Implementation Research Needs Assessment under USAID's RDM Activity of icddr,b

Focusing on selected health sector programs of Bangladesh

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Disclaimer

List of Abbreviations

AIDS/STD   Acquired Immunodeficiency Syndrome/Sexually Transmitted Diseases
BBS   Bangladesh Bureau of Statistics
BDHS   Bangladesh Demographic and Health Survey
BNNC   Bangladesh National Nutrition Council
BRAC   Bangladesh Rural Advancement Committee
BSMMU   Bangabandhu Sheikh Mujib Medical University
BUHS   Bangladesh University of Health Sciences
CPR   Contraceptive prevalence rate
DG   Director-General
DGHS   Directorate General of Health Services
DGFP   Directorate General of Family Planning
DHIS2   District Health Information System 2
DOT   Directly Observed Therapy
ELCO   Eligible Couple
EPI   Expanded Programme on Immunization
ESP   Essential Health Service Package
FP   Family Planning
FP FSD   Family Planning Field Services Delivery
HMIS   Health Management Information System
HQ   Headquarter
HSPSD   Health Systems and Population Studies Division
HPNSP   Health, Population and Nutrition Sector Program
ICDDR,B   International Centre for Diarrhoeal Disease Research, Bangladesh
IDI   In-depth interview
IEC   Information, Education, and Communication
IEDCR   Institute of Epidemiology, Disease Control, and Research
IMCI   Integrated Management of Child Illness
IPH   Institute of Public Health
IPHN   Institute of Public Health Nutrition
IR   Implementation Research
KII   Key informant interview
LAPM   Long-acting and Permanent Methods
M&E   Monitoring and Evaluation
MDR TB   Multi Drug-Resistant Tuberculosis
MIS   Management Information System
MNCAH   Maternal, Neonatal, Child and Adolescent Health
MNCH   Maternal, Neonatal, and Child Heath
MOHFW   Ministry of Health and Family Welfare
NAPN2   Second National Plan of Action for Nutrition

NCD	Non-communicable Diseases
NGO	Non-governmental Organization
NIPORT	National Institute of Population Research and Training
NIPU	Nutrition Information and Planning Unit
NNHP	National Newborn Health Program
NNS	National Nutrition Services
NTP	National Tuberculosis Control Program
OP	Operational Plan
PPP	Public-Private Partnership
RDM	Research for Decision Makers
SWOT	Strength, Weakness, Opportunity, Threat
TB	Tuberculosis
TDR	Special Program for Research and Training in Tropical Diseases
TFR	Total fertility rate
UPS	Uninterruptible Power Source
USAID	United States Agency for International Development
WHO	World Health Organization

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Acknowledgments

Executive Summary

'Implementation Research' (IR) in the health sector focuses on the implementation challenges of an intervention to understand and analyze the existing problems or challenges in a systemic way. Such an understanding aims at making implementation and/or intervention, including strategies and policies, to be effective, which will be scalable and sustainable. IR particularly targets the decision-makers and the program implementers to find a solution(s) to address the challenges through generating evidence and better implementation pathways in programs.

icddr,b has been implementing a USAID-funded five-year project titled "USAID's Research for Decision Makers (RDM) Activity" to support the 4th Health, Population and Nutrition Sector Programme (HPNSP) of Bangladesh by generating evidence and promoting the use of evidence-based research and policy analysis for health planning and decision making.

This study on needs assessment for IR was conducted by the RDM activity aiming at identifying gaps and the needs required for designing, planning, and implementing a tailored and needs-based training program on implementation research in selected public-health institutions and programs in Bangladesh. It explored the needs relating to four thematic areas of RDM: (i) Maternal, Neonatal, and Child Health (MNCH), (ii) Family Planning and Reproductive Health (FP-RH), (iii) Nutrition, and (iv) Tuberculosis (TB). As part of the scope of the study, the needs assessment focused on the extent and application of implementation research, related dynamics, barriers that influence the selected program implementation and policymaking, and the understanding of health managers and program personnel involved n implementation research and their capacity to assess, adapt, and apply research evidence for policymaking and program development.

The study on needs assessment for IR applied a qualitative methodology and was conducted among selected implementing bodies of four operation plans (OPs) of the 4th HPNSP (in line with the four thematic areas of RDM) and related policymakers and stakeholders. The selected four OPs are: (a) maternal, neonatal, child, and adolescent health (MNCAH) OP; (b) national nutrition services (NNS) OP; (c) Tuberculosis-Leprosy and AIDS STD Program (TB-L and ASP) OP; and (d) Family Planning Field Services Delivery (FP-FSD) OP.

The team comprising interviewed a diverse group of stakeholders, who are related to the four thematic areas of RDM (MNCH, FP-RH, Nutrition, and TB), from various institutions in Bangladesh - Directorate General of Health Services (DGHS), Directorate General of Family Planning (DGFP), Institute of Epidemiology, Disease

Control and Research (IEDCR), Institute of Public Health (IPH), Bangladesh National Nutrition Council (BNNC), Institute of Public Health Nutrition (IPHN), National Tuberculosis Control Program (NTP), National Institute of Population Research and Training (NIPORT), Bangabandhu Sheikh Mujib Medical University (BSMMU), and Bangladesh University of Health Sciences (BUHS).

The ideas and understanding of 'implementation', 'implementation challenges', and 'implementation research' were rather complex, and the respondents' engagement with the existing operational mechanisms, to a large extent, shaped their perceptions and knowledge on the issues. The personnel experienced in research, planning, and policy had a better understanding of the issues and the differences while few respondents referred to the existing Management Information System (MIS) as a means of 'mechanism of implementation research' towards management and policy decisions.

The selected programs pursued some mechanisms to measure performances. Many stakeholders perceived that MIS is a key source of data for the measurement of performance. Other mechanisms were also deployed for measuring the performance of programs, such as informal gathering, sharing with regional and national teams, including online discussions and field visits, commission out the survey/research to assess the status of programs, etc.

All the program-management authorities reported a range of implementation challenges. The nature and the extent of the perceived challenges were not the same across the stakeholders relating to the 4th HPNSP because of variations in interventions. Despite the wide variations or dissimilarities, the reported implementation challenges could be categorized into four groups, such as (1) technical/technological, (2) governance and management, (3) research and data management, and (4) social and geographical. The challenges spanned from structural-cum-institutional (e.g. management style) to personal (e.g. lack of skills in a particular issue or subject), and from 'inside program' (e.g. shortage of logistics) to beyond 'program boundary' (e.g. geographical or social constraints).

Using technology was perceived as one of the implementation challenges for the programs. Usage of machineries, such as GeneXpert machine, microscopy, X-Ray machine, UPS, refrigerator, etc., was an integral part of health services delivery. However, a range of issues posed a challenge on the way to the efficient implementation of a health program/intervention. Some common challenges were: unavailability of the required machine(s) and the technician(s), absence of training and required skills to operate the machine(s), and low level of maintenance of the machines to keep them functional. A combination of 3M (machine, manpower, and

maintenance) approaches might be supportive if these could be planned and implemented boldly and efficiently.

Governance and management, another perspective, is a critical issue for the effective implementation of health services. The issues here include the bureaucratic nature of management, shortage of skilled and trained human resources, limited financial resources (budget), structural or functional dependency on other departments or authorities (e.g. for procurement), frequent transfer of the officials, and the top-down decision-making process. One barrier to program implementation highlighted by several stakeholders included deviation from the planned and budgeted program during the implementation phase due to the complex bureaucratic procedures in decision-making.

Although the selected program offices, primarily the implementing entities for OPs, are not usually engaged in research activities. They, however, need to deal with a high volume of data (numbers mainly) rooted in MIS, which are primarily used for tracking the performance of the program and also for reporting the progress. These routine data, collected by the program staff, are often not planned and designed from a research perspective. There is a limited scope of scientific analysis of such data to produce evidence for decision-making. Lack of accountability (including weak monitoring and supervision practices from higher levels) and the absence of skilled personnel became a major barrier to the efficient use of MIS data. The respondents emphasized on regular monitoring and supervision, and stronger accountability mechanism within the system.

From a social and geographical perspective, the health workers (who are the implementers of health programs) reported different types of challenges that they faced in the field sites, especially in the remote areas. The few commonly-mentioned challenges were unavailability of transportation, variations between communities, shortage of logistics, etc. The respondents mentioned that they usually discussed the issues in regular monthly coordination meetings (both at the upazila and district levels) and tried to find a solution to overcome the difficulties. These solutions were often not based on any evidence or scientific methodologies, but primarily are handy practical options to meet the local need.

The stakeholders, working on implementing the selected OPs, recognized the importance of IR for program implementation, and identified the gaps in the capacity of conducting such research. They acknowledged the limited scope of conducting research within current OPs under 4th HPNSP (with some exceptions) and suggested capacity building and also the inclusion of operation researches and IRs within the

OPs. Many of them also understood and emphasized the need for research and evidence generation for program evaluation and implementation dynamics.

The respondents agreed that capacity building on research and data management could be one way of addressing the implementation challenges and of making the programs more effective and evidence-based. Such a capacity-building initiative needs to consider the following two issues:

- Identification of topics of the research training; and
- Identification of the target group for such training as the officials under the health system is not homogenous.

They also varied in terms of the level of education, confidence, and the nature of given work/responsibilities. They suggested selecting the 'right persons for the right training' using the 'right module for the right program' to deal with the above-mentioned dynamics.

The respondents made some common suggestions to address the existing challenges through implementation research. The issues were both technical and non-technical and can be grouped into the following three categories:

- Program-specific and its operations (includes program's strategic priority and operational mechanism; leadership and accountability; data management and reporting; and some technical competencies);
- Monitoring, research, and evaluation (includes the concept of monitoring, evaluation, and research; implementation research and its importance; context analysis; research methodology along with data analysis, report writing, and dissemination); and
- Evidence-informed policy influence (includes concept on data, findings, and evidence; programmatic policy context; implementation research and policy cooperation; and communications and advocacy).

The respondents also mentioned that engaging policymakers in such capacity-building initiatives would be important as they are the people who would adopt the findings.

They showed a positive interest in practitioners-researchers' collaboration. They identified icddr,b as an 'expert organization' with 'technical know-how' to be a good collaborator of the government for capacity-building on implementation research. This is an opportunity that icddr,b can cultivate through the RDM Activity.

1. Background

The idea of 'Implementation Research' (IR) has become an emerging concept and a methodological framework in research, specifically in the health sector. It tends to focus on the implementation challenges to understand and analyze a problem or challenge in a systemic way, further to make the implementation and/or intervention, including strategies and policies, more effective, scalable, and sustainable. Therefore, the idea has developed to solve a range of implementation problems through generating evidence for decision- making into the solution. Peters, Tran, and Adam define that 'implementation research is the scientific inquiry into questions concerning implementation'. They also clarify the purpose of IR saying that 'the basic intent of implementation research is to understand not only what is and isn't working, but how and why implementation is going right or wrong, and testing approaches to improve it (Peters, Tran, and Adam 2013).

The World Health Organization (WHO) is the leading entity to popularize the methodology because of the many gaps (e.g. know-do gap) and problems in public-health interventions in the developing and/or lower-income countries. The Research and Training in Tropical Diseases (TDR) program of WHO has an increasing focus on IR and introduced its first massive Toolkit for use in 2014 (WHO, 2014). icddr,b, an international health research institute in Bangladesh, has a close collaboration with the global initiatives on IR and earlier contributed to developing necessary materials, e.g. the above-mentioned WHO Toolkit. icddr,b's decades of experiences in the Bangladesh context recognize that focusing on the implementation challenges is essential since there are many gaps between knowledge and practices on the ground.

IR considers a set of principles in its applications. In exploring the implementation bottlenecks, it applies a multi-dimensional and multi-disciplinary approach (clinical and non-clinical approach that includes social, economic, and political systems or factors) to locate a challenge from the holistic point of view; focuses on the systematic process of evidence generation for integration; takes an account of the context for specific needs and sensitivity; and reflects the complex nature of situations in an institutional setting and system (WHO, 2014). While many academic types of research focus on the production of knowledge, IR pays attention to the use of research; therefore, it suggests for users' engagement in the research so that the evidence can be integrated into the decision-making process of policy and program implementation (Peters, Tran, and Adam, 2013). One important aspect of IR is that it is a cyclical process (WHO, 2014) aiming to be embedded into the program cycle (Peters, Tran, and Adam, 2013).

Because of growing interest in IR, icddr,b has been implementing a USAID-funded five-year project titled "USAID's Research for Decision Makers (RDM) Activity" to support the current health sector plan, the 4th HPNSP, of Bangladesh. The RDM activity aims at generating evidence and promoting the use of evidence-based research and policy analysis for health planning and decision- making. One of the focuses of the RDM Activity is to build appropriate capacity within Bangladesh to conduct quality research (including IR) and effectively communicate research findings to various stakeholders and generate a culture of using evidence in decision making. The RDM activity has identified four thematic areas to focus on: (i) Maternal, Neonatal and Child and Adolescent Health (MNCAH), (ii) Family Planning and Reproductive Health (FPRH), (iii) Nutrition, and (iv) Tuberculosis (TB). This need-assessment study was one of the many proposed activities under the RDM activity which aims to explore the needs of relevant stakeholders for future capacity-building initiatives on IR.

The USAID's RDM Activity, implemented by the icddr,b, conducted this needs-assessment study involving relevant stakeholders of the targeted program areas of the 4th HPNSP and applied a standard methodological approach. This report presented and discussed the findings of the assessment and identified gaps and needs required for designing, planning, and implementing a tailored and needs-based training program on implementation research.

The specific objectives of the study were to:

1. Explore relevant documents and strategic papers to identify the existing tools that assess the needs of implementation research training programs;
2. Identify and map the GoB organizations and institutions for the need for capacity development in implementation research;
3. Understand the extent and application of implementation research, including related dynamics, barriers that influence program implementation and policy-making; and
4. Explore the understanding of health managers and program personnel on implementation research and their capacity to assess, adapt, and apply research evidence for policy-making and program development.

2. Methodology

2.1 Methods of Exploration

This study on needs assessment for IR applied (i) results of the review of relevant literature, documents, and strategic papers on the IR issue and (ii) conduction of interviews (key-informant interviews (KIIs) and in-depth interviews (IDIs)) with the selected stakeholders from the selected public health institutions relating to selected OPs of the 4th HPNSP of MoHFW.

- **Literature review:** The review included relevant literature, documents, OPs, and strategic papers (including training manuals, curriculums, etc.) and aimed at identifying the existing tools used for assessing the needs of implementation research training programs. The existing tools and instruments developed by TDR/WHO, Johns Hopkins Bloomberg School of Public Health, and others were reviewed to develop and finalize the topic-guide/guidelines/tools for the needs assessment.

- **Interviews with stakeholders**: The study used a research strategy consisting of key-informant interviews (KIIs) and open-ended interviews with informants. In total, 16 respondents were interviewed and five of those were KIIs. The KIIs included policymakers at a higher-level of government officials from the MoHFW to describe the broader picture of the situations while in-depth interviews (IDIs) were conducted with the stakeholders at mid-level management of health programs. The respondents for KIIs were selected from the DGHS, IEDCR, NIPORT, BSMMU, and BNNC.

  The IDIs were conducted with Line Directors, Program Managers, Deputy Program Managers, and, in some cases, with officials at the upazila level to know about individual experiences and opinions regarding their respective programs. These included: level of understanding of characteristics of implementation research, modalities, outputs, and outcomes to relevant intervention areas; capacity to assess the rigor and quality of research undertaken and their relevance; capacity to adapt and apply research evidence for policy-making and program development. The respondents for IDIs were chosen from the DGHS, IPH, DHFP, IPHN, NTP, and BUHS.

2.2 Selection of Study Participants

This needs assessment study included a diverse group of respondents considering its purpose. The respondents are affiliated in different, pre-dominantly government

institutions, such as BNNC, IPHN, NTP, DGHS, DGFP, IEDCR, NIPORT, BSMMU, and BUHS. The respondents were from various tiers of the health system and ranged from policymakers to researchers to program managers and service providers. Most respondents were based on Dhaka/headquarter (HQ); however, few respondents were selected from the upazila level to explore the field-level perspective. We also tried to maintain a 'gender balance' among the selected respondents.

3. Findings

3.1 Findings from Literature Review

As mentioned above, this need-assessment study set its focus on four thematic areas of the RDM activity, such as MNCAH, FPRH, nutrition, and TB. Under this study, the team selected the following four OPs to focus on:

- Maternal, Neonatal, Child, and Adolescent Health (MNCAH);
- National Nutrition Services (NNS);
- Tuberculosis-Leprosy and AIDS STD Program (TB-L and ASP); and
- Family Planning Field Services Delivery (FP-FSD).

This section very briefly describes the key focuses (goal, objectives, components, etc.) of interventions in these selected OPs relating to the corresponding RDM thematic areas. The descriptions also included information from other relevant strategic documents.

3.1.1 Thematic Area: MNCAH

Under the 4th HPNSP, two OPs were related to the MNCH thematic area. These are maternal, neonatal, child, and adolescent health (MNCAH) and maternal, neonatal, child, adolescent, and reproductive health (MNCARH). Of these two relevant OPs, we selected the MNCAH OP, which is being implemented through the DGHS. The OP aims to improve the MNCAH status of the population in Bangladesh. The specific objectives are to (i) increase the coverage and use of quality MNCAH services; (ii) improve awareness, knowledge, and practice about the essential MNCAH issues; and (iii) improve the availability and quality of MNCAH services (MOHFW, 2017a). The program has the following five components:

- Maternal health;
- Expanded Program on Immunization (EPI);
- National Newborn Health Program (NNHP) and Integrated Management of Child Illnesses (IMCI);
- Adolescent Health; and
- School health.

The MNCAH OP primarily follows and delivers the services as per the essential service list of the Government of Bangladesh (GoB). The recently-revised 'Essential Health Service Package' (ESP) of the GoB includes maternal care, including pre- and post-conception care and obstetric care; newborn care (during delivery and after delivery); IMCI, EPI, adolescent, sexual and reproductive health; adolescent

nutrition; and screening of cervical and breast cancer (ESP, 2016). There are several services to implement under each of the above-mentioned service areas.

3.1.2 Thematic Area: FP-RH

Concerning the FP-RH thematic area of RDM, the entire Directorate General office of the GoB is dedicated to FP and population-related health services. There are seven different OPs under the Directorate General of Family Planning (DGFP). Among these OPs, one is dedicated to maternal and child health (the above-mentioned MNCARH OP), one is for planning, and the remaining five are for FPRH related services. These five OPs are Management Information System (MIS) for FP, Procurement, Storage and Supply Management-FP (PSSM-FP), Clinical Contraception Services Delivery Programme (CCSDP), Family planning Field Services Delivery (FPFSD), and Information, Education and Communication (IEC) for FP services. These Ops, implemented under the DGFP, directly work for the implementation of FP services in the field. Of these five OPs, we selected the most relevant one for the field implementation of FP services, which is the FP-FSD OP to explore the IR needs assessment.

The DGFP solely focuses on family planning interventions along with maternal and child care, and sexual and reproductive health and rights. According to vision and mission, the DGFP aims to ensure quality and equitable health care for all the citizens in Bangladesh by improving access to and use of health, population and nutrition services (DGFP website). The GOB has made commitments to increase access to FP as part of the global FP2020 and has set targets to reduce the total fertility rate (TFR), to increase the contraceptive prevalence rate (CPR), increasing the share of long-acting and permanent methods (LAPM), reducing the unmet need and discontinuation rate of FP methods (MoHFW, 2015). The commitments are aimed at ensuring the quality and equitable FP services for all the eligible couples (ELCO) by improving access to and use of population and family planning services, particularly by the poor. Such commitments have the potential to transform the existing family planning provision, extending high-quality services at scale, and reaching the most marginalized and the people-in-need.

The FP-prioritized interventions include service delivery; information, education, and communication (IEC); skilled workforce; procurement and supply management of necessary commodities; Management Information System (MIS), and planning and management. The selected FP-FSD OP of the 4th HPNSP 2017-2022 aims to contribute to increasing the CPR; provide family planning services to the target population with special focus on the hard-to-reach and low-performing areas, including urban slums and adolescents; improve the quality of care; strengthen the

GO-NGO private-sector collaboration; reduce the level of unmet need of contraceptives and discontinuation rate (MoHFW, 2017d).

3.1.3 Thematic Area: Nutrition

The interventions included in the National Nutrition Services (NNS) OP, under the 4th HPNSP, aim to reduce the level of malnutrition and improve the nutritional status of the people of Bangladesh, with special emphasis on children, adolescents, pregnant and lactating women, elderly and underserved population of both rural and urban areas in line with the National Nutrition Policy 2015.

The interventions of NNS OP have three categories of activities, such as nutrition-specific, nutrition-sensitive, and system strengthening (MHFW, 2017b). The objectives of the NNS OP are to:
- Strengthen the mainstreaming of the nutrition issues into relevant plans and programs;
- Scale-up nutrition services through the DGHS, DGFP, and relevant ministries, departments, and organizations to prevent and reduce under-nutrition with special focus on children, adolescents, pregnant and lactating women, elderly and underserved population;
- Prevent overweight and obesity;
- Develop and strengthen coordination mechanisms for nutrition with key relevant sectors and stakeholders for ensuring a multi-sectoral approach at the national and sub-national levels;
- Strengthen the food-safety activities, including the capacity development of the National Food Safety Laboratory at IPH;
- Improve the capacity of human resources to manage, supervise, and deliver quality nutrition services at different levels;
- Strengthen the institutional capacity of IPHN; and
- Strengthen monitoring, evaluation, and surveillance for nutrition services using the Health Management Information System (HMIS).

3.1.4 Thematic Area: TB

The TB-L&ASP OP includes a detailed operational plan for the TB program in addition to Leprosy and AIDS/STD programs in terms of management and services under the 4th HPNSP. The study considered the TB program only which under this OP aims to achieve zero deaths, disease, and suffering due to tuberculosis. Its programmatic objectives have set to (i) attain annual case detection of all forms of TB over 85% by 2022; (ii) sustain and attain the treatment success rate of at least 90% in non-multidrug-resistant (non-MDR) and 75% in MDR TB cases; and (iii) detect over 80%

of the estimated MDR TB cases and enroll 100% of the detected cases under treatment.

According to the OP (MoHFW, 2017c), the priority activities of the program include:
- Replace ZN microscopy to LED microscopy and establish new microscopy centers to ensure 150,000 people per microscopy site;
- Recruit at least one Gene Xpert in each upazila;
- Establish a chest disease clinic at the District headquarter and medical colleges by 2022;
- Test all the presumptive TB cases by Gene Xpert by 2022
- Strengthen the diagnostic facility of tuberculosis by X-ray; implement Shorter Treatment Regimen for MDR TB in all the districts and mandatory notification from the private sector;
- Procure all the 1st-line drugs from country own funding;
- Increase the detection of TB in children;
- Expand TB care for high-risk populations, such as prisons, garments industry, slums, and migratory populations;
- Strengthen the engagement of private providers in the diagnosis of TB;
- Community participation through multipurpose health volunteers for the purpose of detection;
- Ensure the uninterrupted supply of quality-controlled drugs at all the facilities;
- Strengthen supervision, monitoring, and evaluation of activities and staff responsibilities at various program levels;
- Strengthen electronic reporting systems at the peripheral sites; and
- Continue quarterly monitoring meetings at the district level and strengthen and expand operational research activities.

3.1.5 Review of the Existing Tool on IR Tool

The literature and tools specifically on Implementation Research training need assessment processes were few. Most literature on needs assessment, even in the field of capacity-building in the health sector, discussed such methods and tools which can also generally be applied in other sectors. Therefore, this study found a gap in the availability of any unique tool to assemble a needs assessment of implementation research training programs.

One paper emphasized on providing training to practitioners and administrators for effectively using research in practices and argued for a system to support practitioners and administrators in implementing and sustaining the use of evidence-based practices (Danielson, Doolittle and Bradley, 2007). They pointed out some basic criteria for choosing an assessment tool that would have the most relevant

data to enquire about a certain situation, which would meet training needs efficiently, and assess the needs accurately (ibid).

A World Bank document on capacity assessment mentioned about identifying, analyzing, and deciding on the process, and considered several tools, including in-depth interviews and focus-group discussions. It discussed different types of needs assessment in which the authors identified the scope of needs assessment in the area of operational decisions (Watkins, Meiers, and Visser, 2012). The idea of 'operational decisions' included the daily decisions to be made for projects to be implemented and focuses on achieving individual and team results. However, they also considered the analysis of strength, weakness, opportunity, and threat (SWOT) in the needs assessment process (ibid).

Another report emphasized on systematic capacity-building and identified a pyramid of nine separate but interdependent components with a focus on a four-tier hierarchy of capacity-building needs, which are: (i) structures, systems, and roles; (ii) staff and facilities; (iii) skills; and (iv) tools (Potter and Brough, 2004). Another paper chose 'situational analysis' in a research capacity-building program in the African context to determine the specific research needs of participants and to identify barriers to or challenges for the successful implementation of the research capacity training program (Veronica Njie-Carr *et. al.*, 2012).

3.2 Findings from Interviews

3.2.1 Understanding of 'Implementation', 'Implementation Challenge', and 'Implementation Research' among the Study Participants

The respondents' understanding of 'implementation research' was heavily shaped by their level of experiences (previous or current) or engagement with the implementation of the operational plans and on the overall national context of the operational mechanisms. The respondents, who somehow were connected to research and planning, knew very well what the 'implementation research' is and how it benefits a program. It was also true for the policymakers and stakeholders who were involved with strategic development, and they were able to differentiate 'implementation', 'implementation challenge', and 'implementation research' very well.

Other respondents, smaller in number, had very good knowledge of 'implementation' and its challenges (often referred to 'problems') but not on 'implementation research'. Most respondents referred to the existing MIS (e.g. DHIS2) as a means of 'mechanism of implementation research' for use in management, policy decisions,

etc. Therefore, to the respondents, the MIS, limited to some set of pre-defined indicators, is a major element to build (and limit) their idea of 'implementation challenge' and 'implementation research'.

The level of understanding of IR in the field level might be lower as one of the HQ-based respondents stated:

> "They {the field-level staff, health workers in particular} might not know or understand the challenges scientifically. However, they usually use their experience; for example, Community Health Workers (CHWs) are working in the communities and they know what to do and how to address a challenge when they face."

The practices of 'sharing', both at the local-level coordination meetings and interactions between the HQ and the field offices (e.g. video conference) were the strong mechanisms to solve their understanding of 'implementation challenge'. Therefore, the interviews gave a strong sense that redressing the challenge was more informal in nature and not necessary to be applying any scientific methods or procedures although carrying out research was not uncommon.

3.2.2 Measuring Program Performance: the Existing Practices and the Connection to IR

Measuring performance is one of the areas that all the selected OPs emphasized. Such performance measurement, as indicated before (e.g. DHIS2 as means of measuring performance and a mechanism of 'implementation research'), is perceived or identified as a mechanism of 'implementation research' by the respondents. It seems that MIS is the key element that they depend on for tracking progress; however, it is not clear how they use such MIS data in further steps, such as planning and policy-making. In general, there are four broader categories of data sources and mechanisms (summarized in **Box 1**) that help the health-sector authorities to track progress and see results.

> **Box 1: Measuring Progress: Existing Provisions**
>
> **DHIS2**: an online mechanism to track progress and changes against ranges of indicators. The DHIS2 data are also used in, or refer to, different reports, e.g., yearly progress report.
>
> **MIS, DGFP**: FP MIS is the store of Information of DGFP since 1979 to maintain a regular system of data collection and reporting on National Program Performances of Family Planning, RH & MCH Services.
>
> **Existing monitoring and supervision activities**: refers to a conventional meeting among the officials at all levels and online-based video conference with higher-level supervisors (including national-level officials), also field visits to know about the status of progress and/or success/challenges in the intervention areas. Such sharing is important to take decision(s) by the senior officials.
>
> **Survey and research**: NIPORT plays an important role in all types of national surveys. For research, most activities are contracted out through the bidding process.

Although the data-compilation mechanisms are in place, the quality and use of such data remain a critical concern as the study explored. Many respondents identified this concern as a serious issue towards measuring the program outcomes and the health outcomes. They found the 'way' of data being generated as a problem as they perceived that the field staff sends data as part of their 'obligations', not as part of their 'products' which should have ownership and commitment. The field-based staff 'remain too busy' in everyday assignments, although they should send data by a fixed date. It might not be unusual that they perform their 'duty' by sending the data without much thought and quality check.

The respondents also mentioned that a weak monitoring system might be another reason for the low quality of the data. One respondent from the NTP stated,

> *"We do have some weaknesses in the monitoring and supervision of our activities. So, there may be some gaps in the quality of data we collect."*

A similar perspective was reflected in a comment of an FP official.

> *"We have MIS but we do not use data from our MIS. We depend on the Bangladesh Bureau of Statistics (BBS) or Bangladesh Demographic and Health Survey (BDHS) data for reporting."*

Data-management skills of the staff were another reason which might be responsible for doubt or question about data quality. The respondent from the IEDCR, who served many years at Upazila health complex (UHC), expressed that doctors at the UHC level were not interested in reporting data efficiently as they lack the proper understanding of data and its importance; however, using a laptop might be a status symbol for these doctors at rural upazilas. One of the officials from the NNS mentioned about their newly-initiated emphasis on data quality through improving the skills of all level staff. He added,

> *"Earlier we had a low focus on data interpretation but now we are increasing our efforts to improve data interpretation."*

The quality of data has, in particular, significant implications when independent research studies report differently for the same indicator than the GoB database and sometimes initiate debates between agencies (one example is given in **Box 2** which was described by a government official responsible for Vitamin A Capsule Campaign in 2017). Thereby, the GoB might need to intervene to ensure the quality of data through regular reporting mechanisms, such as DHIS2 and MIS, DGFP.

We found varied opinions on the need and use of research data from the respondents. A senior official of NIPORT stated that his organization plays a very important role in health research. They carry out periodic surveys applying a range of indicators to capture the progress of national health indicators. Many decisions were made based on the findings of these surveys (e.g., Bangladesh Demographic and Health Survey (BDHS) and Bangladesh Maternal Mortality Survey (BMMS).

Box 2: Example of Data Conflict in Measuring Program Performance

According to the GoB data source, the success rate of the vitamin A capsule feeding program was 98%. However, as per a third party (non-government) survey report, the success rate was 63%. It was explored that the survey was carried out after six months of the campaign (23 December 2017), and because of such a delay, many parents could not recall the campaign program and might have provided misleading information. It was also explored that the survey enumerators did not show the samples of vitamin capsules to mothers for their easy understanding and recall. The GoB officials concluded that the figures varied due to the above-mentioned methodological issues of the survey.

One official from the NNS stressed that research reports often highlight only the problems or situations on the ground without suggesting any possible solution to the problems identified. In this regard, another respondent stated,

> "We can see lots of research papers. But these may not have enough use. Research findings should follow up into taking further actions on using their findings into policy. The DGHS commissions out research studies to other institutions, and there is a scope for disseminating more and take actions with such research."

There was evidence of policy changes based on evidence generated from data or research findings. The respondents from the NTP gave an example; as per the previous guideline, the NTP considered 'cough for three weeks' to conduct sputum test for a suspected TB case, and the new guideline revised the duration as 'cough for two weeks' based on research evidence. Moreover, as per the new guideline, if the suspected case has a history of close contact with any TB patient, they suggest conducting a sputum test within one week.

The respondent further highlighted the practice of NTP to revise and update their guidelines based on research evidence. The NTP officials also acknowledged that the government-NGOs partnership in TB Control Programs enabled them to produce different study reports at different levels. These reports supported the national authorities in different ways by providing research evidence on the various dimensions of TB programs for continuous revisions of the program approaches.

Several respondents indicated the lack of any accountability or monitoring mechanism for commissioned-out research studies. They expressed it as a missed opportunity/scope of the GoB institutes (e.g. DGHS) which commission out the research studies to other institutions through the bidding process. One respondent from the NTP also pointed out the gaps in the system by saying,

> "We have three directors, and one of them is assigned for research; however, being in papers does not mean the same in reality. We have a very good structure but the application may not be the same."

One respondent from the DGFP said that they kept options (and budget) for researching the operational plan but this is often the least preferred activity in practice. This might be a structural/system problem within the government as an NNS official said that they can carry out an internal survey, but not research, as researching by themselves "would not be accepted" to other stakeholders.

Therefore, the dependency on internal MIS data for tracking the program status was very high irrespective of the quality of data. The stakeholders and the policymakers also very commonly use the findings of research reports by other recognized organizations, such as icddr,b, BRAC, Save The Children, Plan Bangladesh, etc. The respondents acknowledged that they do understand the importance of using evidence and only collecting data is not adequate for generating evidence. Thus, one respondent from the NTP said,

> *"We see lots of figures and do not have enough understanding of the real situations in terms of the implementation."*

Within these contexts, measuring program performance may be a critical issue to revisit; what works well and what does not, and what are the key challenges for implementation; initiate and establish some standard system to measure these and take necessary actions to make evidence-based decisions which will positively affect program performance.

3.2.3 Implementation Challenges and Redressal Mechanisms: Respondent's Experiences

The nature and extent of perceived implementation challenges varied across the selected programs primarily because of the nature of interventions. However, there were some commonalities. An important perspective was that their perceptions were shaped by the respondents' experiences and professional orientation. Therefore, their perceptions of implementation challenges were focused heavily on technology, skills, and governance without addressing so many social issues. The following diagram 1 shows the various types of implementation challenges stated by the respondents.

Diagram 1: Types of implementation challenges
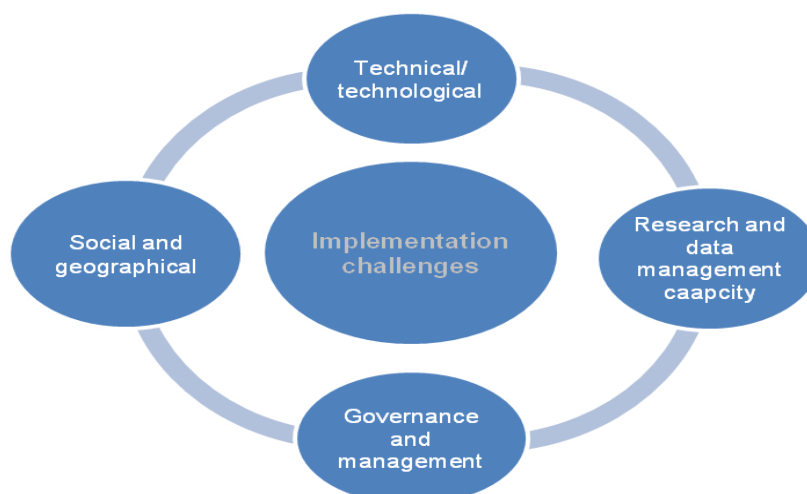
3.2.3.1 Technical/Technological Perspective of Implementation Challenge

The use of technology and machinery is a very important dimension for many health programs and the delivery of health services. A range of issues related to ensuring and using such machineries pose challenges to the smooth implementation of a program. The issues are alarming in the TB Control Program as indicated by the respondents. There are several machines (e.g., microscopy, X-Ray, GeneXpert, etc.) that they need to handle in the TB program, and emphasis should be given to the proper use of such machinery in favor of effective program implementation.

The TB program runs on a partnership basis with NGOs. The respondents from the NTP informed that while the partnering NGOs have dedicated staff (technicians) for laboratories, the technicians for the government counterpart are assigned for multiple responsibilities and always remain busy with their daily tasks (see **Box 3**). This might affect their performance to conduct diagnostic tests which are their prime responsibility as a medical technician. The respondents also mentioned that the availability of machines is often not enough for the successful implementation of a program, rather regular maintenance of the available machineries is quite crucial. Some machines (e.g. GeneXpert machine) are very sensitive and require a special environment (e.g. UPS and air conditioner support) for proper functioning which often becomes a challenge at the Upazila level due to low voltage and frequent load shading.

> ### Box 3: Multiple Responsibilities of A Medical Technician At Government Facility
>
> The medical technicians of government health facilities are given multiple responsibilities. They perform various tasks and often could not be uni-directed in their work. They need to attend an average of 15 patients a day in a UHC. The technician must run the GeneXpert machine 3 times a day and each round requires around 2 hours. The person also has to do the activities relating to other pathological tests. Moreover, he is often given a lot of administrative responsibilities of UHC. So, he sets his priorities depending on the situation. Often, they seem puzzled with so many responsibilities or simply go for to attend whatever their supervisor instructs.

Another commonly-mentioned challenge was timely repairing and servicing of non-functional machinery. The lengthy and complex process of repair and maintenance of machinery, sometimes with minor technical issues only, do not support positively for efficient program implementation. This was more commonly reported by the stakeholders related to nutrition and MNCH programs, where non-functional logistics and medical equipment was a major barrier for service delivery in remote areas. However, this is also true for the FP program and the overall health sector. One

respondent from the FP program working in an upazila (sub-district) also reported security concerns for their available logistics at a union center due to the absence of a nightguard.

3.2.3.2 Governance and Management Perspective of Implementation Challenge

While the GoB seems to be very committed to ensuring health services for all, the issues relating to governance and management appear to be critical for the effective implementation of the health services. The respondents identified the {bureaucratic} nature of work in the government sector as one of the key barriers. Other issues/challenges included a shortage of human resources, frequent transfer of the officials, the structural and functional dependency of various departments, and the top-down decision-making process.

A high official of the BNNC reported that about one-third of the field-based positions were vacant, and the recruitment process is quite complex. He mentioned that many assignments were carried out through outsourcing to private firms but their low-paid demoralized staff often could not deliver quality services as per the required standard. According to the official, the government is aware of the situation but has limited options to recruit such a high number of staff under the revenue budget at one go. Also, the GoB is promoting Public-Private Partnership (PPP) to work together with other development partners applying a 3M approach – multi-sectoral, multi-stake, and multi-level. In the case of NTP, they currently have 193 GeneXpert machines; many of these are being managed by NGO partners, as the GoB does not have adequate human resources to operate the machines.

Rapid turnover or transfer of officials was mentioned as another major challenge in the government mechanism. An official, who gained knowledge and expertise in one program over the years and had the potential to contribute to that program, often gets transferred to another sector or department. It largely affects the work but the respondents felt that they have 'nothing to do' with this system.

The structural and functional dependency of departments/authorities was another area identified by the respondents as a hindering factor for the effective and timely implementation of programs. This is aligned with the GoB system but identified as a problem by the respondents. For example, if the Line Director of NTP wants to get a new machine, he/she needs to approach another director under the DGHS for procurement. The NTP alone does not have any authority to buy a new machine. This is also true for the procurement of new drugs. This dependency creates severe problems in emergencies. The IPHN is responsible for the implementation of

nutrition-related services across the country but they do not have any assigned human resources. Presently, they have to depend on the staff of other sectoral programs for nutrition-related interventions.

A top-down approach is the most common decision-making approach in the government structure. Such an approach often ignores and conflicts with realities on the ground. One FP official from the upazila level stated,

> *"We receive directions from higher officials, we just carry forward them … there is little provision of local-level planning in the real sense."*

The situation is a bit different and positive for the nutrition sector which is guided by the BNNC, the policy body which is led by Prime Minister. It is much easier for the BNNC to decide to implement, although hierarchal, primarily because of its status.

Reduction of the budget was another issue, identified and mentioned by the respondents that affected effective program implementation, although it was not possible to explore this issue in detail and by cases. They reported that an implementing team does not often receive the allocated budget for various reasons. This affects the implementation of activities that a program planned for. Another issue raised by some respondents was the non-disclosure of barriers or challenges in front of higher officials. A common cultural practice is that lower-level staff members often do not dare to raise the problems or concerns in a meeting with senior officials. This culture of hiding problems, instead of discussing the issues openly to find out a solution, often hinders the program implementation.

3.2.3.3 Perspective of Research and Data Management Capacity

As mentioned before, the officials of the selected OPs are the implementing entities, which, in general, are not engaged in research activities, except commissioning out studies to external parties. They, however, need to deal with a high volume of data (numbers mainly) rooted in the MIS (e.g. DHIS2, MIS of DGFP, etc.). Such a system is very important to track and reporting progress for various programs. Many respondents raised the issue of further managing and using the data for generating evidence. One respondent from the IPHN said,

> *"We do not carry out research by ourselves. But we have strong MIS under the DGHS. This is called the DHIS2. We have a lot of data from the field. We receive such data from community clinics directly. We have information on monthly progress—what is happening in the field. The*

> Nutrition Information and Planning Unit (NIPU) uses the data only for internal management, newsletter, etc."

An official from the BNNC said,

> "We have lots of data, but we do not know how to interpret such data for implementation."

This situation was also applicable to other OPs. He further added,

> "There is no initiative till now to analyze data in the BNNC. Since the start in December 2017, the BNNC is making gradual progress. In the Second National Plan of Action for Nutrition (NAPN2), there are indicators to track progress, but we need time to see the progress. I am responsible for M&E here but I do not have enough knowledge or expertise for this".

The most important concern was about addressing the implementation challenges in a systematic way based on the issues raised by the respondents on lack of capacity for data analysis, and using the MIS data to generate evidence. The problem becomes double as the programs often could not carry out research themselves and are generally unable or reluctant to use data for further actions. Another respondent from the NTP said,

> "We do not know about the gaps in addressing the challenges at the local level. Besides, we do not have the required skills and expertise. If you want to overcome a challenge, you must have enough information, not numbers only".

The challenge of using data becomes aggravated in some cases if the data do not reflect the real situations on the ground for some reason. One NTP officials narrated,

> "People tend to hide problems; so, I am not sure how they generate evidence, except the number-based progress in specific forms."

Lack of monitoring for program implementation was another issue that was highlighted in the interviews. The respondents indicated that higher officials often exhibit reluctance in monitoring the implementation regularly. One retired official of the NTP stated,

> "If you really want to generate authentic evidence, you must ensure effective monitoring by the senior officials. I don't see such interest there."

Capacity building on research and data management can be a possible long-term strategy to deal with the implementation challenges and make the programs more effective and evidence-based. However, the respondents suggested that any future capacity-building initiative must consider 'what training material' would be helpful for 'whom'. The respondents mentioned that generalized modules (universal for all) are often not suitable for specific groups; rather training modules need to be customized to address the specific needs of different groups for efficient capacity building. They also reported the inappropriate method of selecting training participants which often happened in the Govt. system.

As per the respondents, many implementers (program managers and field workers) might lack the capacity for research and data management. However, few respondents also reported cases of deficient knowledge and skills required for a specific job among the field-level managers and workers, specifically in the TB program. One of the NTP respondents said,

> *"There is a lack of required capacity on how to detect TB and how to report. I have seen doctors who did not hear about the DOT method but he was assigned for the treatment of TB. Detection of TB is very sensitive as someone should know how to collect samples and what is the best way of carrying out the tests, but I am in doubt of how it is going on."*

A similar gap in data-management capacity was also found in the family planning sector. Initiatives have already been taken to address this gap in capacity. An official of the NIPORT mentioned their ongoing plan to train up FP officials (from all levels) on data management. He also mentioned the declining priority (to the policymakers) of research methodology courses for the FP officials which the NIPORT used to offer previously.

Given the above scenario of gaps in capacity for research and data management, it does not mean that research in the health sector is missing or left out. There are many research activities currently going on by other research organizations and development partners. However, opportunities are there to improve the coordination among the institutions (including coordination between organizations and Govt. offices) for dissemination and use of findings for policymaking.

3.2.3.4 Social and Geographical Perspective of Implementation Challenge

Several social and geographical issues were identified as challenges to program implementation. The respondents posted in peripheral districts primarily reported these issues; however, the Dhaka-based respondents also mentioned some of these

issues. Poor road communications and deficient infrastructure were common challenges in remote rural areas. The respondents mentioned common difficulties, such as limited transportation, community reactions, logistics shortage, etc., faced by field-level health workers. An upazila-level FP official mentioned about the social acceptability of FP methods and said that the local people there still feel shy to receive condoms from them.

These challenges were generally and informally shared and discussed at the local-level meetings with supervisors. However, these were usually not documented in a formal reporting system. One respondent from the MNCH program said that the health service situations were better in the urban areas, including the district-level facilities but may not be as good in the upazila level and remote areas. He also specified that provider retention at the upazila level and below and level of awareness among the people in these areas were two important factors for such a situation.

3.2.4 Addressing Implementation Challenges in the Existing Mechanisms

Although there was not any standard mechanism to address the implementation challenges in the health sector, the field-level implementers and managers often do use/adapt some practical ways to mitigate the issues they face. However, a lot of these options are top-down in nature and very hierarchical. These mechanisms to address the implementation challenges by a different layer of management authorities are often not scientifically validated and also not well-documented. In the boxes (**Boxes 4-8**) below, we have summarized some real-life examples to show the efforts of program entities in addressing the challenges during program implementation.

Box 4: Volunteer Recruitment for Vitamin A Capsule Campaign

For a day-long vitamin A campaign, the IPHN usually needs about 240,000 volunteers to be engaged in the 120,000 field sites. Teams from the IPHN provide training to these volunteers; however, on the actual campaign day, trained volunteers often depute other un-trained personnel for the campaign activities. These deputed untrained workers could not maintain the standard guideline for feeding the vitamin A capsule to children, which resulted in some accidents or calamities. Thus, the IPHN high officials, in consultation with all the upazila- level health officials, decided to engage local NGO workers as volunteers. They highlighted a few positive attributes of NGO workers as the basis for this decision. The mentioned attributes were: NGO workers usually have a full list of local people, have a better sense of responsibility and commitment, and have a better knowledge of health situations than newly-recruited volunteers.

> ### *Box 5: Innovative Solutions as Part of Addressing Challenges*
>
> *The IPHN officials at the national level (based in Dhaka) directly talk to the upazila-level managers from 69 upazilas on every Tuesday and share with them the experiences on many issues. This open platform of sharing information helps them know some innovative ideas (which might be working successfully in one site) and to take corrective measures (if anything goes wrong) for implementation activities at the local level. One such innovative idea was establishing collaboration with the Social Welfare Authority at one upazila where they provided a kit costing BDT 2,000 to the mother who opts for normal delivery of her child at a hospital. Sharing of this idea in the open meeting had encouraged officials from other upazilas to think about such collaboration in their health facilities.*

> ### *Box 6: Taking Insights from Studies Conducted By Different Entities*
>
> The DGFP uses the information from the BDHS report conducted by the NIPORT for FP-related indicators at the national level. The NTP implements the TB Control Program in partnership with an NGO consortium led by BRAC, where government officials are responsible for the supervision and monitoring of all the activities. There are 27 NGOs in that consortium for supporting the government. They produce various reports on the interventions and program implementation. The NTP also carries out surveys (prevalence survey, drugs-resistance survey, etc.) at the national level. These surveys help the NTP authority to know the implementation status, gaps, and challenges, and outcome indicators for the TB control program (TB case detection rate, care-seeking behavior for TB, etc.).

> ### Box 7: Direct Advocacy to Senior Authority
>
> Advocacy with decision-makers is important, and it works well. The NTP officials directly appealed to the Minister of Health and Family Welfare on the issue of human resources at the field level. The Minister committed to the faster recruitment and deployment process for required human resources to the uninterrupted implementation of TB control program activities.

> ### *Box 8: Inter-ministerial Coordination*
>
> The BNNC was formed, lead by the Prime Minister, as the authority for mainstreaming nutrition policies within 17 ministries and their corresponding divisions in the government system. Previous experiences showed that the government. officials usually provide higher importance when a letter is signed and issued by the Cabinet Secretary. This category of memos and letters also get higher *importance at the inter-ministerial committee and thus the relevant ministry can easily direct that letter to their officials at different levels for better support and coordination.*

3.2.5 Building Capacity on Implementation Research

The respondents, who were related to implementing the OPs and health programs, reported a range of implementation challenges in their work. Some are structural-cum-institutional (e.g. management style) while some are personnel-related (e.g. lack of skills in a particular issue or subject), and some others are completely beyond 'program activities' (e.g. geographical or social constraints). A core issue connecting all these implementation challenges was the capacity of the field workers and program managers to identify the challenges and bottlenecks and exploring the possible solutions to overcome those bottlenecks. This assessment study explored the need for capacity-building among the government. officials and related stakeholders for increasing the efficiency of program implementation. This study specifically explored the possible ways of building their capacity, on the implementation research, in particular, to enable them to address the implementation challenges more effectively.

The OPs usually do not include plans to conduct research themselves (with some exceptions); however, they often apply a form of acceptable methodology to understand the program dynamics. In many cases, they are dependent on the MIS to generate data and its further usage. Some OPs do have a clear indication for monitoring and research activities, for examples, the OP of NNS focuses on strengthening of monitoring, evaluation, and surveillance for nutrition using the HMIS (MoHFW, 2017b); the OP of TB, Leprosy, and AIDS/STD emphasizes on the continuation of quarterly monitoring meeting at the district level and strengthening and expanding operational research activities (MoHFW, 2017c). Therefore, many respondents recognized the need for capacity-building on the implementation research of their staff members. However, this also includes some other technical issues, such as improved skills on equipment management (e.g. diagnosis of TB).

While the implementers (program managers and health workers at the community level) need capacity-building on 'implementation research', the notion of 'implementing people' (means implementers) was not homogenous across the respondents. In general, by 'implementing people', the respondents indicated implementing staff and volunteers, ranging from very senior officials at the national level to health workers at the community level. Few respondents mentioned that every person is important for an implementation process. Different tiers of implementers have differences in their level of education, knowledge retention capacity, confidence, and the nature of work.

Therefore, any future capacity-building initiative should carefully consider two issues: (i) topic of training and (ii) targeted participants for that training. For any

such future training program, the respondents suggested considering all the 'tiers' of implementers and their 'real needs' for feasible training design. They, however, brought about a few common issues for capacity development to address the existing challenges through implementation research as discussed in the following paragraphs:

The respondents mentioned that many implementers often deal with data as part of a data-management system and reporting. There are some specific forms, manuals, and guidelines on the regular data-management process, from data collection to summarization. The regular data-management process is supportive to inform implementation status, identify major challenges, and possible measures to improve the implementation. Several respondents indicated the gaps in this entire process and the capacity of the relevant personnel. One NTP official narrated,

> "The government has some sort of mechanism to track implementation progress but that is not research. The district-level officials get familiar with numbers and submit progress reports but don't know how to interpret these numbers."

Data inconsistency was another concern for a few respondents. One official from the NTP said,

> "Data collection is one thing and its use for a program is another thing. For example, we are saying that, since 2011, 1.6% MDR among new cases and 29% among retreatment cases but, in reality, we see that it is below 1% for new cases and 2 or 3% for retreatment cases. So, when writing a new proposal, the number of cases varies."

Therefore, building capacity on data management was one of the areas to focus on as identified by the respondents. Since the government has a system, and if the system works perfectly, the senior officials would be able to know the real situation of program implementation. The respondents also emphasized regular monitoring, supervision, and accountability mechanism within the system. The issues of 'data management' and 'research' (or 'implementation research') had a clear difference to the respondents, and also among the senior officials in particular. While the programs have a 'data-management' system, it does not necessarily mean a research mechanism exists there. An NTP official clearly stated,

> "Since the NTP does not have any strong mechanism to do research, there is no evidence too. Well, there are lots of reports including evaluation

> *reports of donor-funded projects but the question is: who will turn those into evidence?"*

Accordingly, the respondents emphasized on building capacity on different aspects of research, inducing sampling, methodology, analysis, and dissemination of findings. The respondents expressed that such capacity-building is extremely important as the implementers should *own* a program and they are *inside* the program. It is reflected in the view of an NTP official,

> *"When the program people know the research, then there will have a good impact on the implementation process. We need to design operation plans or health programs keeping some in-built research. When an external researcher conducts research, s/he may not own the program."*

An official from the IEDCR said,

> *"There are so many brilliant people who might be interested in research/implementation research. There should be a talent-hunting system to use them."*

The NIPORT conducts research and surveys on the health and population issues, and also offers training to the FP officials across the country; their researches were also not in-built within the program. As one senior official from the organization said,

> *'We conduct research for them. That means there is a minimum scope of actual engagement of the implementation people (FP officials) in such research, and it often does not ensure the involvement of an implementation staff into the research process."*

While most respondents agreed and emphasized that carrying out research is important and required, they also recognized the gap within the government system for researching unless there is any donor obligation (e.g. evaluating a donor-funded project or program). Therefore, within the government health system, not all the personnel in all the sectoral programs needs to be used to the research process. The study identified that there are some initiatives to orient research courses (e.g. research methodology) to groups of officials but not always on evidence-based research and its dissemination. One of the respondents, who is very much interested in evidence-based research, said,

"We receive training on research methodology but the modules should be updated. New evidence should be included in the course to inform the updated information to the participants."

While the respondents gave importance to capacity-building on data management and research, their focuses are not limited to technical aspects of the issue only (see the **Box 9**). They highlighted some other non-technical issues too, as these strongly implicate the data-management and research process. Monitoring and supervision, accountability, dissemination, influencing policy people, effective coordination, etc. also are equally important for an effective result. Such issues, to a large extent, involve non-technical people, e.g. administrator, a policymaker who is not directly engaged in data management and research but holds an important stake in the research process and should consider or include in the capacity-building initiative

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Box 9: Capacity Building on Implementation Research: Some Opinions of the Study Participants

Acceptance of research evidence by policymakers: If the policymakers do not accept research evidence, it cannot be integrated into implementation. If the policymakers accept and are willing to integrate evidence in the policy framework, it will automatically be placed in implementation.

Setting targeted personnel for training: Training is essential but there is not adequate training for some reason. There is a challenge of providing training as trained officials are often being transferred after a few days. What would be the outcome of such training? There should be a policy direction to ensure the right people in the right place at the right time. The participants for training are randomly selected to receive training. It may happen that the right person for the right training has not been selected.

Gap between the HQ-based officials and the field-level implementers: The implementing people, especially at the field level, do not know what research is carried out and what the research findings are.

Dissemination and use of research: The DGHS commissions out research to other institutions. More emphasis should be given to disseminate and use of the findings from those researches.

3.2.6 Issues for Capacity Building

This needs-assessment study identifies both technical and non-technical issues to be potential contents for a possible implementation research training program. The table below shows the list of topics along with the rationale for proposing the topics:

Possible Areas of Topic	Rationale
Program and its Operations	A transfer is a regular process in the government system when a new official joins; s/he often lacks the knowledge in details about a program's operations including its MIS. Some officials also need to have sound technical skills to perform their duties.
X Program and it's Strategic Priority/Significance in Bangladesh	
X Program and its Operational Mechanisms	
Leadership and Accountability in Management	
X Program and Its Data Management and Reporting System	
Technical Skills and its Use in X Program	
Data Management and Research	The officials, in general, lack of knowledge on data management and research; even the officials who are assigned for MIS and reporting are unable to use data scientifically. They should be able to know the implementation dynamics from a research point of view.
Basic Concept on Monitoring, Evaluation, and Research	
Implementation Research and Its Importance	
Context Analysis	
Research Methodology	
Basic Statistics and Quantitative Research	
Qualitative and Participatory Research	
Sampling	
Data Analysis	
Data Validation	
Report Writing	
Dissemination	
Evidence-informed Policy Influence	Evidence is nothing if these are not disseminated, and not fed into policy level for wider replication/change. The field implementers could influence policymakers through knowledge sharing.
Data, Findings, and Evidence	
The Programmatic Policy Context	
Scaling-up of Good Practices	
Implementation-Research-Policy Cooperation	
Communications, Coordination, and Advocacy	

There was a larger extent of disagreement among the respondents on the issue of possible training participants (field or national level or both), methodology and modalities, and duration of the training course. Such issues, according to them, largely depend on the agreement of different parties and feasibility, budget, etc. They, however, preferred for at least a 3-day course for better orientation and effectiveness.

4. Discussion and Conclusion

4.1 Positive Interest in Practitioners-Researchers' Collaboration

The exploration gives a clear sense that the respondents, despite their nature of assignments, expressed a strong need for capacity-building on data management and research for better and effective program implementation. They recognized that the government has big data sources (e.g. DHIS2) but there was a minimum meaningful use of those data; which is a 'missed opportunity' for the programs. The government usually has to depend on other non-government institutes, such as Save The Children, icddr,b, Plan International, etc., for understanding their program performance. There are a lot of important research findings but the government has limited capacity to incorporate those evidence. Most importantly, the implementers might not agree or own such external evidence due to a possible conflict of interest. The OPs of the 4th HPNSP have provisions for expanding research activities within the program plans; therefore, there is a scope for practitioner-researchers' collaboration in future program implementation and research.

4.2 Diverse Contexts and Needs in Capacity Building On IR

Taking into account 'context' is one of the important issues in implementation research; therefore, any future collaboration on implementation research in the health sector must need to consider the dynamics of the contexts. Such contexts are not limited to the social, cultural, economic, political, legal, or physical environment only but also necessarily include the institutional setting. The 'institutional setting' here refers to diverse institutional mechanisms for program implementation. For example, the national nutrition services undertake a mainstreaming approach to improve the nutritional status of the people while the TB control program goes for an extensive partnership with NGOs to attaining zero deaths, diseases, and sufferings due to tuberculosis.

Such institutional mechanisms necessarily define and design the unique nature of the management and intervention approach of the sectoral program entities, although they all together are committed to achieving the national health outcomes and ensuring the people's health rights. Similar to a diverse institutional setting, any potential implementation research training program also should be diverse in terms of targeting the real needs of implementers located in objective-specific sectoral programs.

4.3 Role of icddr,b to Support the GoB in Addressing Implementation Challenges in the Health Sector

The findings of this study suggest that icddr,b as an internationally-known research organization has a very high level of acceptance to the national health officials, including policymakers. This organization also plays a key role in designing, developing, and rolling out the DHIS2 managed by the DGHS. The respondents identified icddr,b as an 'expert organization' with 'technical knowledge' which can be a collaborator of the government for capacity-building on implementation research. Further, it suggests that icddr,b can design a course on Implementation Research and can roll out the course for capacity-building of the government officials.

5. Recommendations

Based on the findings and results of their analysis, the need-assessment study comes up with the following recommendations:

1. Increase collaboration between practitioners/ implementers and researchers on program implementation and research in the health sector;
2. Ensure capacity-building of the target-specific public sector health professionals and policymakers on implementation research and its methodological approach;
3. Pursue advocacy work for ensuring and expanding research activities in the national operational plans (OPs) of the Ministry of Health and Family Welfare; and
4. Introduce a grant-based pilot scheme for engaging public sector health professionals in implementation research and evidence-based policy communications.

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Annex 1: Guideline for Interviews

Interview guideline for KIIs and IDIs

- What do you implement in the program?
- How do you measure progress (success and challenges)? {existing practices of measuring performance and/or success of the implementation/ interventions; the 'sources' of data/information and its interpretation/usage for decision-making into the implementation process}
- What are the implementation challenges and how do you combat these challenges into implementation? (The intuitional mechanisms and practices to address various/types of challenges into the implementation process. The extent of skills/capacity/opportunities/barriers to applying research evidence towards addressing the challenges).
- What training do you need to measure the progress more systematically (The identified needs (issues and sub-issues/contents, desired skills/capacity of implementation staff, category of staff; methodology--how to offer the course--classroom-based, classroom with field exercises, online, workshop, etc.; duration; modality of collaboration) for capacity-building and collaboration in pursuing implementation research)
- How can icddrb support you into the measurement in a systematic way?