Government of the People's Republic of Bangladesh
Health, Population & Nutrition Sector Development Program 2011-16

Health Information System (HIS) & eHealth

September 2011

Directorate General of Health Services (DGHS)

Ministry of Health & Family Welfare (MOHFW)

Table of Contents

Acronyms

ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
CC	Community Clinic
CD/VAT	Customs Duty/ Value Added Tax
CDC	Control of Communicable Disease
CHCP	Community Health Care Provider
CMSD	Central Medical Stores and Depot
CNP	Community Nutrition Promoter
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DHIS2	District Health Information System version 2
DPA	Direct Project Aid
eHealth	Electronic Health
EmOC	Emergency Obstetric Care
EPI	Expanded Program of Immunization
ESD	Essential Service Delivery
FCHV	Female Community Health Volunteer
FWA	Family Welfare Assistant
FY	Fiscal Year
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GIS	Geographical Information System
GiZ	German Technical Cooperation (formerly GTZ)
GOB	Government of Bangladesh
GPS	Global Position System
GR	Geographical Reconnaissance
HA	Health Assistant
HEP	Health Education and Promotion
HIS	Health Information System
HIU	Health Information Unit
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome
HL7	Health Level Seven
HNPSP	Health, Nutrition and Population Sector Program
HPN	Health, Population and Nutrition
HPNSDP	Health, Population and Nutrition Sector Development Program
HPSP	Health and Population Sector Program
HR	Human Resource
ICD-10	International Classification of Diseases version 10
ICT	Information and Communication Technology
IEDCR	Institute of Epidemiology, Disease Control and Research
iHRIS	Integrated Human Resource Information System
IMCI	Integrated Management of Childhood Illness
IT	Information Technology
LAN	Local Area Network
LD	Line Director
MBT	Medical Biotechnology
MDG	Millennium Development Goal
MIS	Management Information System
MMR	Maternal Mortality Rate
MNCH	Maternal, Neonatal and Child Health

MNH	Maternal and Neonatal Health
MOHFW	Ministry of Health and Family Welfare
MOVE-IT	Measurement of Vital Events through Innovation and Information Technology
NCD	Non-communicable Disease
NGMBT	National Guidelines on Medical Biotechnology
NGO	Non-Government Organization
NNS	National Nutrition Service
NPR	National Population Register
NTBB	National Taskforce on Biotechnology of Bangladesh
NTCMB	National Technical Committee on Medical Biotechnology
OP	Operational Plan
OpenELIS	Open Electronic Laboratory Information System
OpenMRS	Open Medical Records System
PA	Project Aid
PDA	Personal Digital Assistant
PDS	Personal Data Sheet
PHC	Primary Health Care
PPP	Public-Private Partnership
PRS	Poverty Reduction Strategy
PRSP	Poverty Reduction Strategy Paper
RCH	Reproductive and Child Health
RPA	Reimbursable Project Aid
SAM	Service Availability Mapping
SDMX-HD	Statistical Data and Metadata Exchange – Health Domain
SMS	Short Messaging Service
TB	Tuberculosis
UNICEF	United Nations International Children's Emergency Fund
UN-MDG	United Nations MDG
USAID	United States Agency for International Development
WAN	Wide Area Network
WHO	World Health Organization

Operational Plan (OP)

1. **Name of the Operational Plan (OP):** Health Information System (HIS) & eHealth

2. **Name of the Sector Program:** Health, Population & Nutrition Sector Development Program (HPNSDP) 2011-2016

3. **Sponsoring Ministry:** Ministry of Health & Family Welfare (MOHFW)

4. **Implementing Agency:** Directorate General of Health Services (DGHS)

5. **Implementation Period:**
   a) Commencement: 01 July 2011
   b) Completion: 30 June 2016

6. **Objectives of the OP**

General Objective

To improve health information system and eHealth, and develop infrastructure and environment necessary for effective HIS, eHealth and medical biotechnology.

Specific Objectives

i. To improve health information system through:

   a. Development and operation of population based HIS

   b. Strengthening institution-based HIS

   c. Strengthening human resource related HIS

   d. Strengthening program based HIS

   e. Developing and strenthening logistic tracking, and inventory management and procurement system

   f. Developing financial management system

   g. Expansion of GIS in health service

   h. To improve infrastructure and human resource capacity necessary for HIS

   i. To sustain the HIS initiatives and encourage public-private partnership.

ii. To improve eHealth through:

   a. Continuation and further development of mobile phone health service and other mHealth

   b. Strengthening and expansion of video conferencing

   c. Expansion of telemedicine service

   d. Introduction of other eHealth services and programs

   e. To improve infrastructure and human resource capacity necessary for eHealth

   f. To sustain the eHealth initiatives and encourage public-private partnership.

iii. To introduce medical biotechnology through:

   a. Achievement of the short and medium term deliverables mentioned in the National Guidelines on Medical Biotechnology

b. Creation of conditions for achieving the long term deliverables of the National Guidelines on Medical Biotechnology.

7. Estimated Cost

7.1. PIP and OP cost
(Taka in lakh)

	Total	GOB	PA (RPA)	Source of PA
Approved cost of the PIP in terms of Development Budget	2,217,666.00	860,350.00	1,357,316.00 (8,69,791.00)	Pool & Non-pool Fund
Estimated cost of the OP	60,887.37	20,014.42	40,872.95 (22,972.95)	WB, WHO, UNICEF, USAID, RF & others
Cost of OP as % of PIP	2.75%	2.33%	3.01% (2.64%)	Do

7.2. Estimated Cost of OP (According to Financial pattern):
(Taka in lakh)

Source	Financing Pattern	FY2011-12	FY2012-13	FY2013-14	FY2014-16	Total	Source of fund
GOB	GOB Taka	3459.00	8017.00	4008.62	4358.80	19834.42	GOB
	Foreign exchange						
	CD/VAT	50.00	40.00	40.00	50.00	180.00	GOB
	GOB Other (e.g., JDCF)						
	Total GOB	3500.00	8057.00	4048.62	4408.80	20014.42	GOB
PA	RPA (through GOB)	2250.00	9777.86	6315.79	4629.30	22972.95	Pool
	RPA (others)						
	DPA	100.00	2000.00	2000.00	13800.00	17900.00	WHO, UNICEF, USAID, RF, others
	Sub-Total DPA	100.00	2000.00	2000.00	13800.00	17900.00	D0
	Total PA	2350.00	11777.86	8315.79	18429.30	40872.95	Pool & Non-pool
	Grand Total	5850.00	19834.86	12364.41	22838.10	60887.37	

8. OP Management Structure and Operational Plan Components (Attached management setup in Annexure-I):

8.1. **Line Director:** Director, MIS, DGHS

8.2. **Major Components of OP and their Program Managers/ Deputy Program Managers**

Major Component	Program Manager	Deputy Program Manager
Health Information System (HIS)	HIS (Chief, HIU, MIS-Health)	System Analyst, MIS-Health
		Deputy Chief (Statistical), MIS-Health
eHealth	Deputy Director, MIS-Health	Deputy Chief (Medical), MIS-Health
Medical Biotechnology	Assistant Director, MIS-Health	Deputy Chief (Non-Medical), MIS-Health

8.3. Proposed manpower in the development budget (Taka in lakh)

Sl. No.	Name of post	No. of post	Pay scale	Grade	Consolidated pay (per person per month)	Total month	Total pay (Taka in lakh)
	A. Officer						
			No manpower will be recruited under development budget				
	B. Staff						
	Total (A+B)						

9. Description

a) Background information, current situation and its relevance to national policies, sectoral policy, MDGs, Vision 2021, 6th 5-Year Plan, MTBF, etc.

Background information and current situation

The HPN and National Vision 2021 call for timely and evidenced based decision making supported by a robust health information system (HIS). Innovative use of ICT is also urged for quick health service delivery and universal access of citizens to health care. Emphasis of government's digital health vision is revealed in National ICT Policy 2009 identifying 37 specific deliverables for MOHFW, and directing each ministry to allocate 5% and 2% of development and revenue budgets respectively for ICT. The MIS-Health understood the critical need for generating core health indicators from routine HIS. Therefore, preliminary options were included in 2008 revision of MIS-Health OP. The new government's Digital Bangladesh program revitalized MIS-Health's focus and the OP was again revised in 2009 to accommodate further provisions for future needs.

Substantial progress has been made in HIS and eHealth in last 2-3 years. Geographical Reconnaissance is being conducted to create a web-based national population registry. The registry would establish a universal vital registration system for capturing demographic data, estimating MDG progress, understanding resource needs and measuring health service coverage. Reliable data communication system now exists up to upazila level, and so better monitoring and supervision system. Regular health bulletins and web publications are proofs of improved data quality and availability. Online resumes of staffs and supportive policy measures improved availability of updated HR data. Current drive to transform HR management function to an automated system would enable long term HR-HIS solution. MIS-Health's Year Books summarize health program achievements; however, a customized database (DHIS2, supported by GiZ) is expected to help capture health program (viz. EPI, TB, malaria, etc.) data more frequently. Progress made by MIS-Health with UNICEF's support for EmOC and IMCI databases is impressive. The USAID started supporting MOHFW to develop an enterprise-wide "Logistic Tracking and Inventory/Procurement Management System". However, deployment of a functional financial-HIS would be needed. GIS-based HIS has also been introduced through all divisional and district offices, and upazila health offices of four MNH districts.

Bangladesh health service made phenomenal change in eHealth. The district and upazila hospitals commonly practice video conferencing. A uniquely designed monitoring cell caught attention of policy makers and media for success in reducing doctors' absenteeism in remote health facilities. The technique uses mobile phone and/or web camera based surveillance. Web camera is also planned to use as tool for telemedicine service in community clinics. MIS-Health's mobile phone health service, available in all government hospitals (total 482) at upazila and district levels earned local and international reputations as an effective health care delivery model. Doctors on duty provide medical advice to people calling the hospital's mobile phone. This free service available 24h/7d ensures wider coverage and instantly reaches all citizens, poor or rich; and all places, hard to reach or easy to go; any time, day or middle of night. People have an easy option to avoid unqualified healers, and to save time, travel hassle and money. Sophisticated telemedicine network also exists, which links two specialized hospitals, three district hospitals and three upazila hospitals. Noting that mobile phones can do much

more, number of mHealth services has been introduced. SMS advice for safe pregnancy is one, which allows pregnant mothers receive specifically designed periodic antenatal, safe delivery and postnatal care advices through SMS. Future system will replace text with voice. This service is expected to make significant contribution to attainment of MDGs 4 and 5. Other mHealth services include bulk SMS, complain/suggestion box, etc. Work is ongoing to use mobile phone as a data collection tool. Two recent eHealth innovations, viz. web based absenteeism reporting by facility heads and remote biometric time attendance system, acquired strong policy support for rapid scaling up.

The government has taken policy decisions for rapid deployment of medical biotechnology, to confront country's future health, nutrition and livelihood challenges. The government constituted a National Taskforce on Biotechnology with Honorable Prime Minister as chair and adopted National Biotechnology Policy and several sector-specific National Biotechnology Guidelines including National Guidelines on Medical Biotechnology. The later has been published as government gazette and spells out MOHFW's deliverables in next 25 years. By this time, the MOHFW held a number of workshops for the medical doctors and teachers for orientation and sensitization about the subject. However, more thrust is required for timely implementation of the government's policy decisions in this regard.

Relevance to national policies, sectoral policy, MDGs, Vision 2021, 6th 5 Year Plan, MTBF, etc.

There are two aspects of this OP to contribute to the achievement of MDGs. The first is to create health information system (HIS) to track the progress and the second is to create effective tools for health care delivery and thereby preventing ill health, malnutrition and early mortalities. The population database system would explore possibilities for making available accurate and real time status of child mortality rate or maternal mortality rate. On 13 February 2011, Bangladesh had the preliminary report of second Maternal Mortality Survey 2010 published, ten years after the first survey carried out in 2001. The latest report shows an impressive progress having a MMR of 194 per 100,000 live births, well on track of MDG5. In the absence of a system to track the MDG5 status, even in the morning of 13 February 2011, the policy makers and development partners had a false impression that MMR in Bangladesh was quite high and not less than 290 per 100,000 live births. The earlier strategies and plans were based on the false impression. This situation urgently calls for deploying a system that can measure population statistics. Again, for immunization program, exact estimation of the number of target children does not become possible before procuring vaccines. It is either underestimated, or overestimated. Underestimation means risking some children and overestimation means wasting some valuable resources. The HPN sector vision reflects the constitutional obligation of developing and sustaining a society in which the basic needs of all people are met and every person can prosper in freedom and cherish the ideas and values of a free society. The Government of Bangladesh is committed to supply the basic medical requirements to all levels of the people in the society [Article 15 (A)] and the improvement of nutrition of the people and public health [Article 18(A)]. The health mandate which the people of this country entrusted over the present government in 2008 national election includes, amongst others: (i) establishment of 18,000 community clinics; (ii) ensuring primary health care for all citizens; (iii) ensuring nutrition, and child and maternal health care with target-based achievements by 2021; (iv) creating effective preventive, control, eradication and elimination measures of communicable diseases, such as, HIV/AIDS, leprosy, tuberculosis and other diseases, and also creating modern facilities for treatment of all sort diseases; and (v) to raise the life expectancy at birth to 70 years for both sexes. These health programs are aligned with other national and international health goals, such as, MDGs, revitalization of PHC by the WHO, children's health improvement goals of UNICEF or GFATM goals for fighting AIDS, tuberculosis and malaria. The strategic document for the HPNSDP 2011-16 provides substantial importance to monitoring and evaluation and development of HIS and eHealth. This OP would serve achieving these obligations through providing health information as evidence for making plan and decision. The eHealth would provide means for delivering health services through effective, efficient, easy and quick ways by innovative use of technologies. This OP also aims at fulfill the HPN sectoral goal of the 6th 5 Year Plan and MTBF.

b) Related Strategy in the PIP

The HPNSDP 2011-16 identified "strengthening overall health system and governance including establishing a sustainable monitoring and evaluation system" as one of the key drivers. It is mentioned that developing an M&E system for the HPNSDP is an essential component to provide convenient and timely information to policymakers as they track performance of the programs in order to ensure necessary adjustments over its course. The PIP has encouraged deployment of ICT for improving the health information system (HIS) as well as improving health systems efficiency and also for delivering services to the citizens. The PIP document also mentions how different deliverables will be achieved, such as, (i) designing an integrated HIS consolidating data from a range of sources to strengthen the national capacity to plan, monitor and evaluate progress of HPN services; (ii) strengthening the existing routine health information systems of DGHS and DGFP effectively, to ensure regular information flow and facilitate program monitoring; (iii) development of appropriate database on various MISs, its application and customized software, where and when applicable looking into factors like cost, deployability, scalability, inter-operability, security, and user-friendliness, etc.; (iv) strengthening the ongoing eHealth initiatives by covering all the health facilities with adequate number of IT equipment, devices and trained human resources; (v) expansion of eHealth capability to all health facilities, where possible, through public-private partnerships for which OP HIS and eHealth is the lead LD in implementation; and (vi) encouraging participation of NGOs and private sector for innovation in the promotion of eHealth services. About medical biotechnology the PIP says for implementing activities based on the directives given in the National Biotechnology Policy and the National Guidelines on Medical Biotechnology.

Issues to be addressed

a) **Addressing the challenge of updating population data from community:** The ongoing Geographical Reconnaissance (GR) of MIS-Health is expected to result in a national population registry for demography and health that would provide a mechanism for availability of updated population data, MDGs 4 and 5 estimates and measures on coverage of community health service. This initiative is receiving widespread recognition for its long term contribution to development issues. However, to enhance effectiveness, provision of 5 to 6 multi-purpose community health care volunteers with each community clinic to engage for specific deliverables (service plus data collection) and given a performance based monthly incentives package may be considered. A large number of Bangladeshi citizens seek health care from non-state providers which also includes informal sector. To track this population group, adequate number of home visits by health workers is the best option, both for service provisions and collecting data. The Community Health Care Provider (CHCP) of community clinic will have to remain busy for managing the community clinic. The Health Assistant (HA) and Family Welfare Assistant (FWA), have long but separate job list and about ~7,500 and ~5,000 populations to cover respectively. If each of them is assigned for half of this population and for same kind of job (doubling of jobs), as being proposed, then each will have to cover ~3,500 populations (roughly ~700 households). This would be difficult. India introduced Accredited Social Health Activist (ASHA) program to cover a maximum of 1,000 populations per ASHA. ASHA is a female volunteer, gets performance based compensation (10,000 Indian Rupees per year), and works as an interface between Auxiliary Nurse Midwife (ANM in village health center) and Anganwadi centers (integrated child development center) with the village. As part of job, she also needs to escort services for Reproductive and Child Health (RCH). Nepal recruited 50,000 female community health volunteers (FCHV) in 1988, one for 80 to 100 families to educate and escort women for healthy pregnancy, child birth and newborn care. Nepal achieved UN-MDG Award 2010 for success in MDG5. In Bangladesh, a UNICEF-supported community based IMCI program, currently in operation, creates evidence that community volunteers provided with performance based incentives package works well in Bangladesh, both in terms of health care service delivery as well as data collection. Therefore, it may be considered to engage 5 to 6 multi-purpose community health care volunteers in OP for CC (or other OP) to interface between a community and it's CC. To be recruited by community health group and supervised by CHCP, HA and FWA, these multi-

purpose community health volunteers would serve as workforce for CC, MNCAH, ESD, NNS, NCD, CDC, HEP. The OP for HIS and eHealth would be able to produce the best outcome through this type of workforce for updating population based health, demographic and service data. In case, this provision is not made, either in HIS-EH or other OPs, alternative means for regularly updating population data will have to be worked out.

b) **Challenge to gather program data from LDs:** To enable HIS to provide program based data, it has to get data from the respective LDs. Interventions would be needed from the ministry and agency head(s) to effectively mobilize the LDs so that they design their "data collection and flow model" in close liaison with OP HIS-EH and also provide quality and adequate data timely and regularly to HIS-EH.

c) **Addressing issues of duplication of efforts:** There can be duplicate efforts for developing and operating HIS under each OP. These individual efforts should be identified and aligned for the sake of saving resources, avoiding repetition, and ensuring interoperability and collaboration.

d) **Addressing issues of duplication in engaging resources:** There can also be duplicate efforts for procuring hardware and software for the same health facilities and institutions without coordination between LDs. Such efforts, if exist, should be identified, aligned and/or avoided.

e) **Addressing issues of non-compliance:** While HIS will have sufficient interventions to mobilize health care managers and staffs to feed data to health information system on timely manner, strong policy support backed by administrative measures for success and failures would also be instrumental for a sustainable and effective enterprise-wide information culture.

f) Reasonable financial support would be required to sustain the hardware, connectivity, software and human-ware backbone, through and by which, data will be captured, flown, processed and distributed.

10. Priority activities of the OP

Priority activity-1: *Improvement of Health Information System (HIS)*

Sub-activities

i. Computers, laptops, accessories, gadgets, etc. as appropriate and as required will be provided to all health facilties, academic and training institutions and health managers' offices;

ii. Internet connectivitiy will be continued and expanded both in terms of badnwidth and coverage;

iii. National, regional, local software (database, application, customized, etc.) and servers, where applicable and as appropriate will placed, maintained, upgraded looking into factors like cost, deployability, scalability, integration, inter-operability, security, user-firendliness, auto-reporting, dashboard, etc.;

iv. Data center will be established;

v. Mobile phones, handheld devices, and other technologies and tools will be considered to use based on suitability and effectiveness;

vi. Human resource capacity will be strengthened through training, and in case of shortage in-house, through outsourcing of services;

vii. Liaison, feedback, monitoring and supportive supervision will be strengthened to ensure data quality in terms of reliability, timeliness and adequacy inclusive of non-state providers;

viii. Repair and maintenance function and supply of logistics will be continued and strengthened;

ix. Data analysis, interpretation, report writing, dissemination and communication to appropriate stakeholders and public through print, web and electronic media will be strengthened for the sake of evidence based planning and decision making; as well as to satisfy the citizens' rights to information;

x. Liaison and advocacy with the policy makers will be continued to sustain and further boost up the HIS initiatives and public-private-NGO collaboration will be encouraged.

Targets

Sub-activities	FY2011-16 target in phases
Equipping with computers, laptops, accessories, gadgets, etc.	All health facilities, academic /training institutions & health managers' offices
Continuation and expansion of Internet connectivity both in terms of bandwidth and coverage	Do
Placement, maintenance and upgrading of software (database, application, customized, etc.) and servers, where applicable and as appropriate looking into factors like cost, deployability, scalability, integration, inter-operability, security, user-friendliness, auto-reporting, dashboard, etc.;	At national, regional, local levels
Establishment of Data Center	In MIS-Health office
Use of mobile phones, handheld devices, and other technologies and tools based on suitability and effectiveness;	Where applicable
Strengthening of human resource capacity through training, and in case of shortage in-house, through outsourcing of services	As necessary
Liaison, feedback, monitoring and supportive supervision to ensure data quality in terms of reliability, timeliness and adequacy inclusive of non-state providers	will be strengthened
Repair and maintenance function and supply of logistics	Continued & strengthened
Data analysis, interpretation, report writing, dissemination and communication to appropriate stakeholders and public through print, web and electronic media for the sake of evidence based planning and decision making; as well as to satisfy the citizens' rights to information;	Will be strengthened
Liaison and advocacy with the policy makers will to sustain and further boost up the HIS initiatives and public-private-NGO collaboration	Will be continued and encouraged

How this priority activity will change the situation

The outcome of this priority activity will depend on how much of the proposed activities are implemented, which in turn will depend on timely availability of adequate fund and provision of adequate policy and administrative support. Through this priority activity accomplishment, a set of core national health indicators inclusive of Results Framework with standards and inter-operability framework developed in multi-stakeholders environment will remain available for reference. Quality data will be available in time (in most cases real time) on all core health indicators accessible online through web based platform on user-friendly dashboards. Culture of evidence based decision making both at national and local level will be increasingly practiced – an enabling environment for taking right decision at right time and for ensuring efficient use of resources. Citizens unique identification number and population health registry will create good platform to introduce electronic health records. Health services, provided both at hospitals and communities, will be possible to be quantified. There will remain a mechanism to track gaps in health services, viz. human resource, logistics, etc. Geopgraphical information system will create room for tracking location based health services and situation.

Implementation plan

The current endeavor by MIS-H for development of population health registry through Geographical Reconnaissance (GR) will be materialized. This population database will be made accessible online and regular updating of data will be done through involving the community clinics and community health workers. A standard set of indicators with clear definitions will be developed. All community health workers (HAs, FWAs, CNPs, CHCPs, multi-purpose health volunteers if available, NGO workers, community groups) will be tried to be engaged in data gathering and validation. It would be tried to work out special dedicated time slot, if possibe in all working days (if not on weekly basis), when the Community Health Provider, Community Health Workers and interested members of Communit Support Group will gather in the community clinic for proper management of the health data including updating. Community clinics will be provided laptops with Internet connectivity. Health workers will also be considered to provide Internet enabled mobile device for updating data from the household visits or satellite camps. Data gathering with respect to quantity, adequacy, timeliness and reliability from all public health facilities as well as from non-state health providers (as far as possible) on health facility utilization, volume of services produced, disease profiles, mortality profiles, emergency obstetric care, integrated management of childhood illness, etc. will be further improved. To institutionalize the health

facility-based information system, computers and connectivity will be ensured in all data points of public health sector. Possibility of assigning one person at each organization to act as HIS focal point will be explored. Enterprise-wide procurement and supply chain management system will be put in place developed with technical assistance from USAID. It has also been indicated that the USAID in collaboration with the ICDDR,B will provide to HIS and eHealth Operational Plan, during the HPNSDP 2011-2016 period, following specific technical assistance: (i) Electronic data transmission processes, including training of the relevant personnel on new computerized system; (ii) Reviewing and updating various registers and reporting forms; (iii) Developing tools and systems for data validations; and (iv) Capacity building of program managers and supervisors in using data for program monitoring, program planning, and programmatic decision making. The WHO, UNICEF and GiZ will also continue their technical assistance to MIS-Health in strengthening HIS. The Rokefeller Foundation is considering a proposal to provide human resource support for an interim period.

The MIS-Health maintains a HR database and is trying to further improve it. This effort will be further consolidated to provide a multi-purpose solution from a single enterprise database system. All the vertical health programs and line directors particularly under DGHS will be provided advice and facilitation service to develop health information system for flow of data to national health data system located in MIS-H. The current effort of gathering the information on emergency obstetric care and integrated management of childhood illness will be further consolidated to promote it to full maternal, new born and child health care information system. Use of GIS to prepare Service Availability Mapping (SAM), disease surveillance and aid health service delivery will be strengthened. Provision of simplified dashboard and automatic display of data summary on indicators of respective catchments or organizations will be created. Local data analysis, interpretation and report preparation capacity will be built. Much emphasis will be given to encourage local authorities for sharing data, disseminate reports, and create data repository for future reference and trend analysis. A local and national grooming system will be created towards information culture and evidence based decision making based on timely, reliable and representative data. Multiple channels, viz., web, direct database access, SMS queries, printed books, newsletters, brochures, media, etc., for producing and disseminating reports of data analysis will be used. Evidence will be created to draw the attention of the policy makers that health system strengthening can help the country to gain substantial health sector productivity. Citizen-centric contents will be added to website of MIS-Health. Citizens' participation in the web portal will be encouraged. Different avenues of ICT based information dissemination will be explored.

A multi-stakeholder Steering Group will be created with few technical groups to sit frequently and identify data needs, mechanism of collection of data reliably and on time and for making data available in appropriate reporting formats so that they become suitable for decision making. The OP keeps provision for creating a local level information culture so that local health managers, staffs and people become interested about knowing and using the information for assessing health service performance, making plan and decisions. The multi-stakeholder steering and technical groups will also include representatives from other ministries, agencies under MOHFW, LDs of other OPs, development partners, NGOs and private group. The other initiative both within and outside health sector, viz. MOVE-IT (Measurement of Vital Events through IT), NPR (National Population Register) and Civil Registration (Birth and Death Registration) will help improving availability and utilization of data. Recently, this OP has started to get sufficient resources, viz. IMR (Indicator and Measurement Registry, which provides standard set of core indicators with data definitions, standards, standard source of data, mechanism of data collection, utilization of data, etc.), SDMX-HD (xml formats of indicators for inter-operability), ICD-10 (International Classification of Diseases), HL7 (vocabularies of health information communications), OpenMRS and Care2x (Open source software for Hospital Information System), iHRIS (Open source software for Integrated Human Resource Information System), OpenELIS (Open source software for Electronic Laboratory Information System). Careful selection of software interface will be made from these and other resources to design and operate the HIS. MIS health is currently using DHIS2 (Open source software named District Health Information System version2) for collecting public health program data. Private health facilities are also using DHIS2 to provide data to MIS of DGHS. Currently MIS-health is working with different development partners and local health organizations to improve data quality environment. Effort will given to explore opportunity to improve collaboration, coordination and data sharing between organizations within and outside MOHFW as well as with non-state health providers.

Besides, involving multi-stakeholder technical groups and massive staff training (not only of HIS staffs but also of other groups of staffs), the OP has also kept provision of hiring managed services. Creation of revenue posts in due time is an overwhelming necessity and will be due attention so that permanent staffs take over greater role in management and implementation of HIS and eHealth. It must be mentioned that ICT, HIS and eHealth are emerging technologies with rapid evolutions. Only HIS or health sector staffs will not be able to provide solutions for complex problems or implementation needs that would arise. Outsourcing services and hiring managed services will remain as an effective solution for the sustainability, robustness and cost-effectiveness. The OP of HIS/DGHS carefully considered this

practical option. The design of the OP is done so carefully that it will fulfill the gaps that prevail about the HIS of Bangladesh.

Priority activity-2: *Improvement of eHealth*

Sub-activities

  i. Computers, accessories, gadgets, etc., if required, will be supplied in addition to those provided for HIS;

 ii. Appropriate database, application and customized software, where and when applicable, will be placed, maintained, upgraded looking into factors like cost, deployability, scalability, inter-operability, security, and user-firendliness, etc.;

iii. Human resource capacity will be strengthened through training, and in case of shortage in-house, through outsourcing of services;

 iv. Promotional materials will be produced and distributed to encourage people utilize the mobile phone healthe service, telemedicine and/or other eHealth services;

  v. Liaison, feedback, monitoring and supportive supervision will be strengthened to ensure service quality and improve coverage;

 vi. Repair and maintenance function and supply of logistics will be continued and strengthened;

vii. Liaison and advocacy with the policy makers will be continued to sustain and further boost up the eHealth initiatives and public-private-NGO collaboration will be encouraged.

Target

Sub-activity	FY2011-16 Target in phases
Supply of computers, accessories, gadgets, etc., if required, in addition to those provided for HIS	As required
Appropriate database, application and customized software, where and when applicable looking into factors like cost, deployability, scalability, inter-operability, security, and user-friendliness, etc.	Placed, maintained & upgraded as required
Strengthening human resource capacity through training, and in case of shortage in-house, through outsourcing of services	As required
Production and development of promotional materials to encourage people utilize the mobile phone health service, telemedicine and/or other eHealth services	As required
Strengthening liaison, feedback, monitoring and supportive supervision to ensure service quality and improve coverage	As required
Repair and maintenance function and supply of logistics will be continued and strengthened;	As & when necessary
Liaison and advocacy with the policy makers to sustain and further boost the eHealth initiatives and public-private-NGO collaboration	Continued & encouraged

How this priority activity will change the situation

Currently every district hospital and every upazila hospital has mobile phone health service. Citizens in the catchments can make call 24h/7d and get free medical advice from government doctors working in the hospital. This is a great service, specially at odd times such as night and patients from hard to reach areas. Experience suggests that people feel easy to call a health care provider whom they know better. Through this activity, this mobile phone health service will be rolled out to union health facilities and community clinics. Cell-phone based health message delivery system will be a frequently used method specially for programs related to health related MDGs. Wide use of video conferencing techniques will save valuable time of managers and policy makers. Telemedicine will reduce needs for travelling long distance by patients requiring referral to specialist doctors. Telemedicine will also be available at community clinics level so that rural patients get free medical advice from doctors working at upazila hospitals. Country's medical education system will be benefitted from use of ICT. Innovative use of ICT and mobile technology will improve health system efficiency, transparency and accountabily and will create a communication platform between citizens and health care providers.

<u>Implementation plan</u>

Mobile phone health service will be rolled out to union health centers and community clinics. Quality of this service will be tried to improve. Feasibility of establishing central call center(s) will be considered. Various type of other mobile device based services based on SMS, data, voice and MMS will be explored to introduce. Existing services will be strengthened. Mobile device-based services will be particularly used for contributing to the achievement of MDGs 4 and 5. An environment of gradually engaging policy makers, administrators, health managers and staffs to adopt video conferencing techniques to discuss and exchange views with subordinates, colleagues, supervisors or supervisees and hold meetings and conferences online will be created. This system will ensure efficient use of Internet bandwidth, and reduce requirement of using telephones (saving telephone bills), need for diverting attention from computer desktop, and also need for traveling distance to hold meetings or conferences or giving monitoring and supervisory visits. Video conferencing will also be used as distance teaching/training tool. In the next sector program, these services will be improved and rolled out as well as other services will be introduced. Various eHealth initiatives will be mainstreamed in the different programs through creating multi-stakeholder steering group and technical groups through common understanding that data design and implementation, sharing model and inter-operability will be ensured jointly.

Priority activity-3: *Introduction of Medical Biotechnology*

<u>Sub-activities</u>

Following measures will be taken for implementing short and medium term deliverables of the National Guidelines on MBT:

i. Center for Medical Biotechnology will be established;

ii. Situation analysis of medical biotechnology will be carried out and medical biotechnology plan will be developed;

iii. Sensitization / orientation training / workshops, updating medical curriculum with focus on medical biotechnology will be held, medical biotechnology resources in medical libraries will be developed, postgraduate and technologist courses and career group for medical biotechnology will be identified gradually; orientation of the core group members and concerned officials on medical biotechnology will be given;

iv. Institutional capacity will be built through development of lab facilities, clinical services and epidemiological surveillance for medical biotechnology;

v. R&D environment will be created through supporting related research projects;

vi. Steps will be taken to open Department of Medical Biotechnology in the National Institute of Biotechnology and establishing a Center of Excellence for medical biotechnology;

vii. Appropriate communication programs with potential entrepreneurs of medical biotechnology will be carried out;

viii. Appropriate public awareness programs will be conducted;

ix. Measures will be taken to develop and enforce standards, codes of practice and regulatory framework for medical biotechnology.

Conditions will be created for achieving the following long term vision (25 years or more) of National Guidelines on MBT:

x. To attain medical biotechnology initiatives and infrastructures at globally competitive level;

xi. To make medical biotechnology industries, laboratories and services capable to compete globally and keep pace with global development trends;

xii. To produce high quality medical biotechnology products and services for local market as well as for export to the global market; and

xiii. To make availability of a world-class higher education and research base to serve the rapidly growing medical biotechnology needs both in home and in abroad.

xiv. Effective leadership, monitoring and supervision will be ensured.

Target

Sub-activity	FY2011-16 Target in Phases
a. To implement short and medium term deliverables of the National Guidelines on MBT:	
Center for Medical Biotechnology	Established
Situation analysis of medical biotechnology	Carried out
Medical biotechnology plan	Developed
Sensitization / orientation training / workshops, updating medical curriculum with focus on medical biotechnology	Held
Medical biotechnology resources in medical libraries	Developed
Postgraduate and technologist courses and career group for medical biotechnology will be identified gradually	Identified gradually
Orientation of the core group members and concerned officials on medical biotechnology	Given
Institutional capacity through development of lab facilities, clinical services and epidemiological surveillance for medical biotechnology	Built
R&D environment through supporting related research projects	Created
Opening Department of Medical Biotechnology in the National Institute of Biotechnology and establishing a Center of Excellence for medical biotechnology	Steps taken
Appropriate communication programs with potential entrepreneurs of medical biotechnology	Carried out
Appropriate public awareness programs	Conducted
Developing and enforcing standards, codes of practice and regulatory framework for medical biotechnology	Measures taken
b. To create conditions for achieving the following long term vision (25 years+) of National Guidelines on MBT:	
Medical biotechnology initiatives and infrastructures at globally competitive level	Attained
Medical biotechnology industries, laboratories and services capable to compete globally and keep pace with global development trends	Made
High quality medical biotechnology products and services for local market as well as for export to the global market; and	Produced
Making availability of a world-class higher education and research base to serve the rapidly growing medical biotechnology needs both in home and in abroad	Made
c. Effective leadership, monitoring and supervision will be ensured.	

How this priority activity will change the situation

A foundation for introducing and moving forward the medical biotechnology will be created in the country. The health professionals will understand the value of medical biotechnology and will take role in ensuring optimum use of medical biotechnology. The people's awareness about pros and cons of medical biotechnology will be increased enabling them taking informed decision.

Implementation plan

Efforts will made to achieve the short and medium term deliverables mentioned in the National Guidelines on Medical Biotechnology. The deliverables include: (i) Establishment of Center for Medical Biotechnology; (ii) Situation analysis and development of medical biotechnology plan; (iii) Human resource development through sensitization/orientation training/workshops, updating medical curriculum with focus on medical biotechnology, improving medical biotechnology resources in medical libraries, introducing postgraduate and technologist courses, identifying career group for medical biotechnology gradually, orientation of the core group members and concerned officials on medical biotechnology; (iv) Institutional capacity building through development of lab facilities, clinical services and epidemiological surveillance for medical biotechnology; (v) Creating R&D environment through supporting related research projects, opening Department of Medical Biotechnology in the National Institute of Biotechnology, establishment of a Center of Excellence for medical biotechnology, and appropriate communication programs with potential entrepreneurs of medical biotechnology; and (vi) Creation of public awareness and regulatory system through conducting appropriate public awareness programs, and developing and enforcing standards, codes of practice and regulatory framework for medical biotechnology. Conditions will be created for achieving the long term deliverables of the National Guidelines on Medical Biotechnology. The longer term action plans to be achieved by year 2030 include: (i) Medical biotechnology initiatives and infrastructures at globally competitive level; (ii) Medical

biotechnology industries, laboratories and services capable to compete globally and keep pace with global development trends; (iii) Production of high quality medical biotechnology products and services for local market as well as for export to the global market; and (iv) A world-class higher education and research base to serve the rapidly growing medical biotechnology needs both in home and in abroad.

10.1 Common issues

With the growth of ICT, it is a common problem worldwide that cyber security is appearing as a considerable threat. This OP aims at huge deployment of ICT and eHealth. Therefore, ensuring cyber security will be given due attention, so that data security is ensured. Considering the low skills of health workforce and wear and tear problems of the ICT equipment, proper maintenance and replacement when needed will be done. For sustainability of digitalized health infrastructures will be done through gradually transferring some of the projects to revenue budget and subsequent development plans. The institutional capacities will be increased so that each institution or organization ultimately takes role for maintenance and further building of the ICT infrastructure. This OP keeps provision for alignment and harmonization of data collection between different stakeholders, particularly about routine data collection and data on maternal and child health. The medical biotechnology demands ethical considerations and regulations thereof. Such provisions were kept in the plan. Finally, to enable citizens get the benefits of services, it requires public awareness campaign. Therefore, adequate public awareness campaigns will be undertaken for HIS, eHealth and MBT.

11. Relevant Result Frame Work Indicators (RFW) and OP level Indicators

11.1. Relevant RFW Indicators

The activities under this OP contribute towards the strengthening of the health system, Component 2. In particular, the activities contribute directly to Result 2.2 Strengthened monitoring and evaluation systems, Result 2.3: Improved human resources – planning, development and management; as well as Results 2.4, Strengthened quality assurance and supervision systems.

Indicator	Unit of measurement	Baseline (year & data source)	Projected target (Mid-2016)
1. MIS reports on service delivery published and disseminated annually (Result 2.2: Strengthened monitoring and evaluation systems)	At least one printed MIS report on service delivery printed and disseminated each year	NA	100%
2. Proportion of service provider positions functionally vacant at upazila/district level and below, by category (Result 2.3: Improved human resources – planning, development and management)	Report on % of service provider positions under DGHS remained functionally vacant at upazila/district level and below, by category at a given point of time each year	Physician: 45.7% Nurse: 29.9% FWV/SACMO/MA: 16.9% (BHFS 2009)	Physician: 22.8% Nurse: 15% FWV/SACMO/MA: 8.5%
3. No. of comprehensive EmOC facilities with functional 24/7 services covering all districts (Result 2.3: Improved human resources – planning, development and management)	Report on district-wise distribution of number of functional comprehensive EmOC facilities having 24/7 services	120 (approximate)	204 (to double)
4. Case fatality rate among admitted children with pneumonia in Upazila health complex (Result 2.4: Strengthened quality assurance and supervision systems)	Report on % of deaths among children admitted due to pneumonia in upazila health complex	8% (Calculated from sex distribution of causes of death in each age cluster of children who attended outpatient and emergency departments of IMCI facilities) (Health Bulletin 2009)	6.2
Note: Targets for indicators 2 to 4 are not set for HIS and eHealth OP. This OP will only report the status in terms of achievement			

11.2. OP level indicators (Output/Process)

The activities under this OP contribute towards the strengthening of the health system, Component 2. In particular, the activities contribute directly to Result 2.2 Strengthened monitoring and evaluation systems, Result 2.3: Improved human resources – planning, development and management; as well as Results 2.4, Strengthened quality assurance and supervision systems.

Indicators	Baseline with source	Projected target	
		Mid- 2014	Mid 2016
1. A set of core health indicators developed with data definition and process of data collection	Exists, need revision (MIS-H 2010)	Revised & adhered to	Adherence improved
2. % of health facilities submitting timely and adequate report as specified by MIS-Health	80% (MIS-H 2010)	90%	100%
3. Number of LDs provided specified routine program data to MIS on time	NA	All	All
4. MIS reports on health service delivery published and disseminated	Health Bulletin 2010 (MIS-H 2010)	Done annually	Done annually
5. Vacancy statements on major staff categories in government health facilities available	Available annually (MIS-H 2010)	Available half yearly	Available quarterly
6. MIS reports posted on the website and updated	Updated annually (MIS-H 2010)	Half yearly	Quarterly
7. Percentage of community clinics providing mobile phone health service	District & upazila hospitals started (MIS-H 2010)	30% community clinics	70% Community clinics
8. Number of health facilities having specially designed telemedicine centers	8 (MIS-H 2010)	20	40
9. Medical biotechnology (MBT) situation analysis report and MBT plan prepared	NA	Situation analysis report	Plan available
10. Documented evidence of public awareness articles and radio or television shows on MBT	NA	At least 10 annually	At least 20 annually

11.3. Source and methodology of data collection to measure/preparation of annual progress report:

Indicator	Unit of measurement	Source of data	Data collection methodology
RFW Indicators			
1. MIS reports on service delivery published and disseminated annually	At least one printed MIS report on service delivery printed and disseminated each year	Each level of health facility & organizations under DGHS	Raw data will be fed at local level directly through web based online database(s). We are currently using DHIS2 (District Health Information System v2)
2. Proportion of service provider positions functionally vacant at upazila/district level and below, by category	Report on % of service provider positions under DGHS remained functionally vacant at specified level & by category at a given point of time each year	Do	Do
3. No. of comprehensive EmOC facilities with functional 24/7 services covering all districts	Report on district-wise distribution of number of functional comprehensive EmOC facilities having 24/7 services	• Line Director (MNACH) • Respective EmOC facilities	• Communication with Line Director (MNACH) • DHIS2 and/or other online data base
4. Case fatality rate among admitted children with pneumonia in Upazila health complex	Report on % of deaths among children admitted due to pneumonia in upazila health complex	Upazila Health Complexes	Online disease profile & causes of death database(s) (DHIS2 or other) from source
OP-level Indicators			
1. A set of core health indicators developed with data definition and process of data collection	A set of core indicators exists with data definition and process of data collection	MIS-Health	Review of PIP, OPs, MDGs and other national and international health goals and indicators
2. % of health facilities submitting timely and adequate report as specified by MIS-Health	% of health facilities under DGHS from which specified MIS-H report available for publishing Health Bulletin	Each health facility under DGHS	DHIS2 and/or other online database(s)
3. Number of LDs provided specified routine program data to MIS on time	No. of LDs under DGHS from whom specified routine program data available for publishing Health Bulletin	Each LD	• DHIS2 and/or other online database(s) • Communication with respective LDs
4. MIS reports on health service delivery published and disseminated	Similar to RFW Indicator 1		
5. Vacancy statements on major staff categories in government health facilities available	Similar to RFW Indicator 2		
6. MIS reports posted on the website and updated	MIS reports on DGHS available on website and updated as and when required	MIS-H	DHIS2 and/or other HIS databases
7. Percentage of community clinics providing mobile phone health service	% of community clinics providing mobile phone health service	LD (Community Based Health Care) Community clinics	DHIS2 and/or other HIS database
8. Number of health facilities having specially designed telemedicine centers	No. of health facilities where exists specially designed and functional telemedicine center at the time of reporting	Telemedicine Control Center of MIS-H	Report from Telemedicine Control Center of MIS-H
9. Medical biotechnology (MBT) situation analysis report and MBT plan prepared	MBT situation analysis report and MBT plan available at any time after the targeted dateline	MIS-H	Both prepared as stated in the HIS-EH OP
10. Documented evidence of public awareness articles and radio or television shows on MBT	No. of public awareness newspaper articles and/or radio-television shows (altogether) on MBT	MIS-H	Record of newspaper articles and radio-television shows

12. Estimated Budget

12.1. Estimated summary of development budget

(Taka in Lakh)

Name of sub-components	Economic Code	GOB	Project Aid		DPA	Total	% of the total cost
			RPA				
			Through GOB	Others			
1	2	3	4	5	6	7	8
a) Revenue component							
Supplies & service	4800	7843.39	9414.43		16800.00	34057.82	55.94%
Repair & maintenance	4900	449.30	78.00		0.00	527.30	0.87%
Sub Total (Revenue component)		**8292.69**	**9492.43**		**16800.00**	**34585.12**	**56.80%**
b) Capital component							
Acquisition of assets	6800	11541.73	13480.52		1100.00	26122.25	42.90%
CD/VAT	7900	180.00	0.00		0.00	180.00	0.30%
Sub Total (Capital component)		**11721.73**	**13480.52**		**1100.00**	**26302.25**	**43.20%**
Grand Total (a+b)		**20014.42**	**22972.95**		**17900.00**	**60887.37**	**100.00%**

12.2. Estimated Detailed budget (Input wise) (Taka in Lakh)

Head	Name of sub-components	Economic Code	FY 2011-16					FY 2011-12					FY 2012-13				
			GOB (FE)	Project Aid			Total	GOB (FE)	Project Aid			Total	GOB (FE)	Project Aid			Total
				RPA		DPA			RPA		DPA			RPA		DPA	
				Through GOB	Others				Through GOB	Others				Through GOB	Others		
1	2	3	4	5	6	7	8	9	10	11	12	13	9	10	11	12	13
Supplies & services-4800	Postal	4815	1.50	0.00		0.00	1.50	0.30	0.00		0.00	0.30	0.30	0.00		0.00	0.30
	Telephone/ Telegraph/ Teleprinter	4816	345.43	0.00		0.00	345.43	30.00	0.00		0.00	30.00	70.90	0.00		0.00	70.90
	Telex/ Fax/ Internet	4817	5459.79	0.00		0.00	5459.79	262.47	0.00		0.00	262.47	1099.32	0.00		0.00	1099.32
	Electricity	4821	5.40	0.00		0.00	5.40	0.60	0.00		0.00	0.60	1.20	0.00		0.00	1.20
	Petrol and Oil	4823	159.12	0.00		0.00	159.12	28.80	0.00		0.00	28.80	30.96	0.00		0.00	30.96
	Printing, publication, research	4827	218.00	600.00		72.00	890.00	70.00	30.00		0.00	100.00	37.00	145.00		18.00	200.00
	Stationery, Seals and Stamps	4828	110.61	350.00		1100.00	1560.61	50.00	0.00		0.00	50.00	13.00	90.00		200.00	303.00
	Books and Periodicals	4831	13.00	0.00		0.00	13.00	3.20	0.00		0.00	3.20	2.20	0.00		0.00	2.20
	Advertisement	4833	30.50	0.00		0.00	30.50	6.50	0.00		0.00	6.50	6.00	0.00		0.00	6.00
	Training expenses*	4840	0.00	5674.57		11020.00	16694.57	0.00	1000.00		100.00	1100.00	0.00	1269.67		980.00	2249.67
	Transportation Cost	4846	1.50	0.00		0.00	1.50	0.30	0.00		0.00	0.30	0.30	0.00		0.00	0.30
	Consultancy	4874	108.40	2729.86		4608.00	7446.26	108.40	217.50		0.00	325.90	0.00	682.00		502.00	1184.00
	Survey	4886	175.00	0.00		0.00	175.00	0.00	0.00		0.00	0.00	25.00	0.00		0.00	25.00
	Survey (GR data entry)	4886	600.00	0.00		0.00	600.00	600.00	0.00		0.00	600.00	0.00	0.00		0.00	0.00
	Computer stationery	4888	455.86	0.00		0.00	455.86	48.85	0.00		0.00	48.85	73.00	0.00		0.00	73.00
	Special expense	4898	0.00	60.00		0.00	60.00	0.00	0.00		0.00	0.00	0.00	10.00		0.00	10.00
	Other expenses (Incentives)	4899	159.28	0.00		0.00	159.28	21.68	0.00		0.00	21.68	41.90	0.00		0.00	41.90
	Sub-total		**7843.39**	**9414.43**		**16800.00**	**34057.82**	**1231.10**	**1247.50**		**100.00**	**2578.60**	**1401.08**	**2196.67**		**1700.00**	**5297.75**
Repair & maintenance-4900	Repair of Motor vehicles	4901	36.80	0.00		0.00	36.80	7.00	0.00		0.00	7.00	7.30	0.00		0.00	7.30
	Repair of Furniture and fixtures	4906	5.00	0.00		0.00	5.00	1.00	0.00		0.00	1.00	1.00	0.00		0.00	1.00
	Repair of Computers and other equipment	4911	312.50	0.00		0.00	312.50	30.90	0.00		0.00	30.90	69.90	0.00		0.00	69.90

*WHO and UNICEF together will provide about Tk. 1000.00 lakh of DPA fund to conduct training of health staffs on Health Information System, Service Availability Mapping, EmOC and IMCI information system

**USAID is expected to provide Technical Assistance; Rockefeller Foundation will help in capacity building & inter-operability framework.

Head	Name of sub-components	Economic Code	FY 2011-16						FY 2011-12						FY 2012-13				
			GOB (FE)	Project Aid		DPA	Total		GOB (FE)	Project Aid		DPA	Total		GOB (FE)	Project Aid		DPA	Total
				RPA						RPA						RPA			
				Through GOB	Others					Through GOB	Others					Through GOB	Others		
1	2	3	4	5	6	7	8		9	10	11	12	13		9	10	11	12	13
Repair & maintenance-4900	Office building	4921	70.00	78.00		0.00	148.00		30.00	30.00		0.00	60.00		10.00	12.00		0.00	22.00
	Other repair and maintenance	4991	25.00	0.00		0.00	25.00		5.00	0.00		0.00	5.00		5.00	0.00		0.00	5.00
	Sub-total		449.30	78.00		0.00	527.30		73.90	30.00		0.00	103.90		93.20	12.00		0.00	105.20
	Total (Revenue)		8292.69	9492.43		16800.00	34585.12		1305.00	1277.50		100.00	2682.50		1494.28	2208.67		1700.00	5402.95
b. Capital component																			
Acquisition of assets-6800	Motor vehicles	6807	0.00	190.00		0.00	190.00		0.00	0.00		0.00	0.00		0.00	160.00		0.00	160.00
	Machinery and other equipment	6813	295.40	2168.00		0.00	2463.40		230.80	50.00		0.00	280.80		27.00	1500.00		0.00	1527.00
	Computers and accessories	6815	10094.83	8729.38		0.00	18824.21		1680.54	710.00		0.00	2390.54		5830.88	4728.55		0.00	10559.43
	Computer Software	6817	270.00	0.00		0.00	270.00		30.00	0.00		0.00	30.00		60.00	0.00		0.00	60.00
	Furniture and fixture	6821	57.00	0.00		0.00	57.00		20.00	0.00		0.00	20.00		12.00	0.00		0.00	12.00
	Telecommunication equipment	6823	824.50	2393.14		1100.00	4317.64		183.66	212.50		0.00	396.16		592.84	1180.64		300.00	2073.48
	Sub-total		11541.73	13480.52		1100.00	26122.25		2145.00	972.50		0.00	3117.50		6522.72	7569.19		300.00	14391.91
CD/VAT-7901	CD/VAT	7901	180.00	0.00		0.00	180.00		50.00	0.00		0.00	50.00		40.00	0.00		0.00	40.00
	Total (Capital)		11721.73	13480.52		1100.00	26302.25		2195.00	972.50		0.00	3167.50		6562.72	7569.19		300.00	14431.91
	Grand Total (a+b)		20014.42	22972.95		17900.00	60887.37		3500.00	2250.00		100.00	5850.00		8057.00	9777.86		2000.00	19834.86

Head	Name of sub-components	Economic Code	FY 2013-14					FY 2014-16				
			GOB (FE)	Project Aid		DPA	Total	GOB (FE)	Project Aid		DPA	Total
				RPA					RPA			
				Through GOB	Others				Through GOB	Others		
1	2	3	4	5	6	7	8	9	10	11	12	13
Supplies & services-4800	Postal	4815	0.30	0.00		0.00	0.30	0.60	0.00		0.00	0.60
	Telephone/ Telegraph/ Teleprinter	4816	102.73	0.00		0.00	102.73	141.80	0.00		0.00	141.80
	Telex/ Fax/ Internet	4817	1366.00	0.00		0.00	1366.00	2732.00	0.00		0.00	2732.00
	Electricity	4821	1.20	0.00		0.00	1.20	2.40	0.00		0.00	2.40
	Petrol and Oil	4823	33.12	0.00		0.00	33.12	66.24	0.00		0.00	66.24
	Printing, publication, research	4827	37.00	135.00		18.00	190.00	74.00	290.00		36.00	400.00
Supplies & services-4800	Stationery, Seals and Stamps	4828	37.61	100.00		300.00	437.61	10.00	160.00		600.00	770.00
	Books and Periodicals	4831	3.20	0.00		0.00	3.20	4.40	0.00		0.00	4.40
	Advertisement	4833	6.00	0.00		0.00	6.00	12.00	0.00		0.00	12.00
	Training expenses	4840	0.00	1175.42		780.00	1955.42	0.00	2229.48		9160.00	11389.48
	Transportation Cost	4846	0.30	0.00		0.00	0.30	0.60	0.00		0.00	0.60
	Consultancy	4874	0.00	677.36		502.00	1179.36	0.00	1153.00		3604.00	4757.00
	Survey	4886	50.00	0.00		0.00	50.00	100.00	0.00		0.00	100.00
	Survey (GR data entry)	4886	0.00	0.00		0.00	0.00	0.00	0.00		0.00	0.00
	Computer stationery	4888	48.85	0.00		0.00	48.85	285.16	0.00		0.00	285.16
	Special expense (Incentives)	4898	0.00	10.00		0.00	10.00	0.00	40.00		0.00	40.00
	Other expenses	4899	41.90	0.00		0.00	41.90	53.80	0.00		0.00	53.80
	Sub-total		**1728.21**	**2097.78**		**1600.00**	**5425.99**	**3483.00**	**3872.48**		**13400.00**	**20755.48**

Head	Name of sub-components	Economic Code	FY 2013-14					FY 2014-16				
			GOB (FE)	Project Aid		DPA	Total	GOB (FE)	Project Aid		DPA	Total
				RPA					RPA			
				Through GOB	Others				Through GOB	Others		
1	2	3	4	5	6	7	8	9	10	11	12	13
Repair & maintenance-4900	Repair of Motor vehicles	4901	7.50	0.00		0.00	7.50	15.00	0.00		0.00	15.00
	Repair of Furniture and fixtures	4906	1.00	0.00		0.00	1.00	2.00	0.00		0.00	2.00
	Repair of Computers and other equipment	4911	69.90	0.00		0.00	69.90	141.80	0.00		0.00	141.80
	Office building	4921	10.00	12.00		0.00	22.00	20.00	24.00		0.00	44.00
	Other repair and maintenance	4991	5.00	0.00		0.00	5.00	10.00	0.00		0.00	10.00
	Sub-total		**93.40**	**12.00**		**0.00**	**105.40**	**188.80**	**24.00**		**0.00**	**212.80**
	Total (Revenue)		**1821.61**	**2109.78**		**1600.00**	**5531.39**	**3671.80**	**3896.48**		**13400.00**	**20968.28**
b. Capital component												
Acquisition of assets-6800	Motor vehicles	6807	0.00	30.00		0.00	30.00	0.00	0.00		0.00	0.00
	Machinery and other equipment	6813	13.60	314.00		0.00	327.60	24.00	304.00		0.00	328.00
	Computers and accessories	6815	2083.41	2862.01		0.00	4945.42	500.00	428.82		0.00	928.82
	Computer Software	6817	60.00	0.00		0.00	60.00	120.00	0.00		0.00	120.00
	Furniture and fixture	6821	14.00	0.00		0.00	14.00	11.00	0.00		0.00	11.00
	Telecommunication equipment	6823	16.00	1000.00		400.00	1416.00	32.00	0.00		400.00	432.00
	Sub-total		**2187.01**	**4206.01**		**400.00**	**6793.02**	**687.00**	**732.82**		**400.00**	**1819.82**
CD/VAT-7901	CD/VAT	7901	40.00	0.00		0.00	40.00	50.00	0.00		0.00	50.00
	Total (Capital)		**2227.01**	**4206.01**		**400.00**	**6833.02**	**737.00**	**732.82**		**400.00**	**1869.82**
	Grand Total (a+b)		**4048.62**	**6315.79**		**2000.00**	**12364.41**	**4408.80**	**4629.30**		**13800.00**	**22838.10**

13. Year-wise physical and financial target during OP period

(Taka in Lakh)

Name of the component (Major Activities)	Name of sub-Activity	Physical Qty/Unit	Unit Cost	Total Cost	Weight	FY 2011-12			FY 2012-13			FY 2013-14			FY 2014-2016		
						Financial	Physical		Financial	Physical		Financial	Physical		Financial	Physical	
							% of Item	% of OP		% of Item	% of OP		% of Item	% of OP		% of Item	% of OP
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Supplies & services	Postal	Lump sum	0.30	1.50	0.002	0.30	20.00	0.00	0.30	20.00	0.00	0.30	20.00	0.00	0.60	40.00	0.00
	Telephone/ Telegraph/ Teleprinter	Lump sum	69.09	345.43	0.567	30.00	8.68	0.05	70.90	20.53	0.12	102.73	29.74	0.17	141.80	41.05	0.23
	Telex/ Fax/ Internet	Lump sum	1091.96	5459.79	8.967	262.47	4.81	0.43	1099.32	20.13	1.81	1366.00	25.02	2.24	2732.00	50.04	4.49
	Electricity	Lump sum	1.08	5.40	0.009	0.60	11.11	0.00	1.20	22.22	0.00	1.20	22.22	0.00	2.40	44.44	0.00
	Petrol and Oil	Lump sum	31.82	159.12	0.261	28.80	18.10	0.05	30.96	19.46	0.05	33.12	20.81	0.05	66.24	41.63	0.11
	Printing, publication, research	Lump sum	178.00	890.00	1.462	100.00	11.24	0.16	200.00	22.47	0.33	190.00	21.35	0.31	400.00	44.94	0.66
	Stationery, Seals and Stamps	Lump sum	312.12	1560.61	2.563	50.00	3.20	0.08	303.00	19.42	0.50	437.61	28.04	0.72	770.00	49.34	1.26
	Books and Periodicals	Lump sum	2.60	13.00	0.021	3.20	24.62	0.01	2.20	16.92	0.00	3.20	24.62	0.01	4.40	33.85	0.01
	Advertisement	Lump sum	6.10	30.50	0.050	6.50	21.31	0.01	6.00	19.67	0.01	6.00	19.67	0.01	12.00	39.34	0.02
	Training expenses	Details in Page A-13	3338.91	16694.57	27.419	1100.00	6.59	1.81	2249.67	13.48	3.69	1955.42	11.71	3.21	11389.48	68.22	18.71
	Transportation Cost	Lump sum	0.30	1.50	0.002	0.30	20.00	0.00	0.30	20.00	0.00	0.30	20.00	0.00	0.60	40.00	0.00
	Consultancy	Lump sum	1489.25	7446.26	12.230	325.90	4.38	0.54	1184.00	15.90	1.94	1179.36	15.84	1.94	4757.00	63.88	7.81
	Survey	Lump sum	35.00	175.00	0.287	0.00	0.00	0.00	25.00	14.29	0.04	50.00	28.57	0.08	100.00	57.14	0.16
	Survey (GR data entry)	Details in Page A-16	120.00	600.00	0.985	600.00	100.00	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Computer stationery	Lump sum	91.17	455.86	0.749	48.85	10.72	0.08	73.00	16.01	0.12	48.85	10.72	0.08	285.16	62.55	0.47
	Special expense (Incentives)	Lump sum	12.00	60.00	0.099	0.00	0.00	0.00	10.00	16.67	0.02	10.00	16.67	0.02	40.00	66.67	0.07
	Other expenses	Lump sum	31.86	159.28	0.262	21.68	13.61	0.04	41.90	26.31	0.07	41.90	26.31	0.07	53.80	33.78	0.09
	Sub-total		**6811.56**	**34057.82**	**55.936**	**2578.60**	**7.57**	**4.24**	**5297.75**	**15.56**	**8.70**	**5425.99**	**15.93**	**8.91**	**20755.48**	**60.94**	**34.09**
Repair & maintenance-4900	Repair of Motor vehicles	Lump sum	7.36	36.80	0.060	7.00	19.02	0.01	7.30	19.84	0.01	7.50	20.38	0.01	15.00	40.76	0.02
	Repair of Furniture and fixtures	Lump sum	1.00	5.00	0.008	1.00	20.00	0.00	1.00	20.00	0.00	1.00	20.00	0.00	2.00	40.00	0.00

Detail of the Operational Plan (OP)

Name of the component (Major Activities)	Name of sub-Activity	Physical Qty/Unit	Unit Cost	Total Cost	Weight	FY 2011-12			FY 2012-13			FY 2013-14			FY 2014-2016		
						Financial	Physical		Financial	Physical		Financial	Physical		Financial	Physical	
							% of Item	% of OP		% of Item	% of OP		% of Item	% of OP		% of Item	% of OP
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Repair of Computers and other equipment	Lump sum	62.50	312.50	0.513	30.90	9.89	0.05	69.90	22.37	0.11	69.90	22.37	0.11	141.80	45.38	0.23
	Office building	Lump sum	29.60	148.00	0.243	60.00	40.54	0.10	22.00	14.86	0.04	22.00	14.86	0.04	44.00	29.73	0.07
	Other repair and maintenance	Lump sum	5.00	25.00	0.041	5.00	20.00	0.01	5.00	20.00	0.01	5.00	20.00	0.01	10.00	40.00	0.02
	Sub-total	Lump sum	**105.46**	**527.30**	**0.866**	**103.90**	**19.70**	**0.17**	**105.20**	**19.95**	**0.17**	**105.40**	**19.99**	**0.17**	**212.80**	**40.36**	**0.35**
Total(Revenue)			**6917.02**	**34585.12**	**56.802**	**2682.50**	**7.76**	**4.41**	**5402.95**	**15.62**	**8.87**	**5531.39**	**15.99**	**9.08**	**20968.28**	**60.63**	**34.44**
b. Capital component																	
Acquisition of assets-6800	Motor vehicles	Lot 1	38.00	190.00	0.312	0.00	0.00	0.00	160.00	84.21	0.26	30.00	15.79	0.05	0.00	0.00	0.00
	Machinery and other equipment	Lot 2	492.68	2463.40	4.046	280.80	11.40	0.46	1527.00	61.99	2.51	327.60	13.30	0.54	328.00	13.31	0.54
	Computers and accessories	Lot 3	3764.84	18824.21	30.916	2390.54	12.70	3.93	10559.43	56.09	17.34	4945.42	26.27	8.12	928.82	4.93	1.53
	Computer Software	Lot	54.00	270.00	0.443	30.00	11.11	0.05	60.00	22.22	0.10	60.00	22.22	0.10	120.00	44.44	0.20
	Furniture and fixture	Lot 4	11.40	57.00	0.094	20.00	35.09	0.03	12.00	21.05	0.02	14.00	24.56	0.02	11.00	19.30	0.02
	Telecommunication equipment	Lot 5	863.53	4317.64	7.091	396.16	9.18	0.65	2073.48	48.02	3.41	1416.00	32.80	2.33	432.00	10.01	0.71
	Sub-total		**5224.45**	**26122.25**	**42.903**	**3117.50**	**11.93**	**5.12**	**14391.91**	**55.09**	**23.64**	**6793.02**	**26.00**	**11.16**	**1819.82**	**6.97**	**2.99**
CD/VAT-7901	CD/VAT		36.00	180.00	0.296	50.00	27.78	0.08	40.00	22.22	0.07	40.00	22.22	0.07	50.00	27.78	0.08
	Total (Capital)		**5260.45**	**26302.25**	**43.198**	**3167.50**	**12.04**	**5.20**	**14431.91**	**54.87**	**23.70**	**6833.02**	**25.98**	**11.22**	**1869.82**	**7.11**	**3.07**
	Grand Total (a+b)		**12177.47**	**60887.37**	**100.000**	**5850.00**	**9.61**	**9.61**	**19834.86**	**32.58**	**32.58**	**12364.41**	**20.31**	**20.31**	**22838.10**	**37.51**	**37.51**

Formulas used:

$$\text{Weight of each item} = \frac{\text{Est. cost of each respective item}}{\text{Total cost of all physical item}}$$

$$\text{Physical \% of item} = \frac{\text{Quantity/ No. targeted in each yr X 100}}{\text{Total Qty/No. of respective item for whole OP}}$$

Physical % of total OP = Weight of each item x % of item

1. Details in page- A-12

2. Details in page- A-10 (item no. 1, 3, 5, 8, 9, 13, 18, 20,21,22)

3. Details in page- A-10 (item no. 2, 4, 7, 14, 16, 17)

4. Details in page- A-11

5. Details in page- A-10 (item no. 6, 10, 15, 19, 23)

14. Location-wise break-up of the components

Name of Component	National	Name of Division	Name of District	Name of Upazila	Estimated cost (Lakh Taka)
Advertisement	National	NA	NA	NA	15.50
Computers and accessories	National	NA	NA	NA	50.25
Consultancy	National	NA	NA	NA	612.33
Machinery and other equipment	National	NA	NA	NA	1478.06
Motor vehicles	National	NA	NA	NA	60.00
Office building extension	National	NA	NA	NA	70.00
Petrol and Oil	National	NA	NA	NA	133.20
Printing, publication, research	National	NA	NA	NA	176.10
Repair of Furniture and fixtures	National	NA	NA	NA	5.00
Repair of Motor vehicles	National	NA	NA	NA	94.50
Stationery, Seals and Stamps	National	NA	NA	NA	16.10
Survey	National	NA	NA	NA	200.00
Telecommunication equipment	National	NA	NA	NA	81.30
Telephone/ Telegraph/ Teleprinter	National	NA	NA	NA	6.00
Telex/ Fax/ Internet	National	NA	NA	NA	6.00
Training expenses	National	NA	NA	NA	329.22
Transportation Cost	National	NA	NA	NA	1.50
Electricity	National	NA	NA	NA	6569.17
				National Total=	**9904.23**
Computers and accessories	NA	All	NA	NA	901.00
Consultancy	NA	All	NA	NA	2090.00
Machinery and other equipment	NA	All	NA	NA	13.00
Repair of Computers and other equipment	NA	All	NA	NA	34.00
Stationery, Seals and Stamps	NA	All	NA	NA	136.00
Telex/ Fax/ Internet	NA	All	NA	NA	183.60
Training expenses	NA	All	NA	NA	425.40
				Division Total=	**3783.00**
Computer stationery	NA	All	NA	NA	123.50
Computers and accessories	NA	All	NA	NA	991.27
Consultancy	NA	All	NA	NA	12.00
Repair of Computers and other equipment	NA	All	NA	NA	104.75
Stationery, Seals and Stamps	NA	All	NA	NA	272.00
Telex/ Fax/ Internet	NA	All	NA	NA	408.60
Training expenses	NA	All	NA	NA	882.19
Consultancy	NA	Rajshahi	Nilphamari	NA	51.78
Consultancy	NA	Dhaka	Gopalganj	NA	51.78
Consultancy	NA	Khulna	Satkhira	NA	51.78
Machinery and other equipment	NA	Rangpur	Nilphamari	NA	34.55
Machinery and other equipment	NA	Dhaka	Gopalganj	NA	34.55
				District Total=	**3053.30**

14. Continued...

Name of Component	National	Name of Division	Name of District	Name of Upazila	Estimated cost (Lakh Taka)
Advertisement	NA	All	All	All	128.00
Computers and accessories	NA	All	All	All	6556.95
Computer stationery	NA	All	All	All	144.90
Consultancy	NA	All	All	All	22361.31
Machinery and other equipment	NA	All	All	All	128.98
Motor vehicles	NA	All	All	All	750.00
Other repair and maintenance	NA	All	All	All	236.75
Petrol and Oil	NA	All	All	All	25.92
Postal	NA	All	All	All	1.50
Printing, publication, research	NA	All	All	All	1310.00
Repair of Motor vehicles	NA	All	All	All	1.80
Stationery, Seals and Stamps	NA	All	All	All	2148.05
Telecommunication equipment	NA	All	All	All	3310.50
Telephone/ Telegraph/ Teleprinter	NA	All	All	All	347.70
Training expenses	NA	All	All	All	6157.49
Construction of GR data center	NA	All	All	All	108.00
Consultancy	NA	Khulna	Khulna	Dakope	51.78
Consultancy	NA	Khulna	Satkhira	Debhata	51.78
Consultancy	NA	Rajshahi	Rangpur	Pirganj	41.78
Machinery and other equipment	NA	Khulna	Khulna	Dakope	34.55
Machinery and other equipment	NA	Khulna	Satkhira	Debhata	34.55
Machinery and other equipment	NA	Rajshahi	Rangpur	Pirganj	34.55
				Upazila Total=	**43966.84**
CD/VAT	NA	NA	NA	NA	180.00
				CD/VAT Total=	**180.00**
				Grand Total=	**60887.37**

22. Name & Designation of officers responsible for the preparation of this OP:

Name	Designation	Signature with date
Professor Dr Abul Kalam Azad	ADG (Planning & Development) & Line Director, MIS, DGHS	
Engineer Sukhendu Shekhor Roy	System Analyst, MIS, DGHS	
Md. Ruhul Amin	Assistant Programmer, MIS, DGHS	
Md. Mahfuzur Rahman	Assistant Programmer, MIS, DGHS	

23. Recommendation and Signature of the Head of the Implementing Agency with seal & date

(Professor Dr Khondhaker Md Shifyetullah)
Director General of Health Services
Mohakhali, Dhaka

24. Recommendation of the Signature of the Secretary of the sponsoring Ministry with seal & date
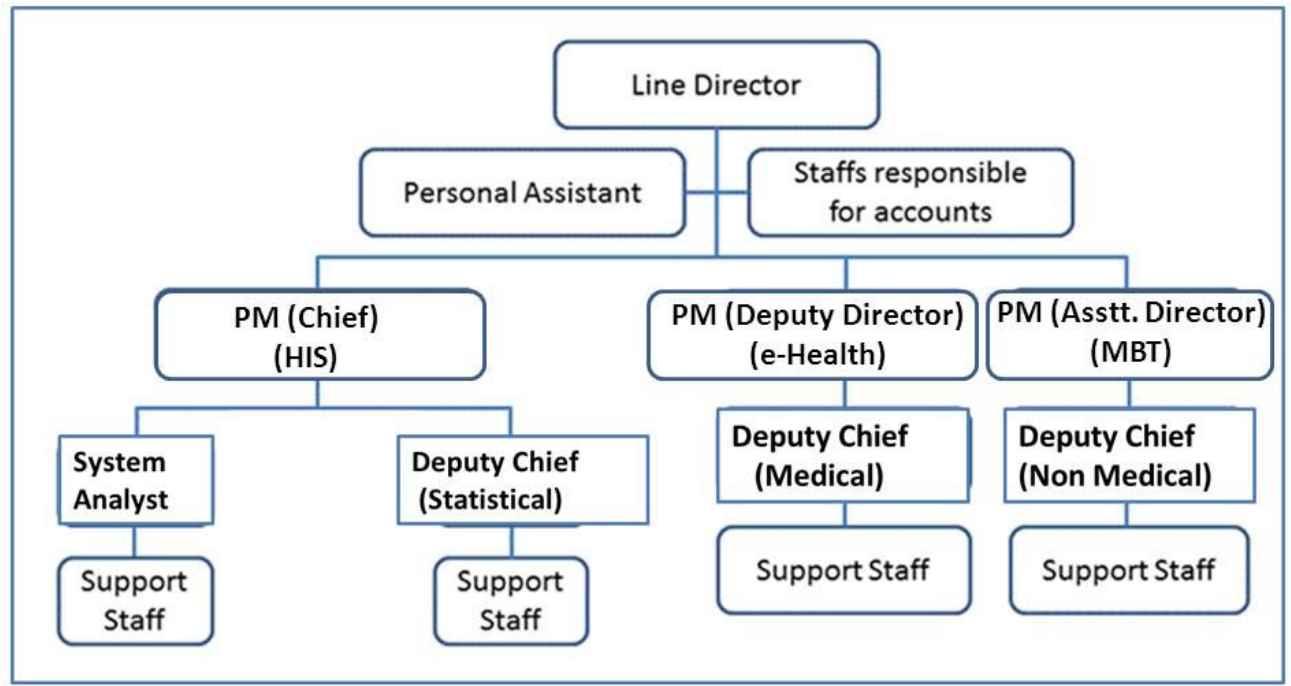
Md. Humayun Kabir
Secretary, MOHFW, Dhaka

Annexures

Management setup of the OP

Organogram

Annexure-II
Log Frame

(i) Planned date completion: 30 June 2016

(ii) Date of summary preparation: September 2011

ASPECT	NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
PROGRAM / OP GOAL	To improve health information system in Bangladesh	ICT infrastructure for health information system will be in place and data gathering function is in operation	• Visit to various health facilities under DGHS • MIS-Health Reports	• Adequate amount of money may not be available • Procurement may be delayed due to delay in approval process
	To improve eHealth in Bangladesh	ICT is demonstrating improved efficiency of health sector in selected areas and is being used for health service delivery to citizens		
	To introduce medical biotechnology in the health sector	Activities are being carried out for introduction of medical biotechnology in the country		
OP PURPOSE OP PURPOSE	**HIS**			
	Strengthening institution-based HIS	Database on institutional profiles is in place and being updated frequently	Online reports produced from institution based database of MIS-H	• Compliance of the health managers and health staffs due to lack of incentives and/or punitive measures may act as a barrier in the updating of database • Discussions will be made with MOHFW to improve situation
	Strengthening human resource related HIS	A web based human resource database is in place	Demonstration by MIS-H of existence of HR database and its capacity to show status of HR	
	Strengthening program based HIS	A database for tracking progress of vertical health program is in place	Existence of health program database in MIS-H server	
	Development and operation of population based HIS	A database for population demography is in developmental stage and data being fed from community clinics	A population database at some stage of development maintained at MIS-H server	
	Expansion of GIS in health service	GPS devices have been provided to all upazila health offices and upazila level health related geographical information is being collected	Distribution list of GPS provided by MIS-H and upazila based Service Availability Maps	
	eHealth			
	Continuation and further expansion of mobile phone health service and other mHealth	Mobile phone health service has been expanded up to community clinic through the community health care providers	Database of community clinics developed by MIS-H showing information on availability of mobile phone health service	• Financial constraints and complexity in procurement process may delay implementation • Lack of electricity may be a barrier for expansion of video conference and/or telemedicine • Cost and unavailability of seamless Internet bandwidth may also act as barriers to smooth video conferencing/telemedicine
	Strengthening and expansion of video conferencing	Video conferencing system is being increasingly used for meetings, real time communications or teaching	Acknowledgement by a good number of health managers that they use video conferencing for discussion, meeting, seminars, etc.	
	Expansion of telemedicine service	Telemedicine services are being routinely used in community clinics	MIS-H database of community clinics showing information on availability of telemedicine service	

Log frame continued...

ASPECT	NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
MBT				
OP PURPOSE OP PURPOSE	Achievement of the short and medium term deliverables mentioned in the National Guidelines on Medical Biotechnology	Evidence of efforts for achieving the short and medium term deliverables of the national guidelines of MBT	MIS-H progress report on MBT	Lack of adequate awareness of some quarters of health policy makers may hinder timely and adequate implementation
	Creation of conditions for a foundation with a view to achieve the long term deliverables of the National Guidelines on Medical Biotechnology	Evidence of preparatory activities for achieving the long term deliverables of the MBT	MIS-H progress report on MBT	
HIS				
OUTPUTS	Institution based HIS: Increased availability of institution based information; Strengthened monitoring and evaluation systems	% of health facilities and institutions providing minimum set of information on organization profile to the online database; Comprehensive MIS reports published and disseminated annually; % of Upazilas (reporting units) submitting a complete MIS service statistics report on-line and on time	MIS reports, annually	a. Lack of competent staffs may compromise taking full advantage in the quality, length and depth of the MIS reporting b. Inadequate understanding of the field level health managers and staffs may compromise data quality of MIS reports c. Training and communication will be made on ongoing basis to improve data quality
	HR related HIS: Improved human resources – planning, development and management	% of upazilas provided vacancy statements on major staff categories on required interval; No. of pairs of skilled personnel (Obs-Anesth) deployed in District and Upazila level facilities for CEmONC services; No. of CEmONC facilities with 3 pairs of skilled personnel OR % of District and Upazila level facilities accredited and providing CEmONC services	MIS reports, annually	
	Program based HIS: Improved equity in essential service utilization (MDG, 1, 4, 5 and 6); Improved awareness of healthy behavior (MDG 1,4, 5); Strengthened quality assurance and supervision systems	% of women targeted by improved voucher scheme having institutional deliveries; % of Neonates initiated breastfeeding within 1 hr of birth in Community IMCI areas; % of Facilities reporting declining case fatality rate, e.g., neonatal deaths	BDHS, every three year, Web based report on Community IMCI supported by UNICEF	
	Population based HIS: Population demographic information is available from upazila health offices	% of upazilas provided population based demographic information mobilizing the community clinics	Reports of MIS-H	

Log frame continued...

ASPECT	NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OUTPUTS	Expansion of GIS: A repository on basic health related GIS data is available	% of districts and upazilas provided basic GIS information to MIS-H following specific format supplied from MIS-H	Web based reports of MIS-H	
		eHealth		
OUTPUTS	Increased utilization of mobile phone health service in the upazila hospitals and expansion of mobile phone health service to community clinics	Average of number of incoming calls per month per upazila hospital for seeking medical advice; %of Community Health Care Providers engaged in mobile phone health service	Reports on incoming calls collected by MIS-H from mobile operators; Reports of MIS-H on engagement of CHCPs in mobile phone health service	Inadequacy in campaigns due to shortage of fund may keep the people in the catchments unaware of the availability of mobile phone health service
	Strengthening and expansion of video/audio conferencing: Increased use of video or audio conferencing for online meetings, discussions, etc.	% of district health managers who use video or audio conferencing instead of meetings involving physical presence of sub-ordinate health managers	Monitoring reports of MIS-H	Due to extreme busy schedule and lack of skilled staffs some health managers may not be in situation to effectively use video/audio conferencing
	Expansion of telemedicine service	% of community clinics with teleconferencing device conducted telemedicine sessions for at least 10 patients per year	Monitoring reports of MIS-H	Due to unavailability of electricity and adequate Internet bandwidth some community clinics may remain uncovered of telemedicine service
		MBT		
	Relevant disciplines of medical institutions started teaching on MBT	% of biochemistry, microbiology and community medicine departments of the medical colleges of the country started teaching MBT to the students	Progress report on MBT	Some medical teachers may come out with great enthusiasm
		HIS		
INPUTS	Institution based HIS: Database developed; computers and connectivity provided; data items, standards and definitions created; appropriate communications to end users made	Institution based HIS: Database exists and in operation; % of targeted places where computers and connectivity exist; list of data items, standards and definitions available for demonstration; evidence exists for communications to end users	Institution based HIS database	Progress at some points for some of the activities may be constrained by delay in fund release, procurement, finding right IT persons for database development, compliance and competence of health managers and staffs, and inadequate policy support
	HR related HIS: Database developed; all human resource related management functions brought under enterprise database system	Database exists and in operation; all human resource related management functions are being shifted gradually to the enterprise level database system	HR related database	
	Program based HIS: Database developed; advocacies of LDs done; information on progress of Ops and vertical health programs collected	A functional database system exists showing information on operational plans and vertical health programs at satisfactory level	Program based database	

Log frame continued...

ASPECT	NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
INPUTS	Population based HIS: GR conducted; GR database developed; GR database updated mobilizing the community clinics and health workers	GR database exists and fed with population data on incremental basis; efforts undergoing to mobilize community clinics and health workers to update the database	GR database in stage of development	
	HIS			
	GIS in health services: GPS provided to district and upazila health offices; data items, standards and definitions created; data gathered and mapping done	All districts and increasing number of upazila health offices given GPS device. List exists for data items, standards and data definitions on GIS data being collected; GIS data available for mapping	List districts and upazilas having GPS devices; GIS data available for mapping	
	Data management, information products, dissemination and use: Reports prepared and used through various communications methods, viz. web, print, workshops, seminars, etc.	MIS reports prepared and disseminated through web portal, bulletins, newsletters, workshops, seminars, etc.	MIS reports and web portal used for data dissemination	
	eHealth			
INPUTS	Continuation and further expansion of mobile phone health service: Increased monitoring for mobile phone health service; involvement of Community Health Care Providers in provision of mobile phone health service	Monitoring system from MIS-H head office is in place to ensure that quality mobile phone health service in upazila health complex continues; % of Community Health Care Providers who provide advice to catchments population through mobile phone	Monitoring report of MIS-H on mobile phone health service	As described under assumptions for eHealth in sections of specific objective and expected results
	Expansion of video conferencing: Provision of web camera to all districts and upazilas; provision of bandwidth to each destination; advocacy for increased participation of the health managers to use video conferencing for management meetings, discussions, etc.	% of district and upazila health managers offices provided with video conferencing devices and minimum level of Internet bandwidth; % of district health managers who use video/audio conferencing instead of meetings/discussions involving physical presence	District reports of MIS-H on use of video/audio conferencing	
	Expansion of telemedicine: Continuation of current activities of telemedicine; creating more telemedicine centers; providing telemedicine devices to community clinics	% of current places which continue telemedicine services; % of community clinics provided teleconferencing devices and % of those conducted telemedicine sessions for at least 10 patients per year	Reports of MIS-H on telemedicine services	

Log frame continued...

ASPECT	NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
		MBT		
INPUTS	Implementation of the short and medium term activities mentioned in the National Guidelines on MBT	Progress made on the implementation of short and medium term activities mentioned in the National Guidelines on MBT	Progress report on MBT	As described under assumptions for newer technology in sections of specific objective and expected results
	Implementation of the initial activities that are required for implementation of the long term deliverables of the National Guidelines on MBT	Progress made on the implementation of the initial activities required for implementation of the long term deliverables of the National Guidelines on MBT	Progress report on MBT	

Annexure-III (a)

PROCUREMENT PLAN OF GOODS FOR OPERATION PLAN

Ministry/Division	MOHFW	OP Cost (in Lakh Taka)	
Agency	DGHS	60887.37	Total
Procuring Entity & Code	CMSD	20014.42	GOB
OP Name & Code	HIS & eHealth	40872.95	PA

Package No.	Description of procurement	Fiscal Year	Unit	Qty	Procurement method and type	Contact Approving authority	Source of Fund	Estd. Cost (Lakh Taka)	Indicative Dates			
									Invitation for proposal	Invitation for tender	Signing of contact	Completion of contact
1	2	3	4	5	6	7	8	9	10	11	12	13
GD1	Jeep for GR monitoring	2012-13	No.	2	FC	MOHFW	GOB/ RPA	130		Nov-12	Mar-13	May-13
GD2	Motor vehicles	2012-13	No.	1	FC	MOHFW	GOB/ RPA	30		Nov-11	Mar-12	May-12
		2013-14		1				30		Nov-12	Mar-13	May-13
GD3	GPS	2012-13	Lot	Lot	NCT/ICT/ Quotation	MOHFW	GOB/ RPA	40		Nov-12	Mar-13	May-13
		2013-14						40		Nov-13	Mar-14	May-14
		2014-15						20		Nov-14	Mar-15	May-15
GD4	Telemedicine peripherals and expansion of telemedicine	2011-12	Lot	Lot	FC	MOHFW	GOB/ RPA	200		Nov-12	Mar-13	May-13
		2012-13						200		Nov-12	Mar-13	May-13
		2013-14						200		Nov-13	Mar-14	May-14
		2014-15						200		Nov-14	Mar-15	May-15
GD5	Multimedia	2012-13	Lot	Lot	NCT/ICT/ Quotation	MOHFW	GOB/ RPA	269		Nov-12	Mar-13	May-13
GD6	Solar Panel	2012-13	Lump sum	Lump sum	NCT/ICT	MOHFW	GOB/ RPA	1,000.00		Nov-12	Mar-13	May-13
GD7	Generator	2011-12	Lump sum	Lump sum	NCT/ICT/ Quotation	MOHFW	GOB/ RPA	15.00		Nov-11	Mar-12	May-12
	Others machineries	2011-12	Lot	Lot	NCT/ICT/ Quotation	MOHFW	GOB/ RPA	65.8		Nov-11	Mar-12	May-12
		2012-13						18.00		Nov-12	Mar-13	May-13
		2013-14						87.6		Nov-13	Mar-14	May-14
		2014-16						128.00		Nov-14	Mar-15	May-15
GD8	Computers, servers, laptops, printers, networking and other accessories	2011-12	Lot	Lot	FC/ NCT/ICT/ Quotation	MOHFW	GOB/ RPA	1690.54		Nov-11	Mar-12	May-12
		2012-13						9513.43		Nov-12	Mar-13	May-13
		2013-14						4545.42		Nov-13	Mar-14	May-14
		2014-16						628.82		Nov-14	Mar-15	May-15
GD9	Hardware for Data center	2012-13	Lot	Lot	NCT/ICT	MOHFW	GOB/ RPA	596		Nov-12	Mar-13	May-13

Package No.	Description of procurement	Fiscal Year	Unit	Qty	Procurement method and type	Contact Approving authority	Source of Fund	Est. Cost (Lakh Taka)	Indicative Dates			
									Invitation for proposal	Invitation for tender	Signing of contact	Completion of contact
1	2	3	4	5	6	7	8	9	10	11	12	13
GD10	Furniture and fixture	2011-12	Lot	Lot	NCV/ Quotation	MOHFW	GOB/ RPA	20		Nov-11	Mar-12	May-12
		2012-13						12		Nov-12	Mar-13	May-13
		2013-14						14		Nov-13	Mar-14	May-14
		2014-2016						11		Nov-14	Mar-15	May-15
GD11	Tele-communication equipment (PDA, wi fi, modems, etc.)	2011-12	Lot	Lot	NCT/ Quotation	MOHFW	GOB/ RPA	356.16		Nov-11	Mar-12	May-12
		2012-13						2,033.73		Nov-12	Mar-13	May-13
		2013-14						1376.00		Nov-13	Mar-14	May-14
		2014-16						412.00		Nov-14	Mar-15	May-15
GD12	Tertiary level hospital automation	2011-12	Lot	Lot	FC	MOHFW	GOB/ RPA	250.00		Nov-11	Mar-12	May-12
		2012-13						450.00		Nov-12	Mar-13	May-13
		2013-14						400.00		Nov-13	Mar-14	May-14
		2014-16						250.00		Nov-14	Mar-15	May-15
							Total Cost :	**25311.90**				

Note: Change will be allowed if need arises, FC- Framework Contract

PROCUREMENT PLAN OF SERVICES FOR OPERATION PLAN

Ministry/Division	MOHFW		OP Cost (in Lakh Taka)	
Agency	DGHS		60887.37	Total
Procuring Entity & Code	CMSD		20014.42	GOB
OP Name & Code	HIS & eHealth		40872.95	PA

Package No.	Description of procurement	Fiscal Year	Unit	Qty	Procurement method and type	Contact Approving authority	Source of Fund	Estd. cost	Indicative Dates			
									Invitation for proposal	Invitation for tender	Signing of contact	Completion of contact
1	2	3	4	5	6	7	8	9	10	11	12	13
SP1	Consultancy services to gather data from tertiary hospitals	2011-16	Lump sum	Lump sum	NCT/Quotation	MOHFW	GOB/RPA	304.00 X 5 yrs	Sep-11	Nov-11	Mar-12	May-12
SP2	Consultants and support staffs	2011-16	Lump sum	Lump sum	NCT/Quotation	MOHFW	GOB/RPA	36.00 X 5 years	Sep-11	Nov-11	Mar-12	May-12
SP3	GR data entry	2011-12	Lump sum	Lump sum	NCT	MOHFW	GOB	600.00	Sep-11	Nov-11	Mar-12	May-12
SP4	Maintenance contract for data center	2012-16	Lump sum	Lump sum	NCT/Quotation	MOHFW	GOB/RPA	250.00	Sep-12	Nov-12	Mar-13	May-13
	Development national HIS & eHealth Enterprise Architecture Plan	2012-13	Lump sum	Lump sum	NCT/Quotation	MOHFW	GOB/RPA	348.00	Sep-12	Nov-12	Mar-13	May-13
SP5	Telemedicine center service consultancy	2011-16	Lump sum	Lump sum	NCT/Quotation	MOHFW	GOB/RPA	250.00	Sep-11	Nov-11	Mar-12	May-12
SP7	Research & survey	2011-12	Lump sum	Lump sum	NCT/Quotation	MOHFW	GOB/RPA	100.00	As and when required			
		2012-13						225.00				
		2013-14						250.00				
		2014-15						250.00				
		2015-16						250.00				
SP8	Software development for various purposes	2011-12	Lump sum	Lump sum	NCT/Quotation	MOHFW	GOB/RPA	30.00	As and when required			
		2012-13						60.00				
		2013-14						60.00				
		2014-15						60.00				
		2015-16						60.00				
							Total Cost :	4513.00				

Note: Change will be allowed if need arises

List of Machinery & Equipment

(Taka in Lakh)

Sl. No.	Name of the Equipment	Unit Price (estimated)	Quantity (estimated)	Estimated Cost
1	Air conditioner	1.00	13	13.00
2	Computer/ Alternate for computer	0.50	9950	4975.00
3	Digital camera	0.25	10	2.50
4	Equipment for data center	-	1 Package	596.00
5	Generator	15.00	1	15.00
6	GPS	0.25	483	120.75
7	Laptop computer/ Alternate for laptop	0.43	18000	7740.00
8	Machinery (photocopy, scanner, fax, etc.)	25.00	Lots	25.00
9	Other Machineries	19.40	Lots	19.40
10	Modems (wireless)	0.03	20350	610.50
11	Motor vehicle	47.50	4	190.00
13	Multimedia	0.75	483	362.25
14	Networking equipment & accessories and office attendance system	120.00	Lot	900.46
15	PDA / Mobile device	0.15	20350	3052.50
16	Printer	0.25	18000	4500.00
17	Server	4.12	17	70.04
18	Solar panel system	-	1 Package	1000.00
19	Tele-communication equipment	24.30	Lot	24.30
20	Tele-education system	20.00	Lot	20.00
21	Telemedicine equipment	10.66	Lot	1066.00
22	Web Camera	0.02	490	9.80
			Total=	25312.50

Note: These list and cost estimates are provisional. Requirements in terms of type of equipment, specification, quantity and cost will be appropriately determined at the time of procurement as technologies are fast changing.

List of Furniture and Fixures

(Taka in Lakh)

Sl. No.	Name of the Furniture	Unit Price (Estimated)	Quantity (Estimated)	Estimated Cost
1	Secretariat Table	0.25	20	5.00
2	Executive Table	0.25	20	5.00
3	Computer Table	0.10	150	15.00
4	Chair	0.10	220	22.00
5	Rack	0.2	10	2.00
6	Almirah	0.25	10	2.50
7	Cabinet	0.15	10	1.50
8	Show case	0.25	10	2.50
9	Shelf	0.15	10	1.50
			Total=	57.00

Note: These list and cost estimates are provisional. Requirements in terms of type of furniture, specification, quantity and cost will be appropriately determined at the time of procurement as design, material, and needs are changing.

List of Vehicles

(Taka in Lakh)

Sl. No.	Name of the Vehicle	Unit Price (Estimated)	Quantity (Estimated)	Estimated Cost
1	Jeep	65.00	2	130.00
2	Micro Bus	30.00	2	60.00
			Total =	190.00
Note: These list and cost estimates are provisional. Requirements in terms of type of vehicle, specification, quantity and cost will be appropriately determined at the time of procurement as technologies and needs may change.				

List of Training Programs & Estimated Cost

a) List of Training Programs and Year-wise Estimated Cost (Taka in Lakh)

Sl. No.	Type of training workshop	Total (2011-2016)		2011-12		2012-13		2013-14		2014-2016	
		Physical (Batch)	Financial	Physical (Batch)	Financial	Physical (Batch)	Financial	Physical (Batch)	Financial	Physical (Batch)	Financial
(a). Local Training											
Health Information System (HIS)											
Short Course											
1	MIS Conference	5	436.3	1	87.26	1	87.26	1	87.26	2	174.52
2	Computer Training	205	1523.7	30	206.58	40	305.45	50	346.26	85	665.36
3	Consultative Meeting to Review Community Clinic (CC) based HIS and eHealth System	5	5.9	1	1.18	1	1.18	1	1.18	2	2.36
4	Consultative Workshop on HIS	15	11.2	3	2.24	3	2.24	3	2.24	6	4.48
5	Steering Group Meeting	40	35.00	8	7.00	8	7.00	8	7.00	16	14.00
5	Consultative Workshop for Developing Training Manual & Module for Training of CHCP	5	5.7	1	1.05	1	1.5	1	1.05	2	2.1
6	Consultative workshop for improving GR	19	22.7	3	3.74	4	4.74	4	4.74	8	9.48
7	Dissemination Seminar for GR Report	4	9.96	0	0	1	2.49	1	2.49	2	4.98
8	Dissemination Seminar of Health Bulletin	5	12.44	1	2.48	1	2.49	1	2.49	2	4.98
9	Dissemination Seminar on CC Report	4	9.96	0	0	1	2.49	1	2.49	2	4.98
10	Monitoring & Supervision visit for HIS	10	8.2	2	1.64	2	1.64	2	1.64	4	3.28
11	Monitoring visit to CCs to see HIS activities	5	6.25	1	1.25	1	1.25	1	1.25	2	2.5
12	Monitoring Workshop for GR	50	128.05	8	22.61	10	25.61	12	27.61	20	52.22
13	Monitoring workshop for Civil Surgeons	5	17.65	1	3.53	1	3.53	1	3.53	2	7.06
14	TOT for CHCPs' Training	41	87.2	41	87.2	0	0	0	0	0	0
17	Training of head office staffs	20	33	4	6.6	4	6.6	4	6.6	8	13.2
18	Training of CHCPs on HIS	2803	1129.8	403	161.4	600	242.1	600	242.1	1200	484.2
20	Training of health workers on PDA and diary	1278	754.53	85	50.54	153	88.83	400	233.00	640	382.16
21	Training of staffs on HIS	33	216.6	4	30.99	5	32.4	8	51.07	16	102.14
22	TOT for training of health workers on PDA & health worker's diary	65	133.91	15	31.71	50	102.2	0	0	0	0
	HIS Total	**4577**	**4588.00**	**604**	**709.00**	**879**	**921.00**	**1091**	**1024.00**	**2003**	**1934.00**
eHealth											
23	eHealth Advocacy Seminar	30	16.1	6	3.22	6	3.22	6	3.22	12	6.44
24	Mobile phone health service incentives	5	1436.8	1	216.00	1	231.93	1	331.92	2	656.9
25	Young Software Development Showcase & eHealth Innovation Fair	5	8.3	1	1.66	1	1.66	1	1.66	2	3.32
	eHealth Total	**40**	**1461.2**	**8**	**220.88**	**8**	**236.81**	**8**	**336.8**	**16**	**666.66**
Medical Biotechnology (MBT)											
26	1-d consultative workshop on legislation	10	3.74	0	0	10	3.74	0	0	0	0
27	1-day consultative workshop	2	1.22	1	0.61	1	0.61	0	0	0	0
28	1-day consultative workshop for development of MBT plan	10	4.87	10	4.87	0	0	0	0	0	0
29	2-day sensitization workshop	50	65.35	10	13.07	10	13.07	10	13.07	20	26.14
30	Consultation on draft MBT plan	1	1	1	1.00	0	0	0	0	0	0
31	Consultative meeting of selection board	1	0.3	1	0.30	0	0	0	0	0	0
32	Consultative workshop on MBT	1	1.25	1	1.25	0	0	0	0	0	0
33	Consultative workshop for updating medical curriculum	8	4.81	0	0	8	4.81	0	0	0	0

Sl. No.	Type of training workshop	Total (2011-2016)		2011-12		2012-13		2013-14		2014-2016	
		Physical (Batch)	Financial	Physical (Batch)	Financial	Physical (Batch)	Financial	Physical (Batch)	Financial	Physical (Batch)	Financial
34	Consultative workshop on baseline survey report	1	0.5	1	0.50	0	0	0	0	0	0
35	Core Group Meeting	9	11.04	1	1.2	2	2.46	2	2.46	4	4.92
36	Data collection & report writing: Baseline survey	1	3.5	1	3.5	0	0	0	0	0	0
37	MBT plan development consultative workshop	1	1	1	1.00	0	0	0	0	0	0
38	NTCMB meeting	5	8.44	1	1.2	1	1.81	1	1.81	2	3.62
39	Training of data collector for baseline survey	1	0.5	1	0.50	0	0	0	0	0	0
40	Training workshop for journalists	5	5.56	1	1.12	1	1.11	1	1.11	2	2.22
41	Training workshop for medical teachers	10	12.34	0	0	0	0	10	6.17	0	6.17
	MBT Total	**116**	**125.42**	**31**	**30.12**	**33**	**27.61**	**24**	**24.62**	**28**	**43.07**
	Sub Total (a)	**4733**	**6174.6**	**643**	**960**	**920**	**1185.42**	**1123**	**1385.4**	**2047**	**2643.7**

Medium Course

Long Course

b) Foreign Training

Sl. No.	Type of training	Total (2011-2016)		2011-12		2012-13		2013-14		2014-2016	
		Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
Short Course											
1	Training on various disciplines and areas related to HIS, eHealth and MBT for knowledge, experience and skill gathering with a view to contribute to national system development	40 Persons	200.00	8	40.00	8	40.00	8	40.00	16	80.00
	Sub Total (b)	**40 Persons**	**200.00**	**8**	**40.00**	**8**	**40.00**	**8**	**40.00**	**16**	**80.00**

Medium Course

Long Course

	Grand Total (a+b)	**4773**	**6374.57**	**651**	**1000.00**	**928**	**1225.42**	**1131**	**1425.42**	**2063**	**2723.73**

Note: All local and training programs have been planned during the development of this Operational Plan. Based on ongoing experience and need, it may be needed to make alterations, in design, duration as well as in number of batches and participants in some of the training programs (both local or foreign)

b) Estimated Allocation for Training   (Taka in Lakh)

Year	Total	GOB (FE)	PA (=5+6+7)	RPA trough GOB	RPA others	DPA
1	2	3	4	5	6	7
2011-2012	1100.00		1100.00	1000		100.00
2012-2013	2249.67		2249.67	1269.67		980.00
2013-2014	1955.42		1955.42	1175.42		780.00
2014-2016	11389.48		11389.48	2229.48		9160.00
Total (2011-2016)=	**16694.57**		**16694.57**	**5674.57**		**11020.00**

Annexure-VIII

Related supporting documents

Annexure- VIII (a):   **Estimated cost for computer entry of GR data**

Description	No.	Unit cost	Lakh Taka
Data entry (~28 million forms)	~28 million	1,000,000.00/ million	600.00
		Total =	**600.00**
Note: The cost is estimated. The actual may vary.			

In the following areas, local and/or international technical assistance would be required:

Major Component	Sub-component	TOR (Task list)
1. Establishment of eHealth & HIS infrastructure for Bangladesh	1-1. Developing and updating Data warehouse- aggregating data from different systems and facilities based on resilient and sustainable data center(s)	- Establishing a sector wide high level data monitoring and assisted decision making system for MOHFW - Disease Surveillance System - Procurement surveillance system - Drugs, logistics and supply chain surveillance system - Facilities monitoring and Organizational performance management system - Service tracking system - Attendance monitoring and time attendance system - Human Resource information monitoring system
	1-2. iHRIS (Integrated Human Resource Management Information System)	- Developing organizational information system including nature of the facility and services offered together with T&E of health facilities throughout the country - Personal datasheet of all health personnel - Individual and organizational performance management system (Organizational performance appraisal will be done at aggregate level as it needs many other data generated by other systems) - Individual career planning and training management system - Automated recruitment, joining, separation, leave, transfer, posting, deputation, lien, award, punishment, termination, retirement, resignation, discontinuation, etc. system with automatic data updating facilities through automated office procedures including decision support system - Document tracking system
	1-3. Web based procurement and logistics management tools	- USAID assisted web based system developed for DGFP will be further developed to include e-procurement and shall be applied across the agencies, departments and offices of Ministry of health as a whole
	1-4. Web based financial management tools (having inter-operability with Ministry of Finance's IBUS system	- Tools for preparing revenue and development budget with bottom up planning facilities - Web based monitoring and reporting system - Bank reconciliation system - Pre audited payment settlement system for cost centers - Bottom up call for fund system for GOB and RPA funds - Beneficiary payments (for demand side health financing) - Insurance tracking (for demand side health financing)
	1-5. HIS (Health Information System)	- Electronic Health records - Health facility outdoor and indoor automation - Decision support system for health work force - Queue management system - Lab test and diagnostic system automation - Electronic prescription system with paper backup - Service tracking at community and facility level - Integrated hospital management system using iHRIS, HIS, Financial management tools, supply chain, procurement and logistics management tools - Medical audit system

Major Component	Sub Component	Thematic Work Areas (Task list)
1. Establishment of eHealth & HIS infrastructure for Bangladesh	1-6. E-enabled health service delivery and management system	- Telemedicine system for the citizens, home and abroad, also for the doctors and health service providers for expert advisory service - Tele-pathology, tele-radiology and tele-procedures - SMS and e-mail based pregnant mother registration and advisory service - SMS and e mail based sick reporting and advisory service for the citizens - Awareness building of people on health and related issues - GIS based health facility and service tracking system, pregnant mother and neonatal tracking system - Video conferencing for management meetings, and in and/or inter-country discussions, seminars, scientific exchanges, etc.
	1-7. E-epidemiological Surveillance System (in collaboration with IEDCR & CDC)	- Capturing disease data from communities and health facilities - Analyzing disease pattern - Relating disease prevalence to climate change and environmental issues - Intelligence system for disease forecasting and alert including alert response - Integration of GIS with the disease surveillance system
	1-8. E-education and distance learning	- Use of ICT in medical education - Concurrent video presence in distant class rooms - Online examinations - Training in simulated environment - Digital library - Students' and teachers' performance tracking
2. Capacity development for implementing eHealth infrastructure of Bangladesh	1-1. Infrastructure development & maintenance 1-2. Orientation & training of human resource 1-3. Creation of new posts 1-4. Hiring of managed service	- Supply of computers, laptops, printers and other peripherals - Networking (LAN, WAN, Wireless) - Internet bandwidth - Repair and maintenance - Up gradation - Orientation of concerned staffs both in home and abroad, training of human resource - Creation of revenue posts of ICT staffs to fulfill the future needs - Hiring of managed service
3. Strengthening and capacity building	1-1. Infrastructure development & maintenance 1-2. Orientation & training of human resource 1-3. Creation of new posts 1-4. Hiring of managed service	- Supply of computers, laptops, printers and other peripherals - Networking (LAN, WAN, Wireless) - Internet bandwidth - Repair and maintenance - Up gradation - Orientation of concerned staffs both in home and abroad, training of human resource - Creation of revenue posts of ICT staffs to fulfill the future needs - Hiring of managed service

Annexure-VIIIc: **List of Equipment, Machineries, Furniture and Other Related Materials Procured under HNPSP (2003-2011)**

Sl. No.		Name of the Equipment (Including hospital equipment), Machineries (Including Computers, Photocopiers, Air-conditioners, etc.), Furniture, and other related materials	Type	Quantity	Place where being used at present	Remarks
1		2	3	4	5	6
2.	**Office Equipment:**					
2003-2005	2.1	Server		1	MIS-1	
	2.2	Laptop		2	MIS-2	
	2.3	Desktop Computer		127	MOHFW-17; DGHS-20; MIS-31; MCH-39; MC-14; Division H. Office 6 =127	
	2.4	Laser Printer		48	MOHFW-4; DGHS-7; MIS-5; MCH-14; MC-12; Division H. Office- =48	
	2.5	UPS (On Line)		5	MOHFW-1; MIS-4 =5	
	2.6	UPS (Off Line)		193	MOHFW-17; DGHS-20; MIS-31; MCH-39; MC-14; Division H. Office-6; Dist. Hospital-23; UHC-43 =193	
	2.7	Air-conditioner		-		
	2.8	Multimedia		2	MIS-2	
	2.9	Photocopy Machine		1	MIS-1	
2005-2006	2.10	Server		10	MIS-3; Division H. Office-5; DMCH-1; SSMCH-1 =10	
	2.11	Laptop		5	MIS-5	
	2.12	Desktop Computer		300	MIS-20; MCH-83; Division H. Office-23; District Hospital-92; UHC-82 =300	
	2.13	Laser Printer		123	MIS-10; MCH-16; Division H. Office-5; District Hospital-65; UHC-27; =123	
	2.14	UPS (On Line)		10	MIS-3; Division H. Office-5; DMC-1; SSMCH-1 =10	
	2.15	UPS (Off Line)		300	MIS-20; MCH-83; Division H. Office-23; District Hospital-92; UHC-82; =300	
	2.16	Air-conditioner		14	MIS-7; Division H. Office-5; DMCH-1; SSMCH-1 =14	
2006-2007	2.17	Server		8	MIS-8	
	2.18	Laptop		5	MIS-5	
	2.19	Desktop Computer		250	MOHFW-8; MIS-30; Division H. Office-6; CS Office-22; Dist. Hospital-38; UHC-127; Others-19 =250	
	2.20	Laser Printer		75	MIS-4; UHC-71 =75	
	2.21	UPS (On Line)		11	MIS-11	
	2.22	UPS (Off Line)		250	MOHFW-8; MIS-30; Division H. Office-6; CS Office-22; Dist. Hospital-38; UHC-127; others-19 =250	
	2.23	Air-conditioner		27	MOHFW-1; MIS-16; Division H. Office-6; NICVD-1; NIDCH-1; SSMCH-1; DMCH-1 =27	

Continued...

Sl. No.		Name of the Equipment (Including hospital equipment), Machineries (Including Computers, Photocopiers, Air-conditioners, etc.), Furniture, and other related materials	Type	Quantity	Place where being used at present	Remarks
1		2	3	4	5	6
2007-2008	2.24	Server		-	-	
	2.25	Laptop		-	-	
	2.26	Desktop Computer		420	MIS-20; Division H. Office-6 ; CS Office-64; MATS-6; MCH-75; Dist. Hospital-62; RHC-14; Specialized Ins.-60; School H. Clinic-21; Urban Dispense-33; UHC-56; Others-3 =420	
	2.27	Laser Printer		550	MIS-40; Division H. Office-6; CS Office-64; MATS-6; MCH-74; Dist. Hospital-62; RHC-14; Specialized Ins.-33; School H. Clinic-21; Urban Dispense-33; UHC-194; Others-3 =550	
	2.28	Multimedia		2	MIS-2	
	2.29	Vehicle (Jeep-1 & Micro Bus-1)		2	MIS-2	
2010-2011	2.30	Laptop		570	MIS-24; CS Office-64; UHC-482 =570	
	2.31	Mini Laptop		312	For Community Clinic-312	
		Sub-total (2)		**1046**		
4.		**Furniture :**				
2005-2006	4.1	Computer Table		200	MIS-24; MCH-48; Division H. Office-18; District Hospital-83; UHC-27 =200	
	4.2	Computer Chair		325	MIS-32; MCH-96; Division H. Office-30; District Hospital-113; UHC-54 =325	
2006-2007	4.3	Computer Table		250	MOHFW-8; MIS-30; Division H. Office-6; CS Office-22; Dist. Hospital-38; UHC-127; Others-19 =250	
	4.4	Computer Chair		250	MOHFW-8; MIS-30; Division H. Office-6; CS Office-22; Dist. Hospital-38; UHC-127; Others-19 =250	
	4.5	Computer Table		410	MIS-20; Division H. Office-6; CS Office-64; MATS-6; MCH-75; Dist. Hospital-62; RHC-14; Specialized Ins.-60; School H. Clinic-21; Urban Dispense-33; UHC-46; Others-3 =410	
	4.6	Computer Chair		500	MIS-20; Division H. Office-6; CS Office-64; MATS-6; MCH-75; Dist. Hospital-62; RHC-14; Specialized Ins.-60; School H. Clinic-21; Urban Dispense-33; UHC-136; Others-3 =500	
		Sub-total (4)		**1420**		
		Total :		**2466**		

Annexure-VIIId – Deliverables for MOHFW under National ICT Policy 2009

1. To use voter ID in citizen service
2. To deliver citizen service through ICT
3. To publish proposed policy in government web site for citizens' review
4. To develop and distribute digital contents on life and livelihood in local language
5. To encourage public-private partnership for delivering services through ICT
6. To establish a national health ICT network connecting all government health service institutions
7. To create human resource management database
8. To use GIS with a view to ease forecasting of disease outbreak and making health sector plan
9. To use ICT for supervising and overseeing health service delivery
10. To provide cost effective and speedy health care through ICT based helpline as low as upazila level
11. To use ICT for expanding and improving health care and health information service to the citizens living in hard to reach and underdeveloped area
12. To create ICT network among the research and training institutions for improving quality of surgical treatment
13. To create ICT based video conferencing system for surveillance of important services under the health sector
14. To create ICT based communication systems for exchanging views with medical peers and colleagues in health profession
15. To establish ICT network for exchanging health related information between health institutions
16. To procure ICT equipment, in case of public sector, that satisfy quality encompassing power saving, pre-qualified and international standards
17. To publish citizens' charter online and comply
18. To publish online all open tenders
19. To establish ICT cells in all government organizations/institutions equipped with ICT professionals, and to create ICT-related positions and to identify all ICT-related posts as technical posts
20. To make arrangement for distributing all government information to citizens through appropriate ICT channels such as SMS
21. To allocate 5% of the annual development budget and 2% of the revenue budget for e-Governance initiatives of all institutions
22. To introduce discipline-wise MIS
23. To develop a database for major equipment of government hospitals
24. To develop an infrastructure database
25. To use ICT (mobile device) for supervision, communication and inter-personal exchange of views among the field health workers
26. To use ICT and telemedicine in all hospitals and improve websites in these organizations
27. To deliver speedy and cost effective service through telemedicine as low as upazila level
28. To operate mobile health units (vans) equipped with modern health instruments, specialists, high bandwidth and sophisticated Internet for providing emergency health care services
29. To introduce ICT based quality assurance system for medicines (and medical products)
30. To introduce ICT based diagnostic system (pathology and others)
31. To make arrangement for creating access of the health professionals to the global knowledge and research databases on the Internet
32. To encourage innovative use of ICT for making affordable diagnosis and treatment facilities for citizens
33. To reduce use of papers through increasing use of ICT and electronic system for office communication, file processing, information exchange and storage
34. To make development strategy for health sustainable and easily available and to create awareness on use of ICT in the sector
35. To give priority to outsourcing for implementation of public sector ICT projects
36. To make arrangement for publishing the public procurement tender notices in at least one IETS operated by the Bangladeshi service providers
37. To stop recruitment in steno-typist posts in public sector. To convert all current steno-typists to data entry operators through training and upgrading of their posts.

Annexure-VIIIe: **Indicative items to be procured (shown in remarks column)**   **(In Lakh Taka)**

Component	FY2011-12	FY2012-13	FY2013-14	FY2014-16	Total (FY2011-16)
Summary					
HIS & eHealth	5744.02	19758.81	12264.75	22662.15	60429.73
MBT	105.98	76.05	99.66	175.95	457.64
Total	**5850.00**	**19834.86**	**12364.41**	**22838.10**	**60887.37**

Economic Code	Head	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-16	FY 2011-16	Remarks (possible areas of expenditure)
Detail							
HIS & eHealth							
4815	Postal	0.30	0.30	0.30	0.60	1.50	Postal
4816	Telephone/ Telegraph/ Teleprinter	28.80	69.70	101.53	139.40	339.43	Telephone bills; Telephonic monitoring of GR; bills for Population MIS. Mobile phone health service; SMS for health service
4817	Telex/ Fax/ Internet	261.27	1098.12	1364.80	2729.60	5953.79	Internet bills
4821	Electricity	0.60	1.20	1.20	2.40	5.40	Electricity
4823	Petrol and Oil	27.36	29.52	31.68	63.36	151.92	Petrol and Oil
4827	Printing, publication, research	88.90	190.00	180.00	380.00	838.90	Community clinic registers; Health Bulletins; Health worker diary; Newsletters; GR Report; Community Clinics Data Report; eHealth Report Printing; Others
4828	Stationery, Seals and Stamps	48.70	301.80	436.41	767.60	1554.51	Local Health Bulletins; Registers (OPD, IPD, Pharmacy, Lab, etc.); Incentives
4831	Books and Periodicals	0.20	0.20	0.20	0.40	1.00	Books and Periodicals
4833	Advertisement	5.00	5.00	5.00	10.00	25.00	Advertisement
4840	Training expenses	1069.88	2222.06	1930.80	11396.41	16569.15	Training / workshops. eHealth Advocacy Seminar; Mobile phone health service; Young Software Development Showcase; eHealth Innovation Fair; others
4846	Transportation Cost	0.30	0.30	0.30	0.60	1.50	Transportation cost

Economic Code	Head	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-16	FY 2011-16	Remarks (possible areas of expenditure)
4874	Consultancy	318.66	1183.50	1179.36	4757.00	7438.52	Data Analysis and Report Writing; Data collection; MIS Conference; Outsourcing services; Software, Manual, Health Education Contents; GR data entry; Health Bulletins; Development and maintenance of data center and database servers; Research and Survey. Call centers; Campaign for eHealth; Data collection, data analysis, report writing; Development of national HIS and eHealth Enterprise Architectural Plan; eHealth development and management service; Maintenance of Telemedicine Centers; Telemedicine soft; Promotional material development; Creative writing; Innovations; Procurement Management; Software development; Others
4886	Survey	0.00	5.00	10.00	20.00	35.00	Research
4886	Survey (GR data entry)	600.00	0.00	0.00	0.00	600.00	Research
4888	Computer stationery	48.85	73.00	48.85	285.16	455.86	Computer stationery
4898	Special expense		40.00	40.00	70.00	160.00	Networking all over Bangladesh
4899	Other expenses	14.00	4.00	4.00	8.00	20.00	Incentives; Other expenses
4901	Repair of Motor vehicles	7.00	7.30	7.50	15.00	36.80	Repair of motor vehicles
4906	Repair of Furniture and fixtures	1.00	1.00	1.00	2.00	5.00	Repair of furniture and fixtures
4911	Repair of Computers and other equipment	30.90	69.90	69.90	141.80	312.50	Repair of computers, accessories, and other equipment
4921	Office building (repair, maintenance, renovation)	60.00	22.00	22.00	44.00	148.00	Repair, maintenance & renovation of office building
4991	Other repair and maintenance	5.00	5.00	5.00	10.00	25.00	Other repair and maintenance
6807	Motor vehicles	0.00	80.00	30.00	0.00	110.00	Motor vehicles for implementation of programs and monitoring and supervision
6813	Machinery and other equipment	263.00	1527.00	326.00	328.00	2444.00	Air conditioners; Generator; GPS; Equipment for GR Data center; Photocopiers, scanners, faxes, cameras, Solar Panel, Digital camera; Expansion of telemedicine; Multimedia; Telemedicine peripherals; Others
6815	Computers and accessories	2382.44	10639.43	4942.92	878.82	18393.61	Computer; Database server; Laptop; Laser Printer; PDA; Scanner; servers, hardware; tele-education system; Web camera; Others

Economic Code	Head	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-16	FY 2011-16	Remarks (possible areas of expenditure)
6817	Computer Software	30.00	60.00	60.00	120.00	270.00	Antivirus software all over Bangladesh
6821	Furniture and fixture	10.00	10.00	10.00	10.00	40.00	Furniture and fixture
6823	Telecommunication equipment	391.86	2073.48	1416.00	432.00	4313.34	Tele-communication equipment (Wi-Fi, other devices; Wireless modem)
7901	CD/VAT	50.00	40.00	40.00	50.00	180.00	
	Sub Total: HIS & eHealth	**5744.02**	**19758.81**	**12264.75**	**22662.15**	**60429.73**	
	MBT						
4816	Telephone/ Telegraph/ Tele-printer	1.20	1.20	1.20	2.40	6.00	Telephone bills
4817	Telex/ Fax/ Internet	1.20	1.20	1.20	2.40	6.00	Internet bills
4823	Petrol and Oil	1.44	1.44	1.44	2.88	7.20	Petrol and Oil
4827	Printing, publication, research	11.10	10.00	10.00	20.00	51.10	Baseline survey report; MBT plan; Posters and brochures
4828	Stationery, Seals and Stamps	1.30	1.20	1.20	2.40	6.10	Stationeries
4831	Books and Periodicals	3.00	2.00	3.00	4.00	12.00	Books and Periodicals
4833	Advertisement	1.50	1.00	1.00	2.00	5.50	Advertisement
4840	Training expenses	30.12	27.61	24.62	43.07	125.42	Training, workshop, meeting
4874	Consultancy	7.24	0.50	0.00	0.00	7.74	Writing draft document on legislation and regulatory framework; Baseline survey; Writing of draft MBT Plan; Writing of final MBT plan
4886	Survey	0.00	20.00	40.00	80.00	140.00	Research
4899	Other expenses	7.68	7.90	7.90	15.80	39.28	Research proposal management; Communication with entrepreneurs; correspondences, travel, etc., Initiating process for establishing a Center of Excellence for MBT; Liaison; MBT Journalist Award; others
6813	Machinery and other equipment	17.80	0.00	1.60	0.00	19.40	Multimedia, projection screen, OHP
6815	Computers and accessories	8.10	0.00	2.50	0.00	10.60	Computer and accessories
6821	Furniture and fixture	10.00	2.00	4.00	1.00	17.00	Furniture and fixture
6823	Telecommunication equipment	4.30	0.00	0.00	0.00	4.30	Telecommunication equipment
	Sub Total: MBT	**105.98**	**76.05**	**99.66**	**175.95**	**457.64**	
	Total: HIS + eHealth + MBT	**5850.00**	**19834.86**	**12364.41**	**22838.10**	**60887.37**	