ITU–WHO Joint Meeting on National eHealth Strategy Development: Bangladesh Context

Prof. Dr Abul Kalam Azad
ADG & Director, Management Information System
MOHFW, Bangladesh
Sharing some memories with ITU Secretary General
Bangladesh, March 2010
eHealth in Bangladesh public sector – relatively recent

Began in 2009 with “Digital Bangladesh Vision 2021”

Impressive progress since then, in terms of, eHealth:

• Getting emphasis in National Health Policy 2011
• Getting special focus in National ICT Policy 2009
• Preparing draft for National eHealth Strategy
• Having eHealth operational plans & reasonable budget
• Making visible progress in implementation with global recognition

Introduction
It says, “An important effort of National Health Policy 2011 is to implement in Bangladesh:

- HIS
- eHealth
- eGovernance
- ePublic awareness
- Telemedicine

Appropriate for Bangladesh
Capable to serve need of country’s health sector & citizens
In line with National ICT Policy 2009 & Digital Bangladesh Vision 2021
Keeping pace with global eHealth trends.”
Earmarked actionable items for each ministry

Identified 37 specific deliverables for MOHFW

The deliverables represent a comprehensive eHealth action plan

Directed each ministry to allocate 5% & 2% of development & revenue budgets respectively for ICT
eHealth Strategy included in broader health sector strategy 2011-16

Draft eHealth Strategy calls for improved health condition of population by providing good quality (a) affordable & accessible knowledge; (b) service & care with use of ICT

<table>
<thead>
<tr>
<th>Good governance &amp; good management for health service</th>
<th>Health promotion &amp; communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation of ICT human resource</td>
<td>Attention to need of the disabled &amp; marginalized</td>
</tr>
<tr>
<td>ICT as training tool</td>
<td>Access to health &amp; demographic information – Electronic Health Records</td>
</tr>
<tr>
<td>Telemedicine &amp; Telehealth</td>
<td>Disease surveillance</td>
</tr>
<tr>
<td>Databases of all required fields</td>
<td>Online access to research reports</td>
</tr>
</tbody>
</table>
eHealth Operational Plans

- **HNPSP 2003–2011:**
  (Health, Nutrition & Population Sector Program)
  Little revision to fit eHealth

- **HPNSDP 2011–16:**
  Plan from scratch
  (Health, Population & Nutrition Sector Development Program)

![Bar chart showing MoH eHealth Budget](chart.png)

- **HNPSP2003–11:** 6.38
- **HPNSDP2011–16:** 76.50

MoH eHealth Budget (Million USD)

- **Increase:** 76.50
3 Principles

- To improve health systems efficiency
- To bridge urban-rural digital divide
- To reach the citizens
A set of core national health indicators inclusive of international obligations
Standards & inter-operability framework
Multi-stakeholders environment – national eHealth oversight body
Availability of quality data, in most cases, real time
Data accessibility through user-friendly online dashboards
Culture of evidence based decision making both at national & local level
Citizens’ unique identifiers & EHRs
Gap tracking mechanism for HR, logistics, etc.
Use of GIS
Rolling out of Mobile Phone Health Service to 18,000 community clinics

Wider use of video conferencing

Rolling out of telemedicine service to community clinics

eLearning in medical education

Innovative use of ICT & mHealth for improving health system efficiency, transparency & accountability
HPNSDP 2011–16 Deliverables

ICT based HIS

Population  Facility  H. Programs  HR

Logistics  Financial  GIS
HPNSDP 2011–16: Deliverables...

Other eHealth

- mHealth
- Telemedicine
- eLearning
- eMeeting
- Other eHealth
Infrastructure & HR Capacity building

Public–Private Partnership

Sustain the Initiatives

HPNSDP 2011–16

Key Ingredients

MAMA; MOVE–IT; Assessment of Civil Registration
We made
Impressive Progress

In 3 years
March 2008

Where we started?
March 2008

- No Internet connectivity
- Paper forms
- No alternate power supply
- Poor work environment
- Staffs were unskilled & frustrated
Even calling all 64 District Health Managers would take about 3 days
The way we made change

Realities

- Resource constraints
- Competing health priorities
- Shortage of skilled ICT staffs

Our IT solutions:
- Simple
- Low cost
- Innovative
- Locally appropriate
- Scale
June 2010
Digital Training Facility
Bangladesh (Pop. ~150 million)

Divisions (7) (Pop. 23 million)

Districts (64) (Pop. 2.5 million)

Sub-districts (483) (Pop. 0.3 million)

Unions (4,501) (Pop. 35,500)

Wards (13,503) (Pop. 12,000)

18,000 community clinics

Internet Connectivity

Started & be completed by 2013

Internet connected April 2009

About 600 hospitals

About 19,000 day-care facilities

About 100,000 health workforce

Super-specialized Hospitals

Tertiary Hospital / Medical College Hospital

District Hospital / Medical College Hospital

Sub-district Hospital

Union Health Center (Day care)

Community Clinic (Day care) Community Health Workers

Device>
All civil surgeons: allcs@cs.dghs.gov.bd
All UHFPOs: alluhfpo@uhfpo.dghs.gov.bd
All hospitals: allhospi@hospi.dghs.gov.bd
All academics: allac@ac.dghs.gov.bd
All directors: alllld@ld.dghs.gov.bd
National eHealth Oversight Body

- Headed by Senior Secretary, MOHFW
- Oversight
- Standardization & Inter-operability
- Data sharing
- Avoidance of duplication

Responsibility
We are using DHIS 2.7 – Open Source SW

Data entered at source

- Common platform, common standard, inter-operable
- Shared: multi-agencies; public & private
- End users need no software / Online & Offline Mode
- Data gathered quickly; Better quality; No need for compilation at any level
We can check who sent data, who not

<table>
<thead>
<tr>
<th>Organisation Unit Group</th>
<th>Group Member</th>
<th>Jan-11</th>
<th>Feb-11</th>
</tr>
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<tbody>
<tr>
<td>District</td>
<td></td>
<td></td>
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<tr>
<td>Barguna District</td>
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<tr>
<td>Jhalokati District</td>
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<td>Chuadanga District</td>
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<td>Barisal District</td>
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<td>Rangamati District</td>
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<td>Khagrachhari District</td>
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<td>Rangpur District</td>
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<tr>
<td>Sunamganj District</td>
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</table>
We can produce automatic report

Dash board
We can produce GIS map
One government clinic functioning paperless for 2 years

Rolling out plan

- **Year 2012**: 3 public hospitals
- **Year 2012–13**: Patient Registration & Discharge modules in all district & sub-district hospitals
- **Year 2016**: Gradual automation of all public hospitals
Ambitious Program

Household Information
- Drinking water source
  - Latrine
  - Economic situation
  - 3 Important mobile phone numbers

Household Member(s) Information
- Serial No. & Name
- National ID
- Date of birth
- Sex
- Marital status
- Education
- Occupation
- Religion
- Chronic disease
- Date of death
- Cause of death

Unique ID

Data entry process started

Verbal Autopsy

Basic data set

Rural data collection completed

Online Population Register
Community

- Population data
- Health service information

FY2011–2016

Population data

Cloud

Health worker

National

District

Sub-district

Will meet COIA requirements

Community Clinic

Union Health Facility
Existing databases

- Population & Health Service
- Human Resource
- Procurement Portal
- Health Facility
- Biometric attendance
- Schedule Management
- Citizens’ Complaints
- GIS
- CMS
- Others
### STAFF DETAIL

<table>
<thead>
<tr>
<th>Organization Name</th>
<th>Staff Name</th>
<th>Department</th>
<th>Designation</th>
<th>Professional Discipline</th>
<th>Contact No.</th>
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<tbody>
<tr>
<td>Khulna General Hospital</td>
<td>Dr. Mahabubur Rahman</td>
<td>Not Applicable</td>
<td>Medical Officer</td>
<td>Not Applicable</td>
<td>01711-947220</td>
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<tr>
<td>Khulna General Hospital</td>
<td>Dr. Milton Mallick</td>
<td>Not Applicable</td>
<td>Asstt. Registrar</td>
<td>Not Applicable</td>
<td>01715-675889</td>
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<td>Khulna General Hospital</td>
<td>Dr. Kaniz Mahmuda</td>
<td>Not Applicable</td>
<td>Medical Officer</td>
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<td>Khulna General Hospital</td>
<td>Dr. Monena Khatun</td>
<td>Not Applicable</td>
<td>Medical Officer</td>
<td>Not Applicable</td>
<td>01911-686834</td>
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<td>Dr. Mosammat Khaleda Parvin</td>
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<td>Medical Officer</td>
<td>Not Applicable</td>
<td>01712-850999</td>
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<tr>
<td>Khulna General Hospital</td>
<td>Dr. Kazi Abu Rashed</td>
<td>Not Applicable</td>
<td>Jr. Consultant</td>
<td>Not Applicable</td>
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<td>Dr. S.M Murad Hossain</td>
<td>Not Applicable</td>
<td>Asstt. Registrar</td>
<td>Not Applicable</td>
<td>01711-346999</td>
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</table>
### HR database – Automating HR Management

**MOHFW**

**MOHFW**

**Staff List** | **Transfer Report** | **User Management**

**Hello, dghs | Logout**

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<th>Professional Discipline</th>
<th>Contact No.</th>
<th>Action</th>
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<tr>
<td>Dhaka Divisional Health Office</td>
<td>Dr. Subash Kumar Saha</td>
<td>Not Applicable</td>
<td>Director</td>
<td>Not Applicable</td>
<td>01715145976</td>
<td>Transfer</td>
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<tr>
<td>Dhaka Divisional Health Office</td>
<td>Dr. Md. Omar Farruk Khan</td>
<td>Not Applicable</td>
<td>Deputy Director</td>
<td>Not Applicable</td>
<td>01739590141</td>
<td>Transfer</td>
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<tr>
<td>Dhaka Divisional Health Office</td>
<td>Dr. Md. Abdul Muktader Bhuyan</td>
<td>Not Applicable</td>
<td>Asstt. Director</td>
<td>Not Applicable</td>
<td>01712204430</td>
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</tr>
<tr>
<td>Dhaka Divisional Health Office</td>
<td>Dr. Kh Altaf hossain</td>
<td>Not Applicable</td>
<td>Asstt. Director</td>
<td>Not Applicable</td>
<td>01711803968</td>
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<tr>
<td>Dhaka Divisional Health Office</td>
<td>Mir Rayhan Ali</td>
<td>Not Applicable</td>
<td>Asstt. Chief(Non Medical)</td>
<td>Not Applicable</td>
<td>01720419121</td>
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<tr>
<td>Dhaka Divisional Health Office</td>
<td>Md. Nurul Alam</td>
<td>Not Applicable</td>
<td>Divisional Health Edu. Officer</td>
<td>Not Applicable</td>
<td>01911719855</td>
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<tr>
<td>Dhaka Divisional Health Office</td>
<td>Md. Nasimul Haq</td>
<td>Not Applicable</td>
<td>Administrative Officer</td>
<td>Not Applicable</td>
<td>01556312731</td>
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</tr>
</tbody>
</table>
More doctors in work place:
Better health for people, women & children

The system uses:
e–service

Watch video at www.dghs.gov.bd>Video gallery
Biometric Remote Office Attendance

Central Monitoring
~500 hospitals
Display Boards in all public hospitals

মোবাইল ফোনে কল করে আপনি বিনামূল্যে এই হাসপাতালের চিকিৎসকের পরামর্শ নিতে পারেন। যে কোন দিন যে কোন সময়। দয়া করে বক্তব্য সংক্ষিপ্ত করবেন। ফলে অন্যেরাও সুযোগ পাবেন।

যে মোবাইলে ফোন করবেনঃ

01730324427

এই হাসপাতালের সেবার বিষয়ে সরাসরি মন্ত্রণালয়কে এসএমএস-এর মাধ্যমে অভিযোগ বা পরামর্শ জানাতে পারেন।

এসএমএস পাঠাতে মেসেজ অপশনে গিয়ে টাইপ করুনঃ

cmp <space> dasmina <space> complain/suggestion

উদাহরণঃ cmp dasmina toilet not clean

যে মোবাইলে এসএমএস পাঠাবেনঃ

01733077774

আদেশক্রমঃ কর্তৃপক্ষ
<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Date</th>
<th>Time</th>
<th>Description</th>
<th>Contact Number</th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td>Upazila Health Complex, Madhabpur, Habiganj</td>
<td>23-07-2012</td>
<td>@ 09:02:16am</td>
<td>DOCTORS COMING HOSPITAL AFTER 10.30 am.</td>
<td>01712633487</td>
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<td>6</td>
<td>Medical College Hospital, Rajshahi</td>
<td>23-07-2012</td>
<td>@ 08:52:27am</td>
<td>ticket counter not open on time</td>
<td>01677021906</td>
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<tr>
<td>7</td>
<td></td>
<td>23-07-2012</td>
<td>@ 02:31:51am</td>
<td>sir/madam, i am nabiur amar age 16 year, i am very weak, sometimes: amar sopnodush hoi. ekhon ami ki korbo, please ama k jodi ektu suggesion diten tobe ami kushi hot</td>
<td>01845617178</td>
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<tr>
<td>8</td>
<td></td>
<td>22-07-2012</td>
<td>@ 11:49:00am</td>
<td>Toilet not clean</td>
<td></td>
</tr>
</tbody>
</table>
In all district & upazila hospitals (482 hospitals)
24h/7days
Free medical advice from doctor on roster
To scale to 18,000 CCs

Easier for women to seek health care for herself & children from home

Watch video at www.dghs.gov.bd>Video gallery
New Service Delivery Channel

Tele-medicine

New way of telemedicine
• 22 rural local govt. centers
• To all 4,501 such centers soon
• To 18,000 community clinics soon
Visiting ITU Secretary General Dr Hamadoun I Toure is witnessing telemedicine service in Savar Upazila Hospital (March 2, 2010)

- Telemedicine
- Updating health data
- Health education
- Training health staffs

Laptops in 18,000 Community Clinics
Pregnancy Care Advice by SMS

dghs reg LMP: ddmmyyyy Mobile No. Name

First Trimester
≥60 to ≤90 days

Second Trimester
180 days

Third Trimester
240 days
255 days

New Service Delivery Channel

Instant

IVR
Instant Statistics by SMS

New Short code: 16263

mmr

194 per 100,000 livebirths

Text to 16345
Example: dghs <space> mmr

New Service Delivery Channel
GPS handhelds are being given to all domiciliary health workers – 5,000 in 2012.

Collecting geo points for 18,000 CCs.
Local Information Culture
Online Health Bulletins – 550 health facilities

Ministry of Health and Family Welfare (MOHFW)
HEALTH BULLETIN 2012
The data belong to Jan-Dec 2011
Baghaichari Upazila Health Complex

Routine Local Meetings on Health Data

Local Health Bulletin
MIS, DGHS

Annual MIS Conference 2012
Organized under OP "HIS & eHealth" of HPNSOP FY 2011-12
BMRC Conference Room
June 2012
Management Information System (MIS)
Directorate General of Health Services (DGHS)

No. Organization
1 Abhoynagar Upazila Health Complex
2 Adamdighi Upazila Health Complex
Recognition

One of top 11 Global Innovations in 2011

Commission on Women’s & Children’s Health

United Nations Digital Health for Digital Development Award 2011

Bill & Melinda Gates Foundation 8th Grand Challenges Exploration Funding

National Digital Innovation Awards 2010 & 2011

The Manthan Award South Asia
## Strengths & Challenges

<table>
<thead>
<tr>
<th>Strengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Bangladesh – Highest level policy support</td>
</tr>
<tr>
<td>Started from scratch</td>
</tr>
<tr>
<td>Beginning to understand standardization &amp; interoperability – National approach</td>
</tr>
<tr>
<td>Ownership by stakeholders</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak regulatory mechanism in harmonizing public &amp; private providers</td>
</tr>
<tr>
<td>Lack of knowledgeable &amp; skilled staffs in public sector</td>
</tr>
<tr>
<td>DPs often breach opportunity of standardization &amp; interoperability</td>
</tr>
<tr>
<td>Resource constraints</td>
</tr>
</tbody>
</table>
We are at a stage of National eHealth Strategy Development

Therefore, the Toolkits will be of great help.

However, we would appreciate availability of actual copies of few good National eHealth Strategy from countries.
Thank you for inviting us!

Woman receiving prescription from UISC