
09:00 to 09:30	Registration	
09:30 to 09.35 AM	Welcome Address and Objectives: *Prof. Dr Shahnila Ferdousi, National IHR Focal Point and Director, Disease Control & LD (CDC), Directorate General of Health Services (DGHS)*	
09:35 to 09:40 AM	Address from Special Guest: *Prof. Dr Meerjady Sabrina Flora, Addl. Director General (Planning and Development) - DGHS*	
09:40 to 09:45 AM	Address from Special Guest: *Dr Bhupinder Kaur Aulakh, Acting WHO Representative to Bangladesh*	
09:45 to 09:50 AM	Address from Chairperson: *Prof. Dr Abul Bashar Mohammad Khurshid Alam, Director General, DGHS*	
09:50 to 10:00 AM	Keynote Address from Chief Guest: *Mr Abdul Mannan, Secretary, Health Service Division, MoHFW*	
10:00 to 10:10 AM	Group Photo session	
10:10 to 10:30 AM	Tea/Coffee break	
10:30 to 10:40 AM	Bangladesh Preparedness and Response Plan (BPRP)	Prof. Dr MA Faiz, Public Health Expert, Former Director General, DGHS
10:40 to 10:50 AM	COVID-19 Response – Presentation by IHR Focal	Prof. Dr Tahmina Shirin Director, IEDCR
10:50 to 11:00 AM	Intra-Action Review, Bangladesh – Methodology	Dr Pavana Murthy Incident Manager, WHO Bangladesh
11:00 to 11:10 AM	Formation and Introduction to group work	
11:10 to 13:00 PM	TTX (Pillar wise Group Work)	All participants
1:00 to 2:00 PM	Lunch	
Chair: Prof. Dr MA Faiz, Public Health Expert, Former Director-General - DGHS Co-Chair: Prof. Dr Mahmudur Rahman, Public Health Expert, Former Director - IEDCR Advisors: • Prof. Dr Be-Nazir Ahmed, Public Health Expert, Former Director Disease Control - DGHS • Prof. Dr Nasima Sultana, Addl. Director General (Admin) - DGHS • Prof. Dr Meerjady Sabrina Flora, Addl. Director General (Planning and Development) - DGHS • Dr Bhupinder Kaur Aulakh, Deputy WHO Representative to Bangladesh • Prof. Dr Shahnila Ferdousi, National IHR Focal Point and LD (CDC) - DGHS • Prof. Dr Tahmina Shirin, Director - IEDCR		
2:00 to 3:00 PM	Group presentations	Pillar wise – 5 minutes each
3:00 to 3:40 PM	Open discussion	
3:40 to 4:00 PM	Tea/Coffee break	
4:00 to 4:15 PM	Conclusions/Draft Recommendations	Prof. Dr Mahmudur Rahman Public Health Expert, Former Director - IEDCR
4:15 to 4:30 PM	Closing remarks	Prof. Dr Meerjady Sabrina Flora, Addl. Director General (Planning and Development), DGHS

7.2 Contributors

7.2.1. Facilitators

The National IHR Focal Point took the responsibility as IAR lead coordinator for the overall planning, conducting and follow-up of the IAR exercise. The IAR lead coordinator assigned the tasks and responsibilities in the preparation, design and implementation of the IAR as following:

Role	*Name*	*Organization*	*Main responsibility*
IAR lead coordinator	Prof. Dr Shahnila Ferdousi	National IHR Focal Point	IAR oversight
Lead facilitators	Dr Nasir Khan Dr Pavana Murthy	CDC-DGHS WHO	Lead methodology onstruction and facilitation
Pillar Facilitators	Dr Tahmina Akhter Dr Mustufa Mahmud Dr Fahmi Sembiring Dr Tanbirul Islam Dr Muhammad Zahidur Rahim Mr Hasan Mohiuddin Ahmed Dr Kazi Hassan Ameen Dr Murad Sultan Dr Sangey Wangmo Mr Catalin-Constantin Bercaru Dr Ferdous Hakim	CDC-DGHS CDC-DGHS WHO WHO WHO WHO WHO WHO WHO WHO WHO	Support facilitation of the sessions
Note-taker	Dr Md. Ahsanul Kabir Dr Faiza Chowdhury	CDC-DGHS CDC-DGHS	Capture discussions in the sessions
Coordinator	Mr Golam Kibria Nury Mr Raisul Hasan Shagor	WHO WHO	Admin support IT support
Additional Support	Mr Shafiqul Islam Ms Mahbuba Lucky	WHO CDC-DGHS	Management & Finance support

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