Large Scale DHIS2 Tracker implementation - MCCOD module implementation in Bangladesh

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Birth and Death Registration Act, 1873 was changed in 2004 by designating the local government bodies and Bangladesh Missions abroad as registrars to register both birth and death. But that was also not very successful, the % of death registration within 45 days is < 1% and Birth registration within 45 days is < 3% in 2015. Total number of death registered in 2015 is only 99,871 & number of birth registered in 2015 within 45 days is only 71,288.

From 2014 Bangladesh has progressed significantly to realize its CRVS++ model and thereby the goals set out in the Regional Action Framework. As a part of CRVS country program it was decided to Introduce Medical Certification of Cause of Death (MCCoD) DHIS2 module as part of the National HMIS system in 2016.
Bangladesh facts

Bangladesh is a small country – only 147,570 square kilometers of area; mostly are plan land with few hilly areas, large rivers, 100 Km unbroken sandy beach and a mangrove forest, home of the Royal Bengal Tiger.

Population – 160,000,000; makes Bangladesh on top of the densely populated country in the world.
Bangladesh - population distribution by facility

- 8 divisions
  Avg. pop. 20 mill.
- 64 districts
  Avg. pop. 2.4 mil
- 485 upazilas
  Avg. pop. 0.32 mil
- 4,501 unions
  Avg. pop. 33,400
- 13,503 wards
  Avg. pop. 11,133

SSH  MCH  DH  UHC  UHFWC  CC
DHIS2 tracker and Event Capture are now in use are:

1. Kala-Azar (vector bourn disease)
2. Cervical & Breast Cancer patient screening and tracking for service delivery
3. MCCOD - Causes of Death tracker (Facility based)
4. Maternal Health tracker and Birth Notification including nutrition
5. Child health tracker including nutrition indicators
6. PLHIV Tracker
7. General IPD event capture for hospitals (including SCANU)
8. Death Registration and Review
9. Effective Coverage for Child (UNICEF Pilot)
10. Community NCD Tracker (Pilot)
11. eRegistry for MNCH (piloting with NIPH & ICDDR,B)
12. VPD Surveillance tracker (under development)
13. AEFI Tracker (under development)
14. Immunization Tracker (under development)
Bangladesh MCCOD form
MCCOD Adaptation

We customizes DHIS2 based WHO MCCOD module to adopt local legal requirements and workflow process to support CRVS initiative. This tracker module was customized to capture detail information on the deceased and medically certified causes of Death and sending data electronically to the death registration system to register the death immediately. As ICD 10 is the legal requirement we include that besides SoML.
Implementation Strategy

In 2018 death rate was 5.57 /1000 and facility death was around 30%. Total number of public hospitals is 2,258. So choose facilities with high burden; first GoB start with 4 facilities and now completing 34 facilities since 2017. This 34 facilities almost cover 70% of facility death. By 2022 total 607 public hospitals will be start MOCCOD which will cover almost all facility death.
Present situation

- Scale up of MCCoD in 34 public hospitals (11 Medical College Hospitals and 23 Sub-district hospitals)
- 72 physicians trained as Master Trainers (Support from Bloomberg D4H Initiative).
- Master trainers, trained > 5,003 physicians and more than 6,000 nurses in 23 hospitals
- GoB already create budgetary provision to take forward this activity.
## MCCOD Module - Bangladesh

### Medical data

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Time from onset to death</th>
<th>Underlying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate</td>
<td>A LUREMC RENAL FAILURE</td>
<td></td>
</tr>
<tr>
<td>Due to B</td>
<td>B CHRONIC KIDNEY DISEASE</td>
<td></td>
</tr>
<tr>
<td>Due to C</td>
<td>Select or search from the list</td>
<td></td>
</tr>
<tr>
<td>Due to D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Indicators

No indicators exist

### Timeline Data Entry

- 2019-06-12
- Dhaka Medical College Hospital, Dhaka
- Cause of death (select...)

| Date of death * | 2019-06-12 |

### Surgery

- Was surgery performed within the last 4 weeks? No  If yes, please specify date of surgery
- If yes, please specify reason for surgery (disease or condition)
- Was an autopsy requested? No  If yes, were the findings used in the certification?

### Manner of death

- Manner of death
- Disease
  - If external cause or poisoning, date of injury
**MCCOD Adaptation**

**Top 10 CoD - Bangladesh - 2019**

- Other heart diseases
- Ischaemic heart diseases
- Cerebrovascular diseases
- Other and unspecified external causes
- Symptoms, signs and abnormal clinical and laboratory findings of diseases of the digestive system
- Other diseases of the digestive system
- Low birth weight
- Hypertensive heart diseases and birth asphyxia
- Intrauterine hypoxia and birth asphyxia
- Chronic lower respiratory diseases
MCCOD Adaptation

Bangladesh - Caused of Death by SoML category - This year

- 00 Unclassified of all deaths (%)
- 03 Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism of all deaths (%)
- 01 Certain infectious and parasitic diseases of all deaths (%)
- 02 Certain conditions originating in the perinatal period of all deaths (%)
- 07 Diseases of the eye and adnexa of all deaths (%)
- 09 Diseases of the circulatory system of all deaths (%)
- 05 Diseases of the digestive system of all deaths (%)
- 10 Diseases of the respiratory system of all deaths (%)
- 11 Diseases of the genitourinary system of all deaths (%)
- 06 Diseases of the nervous system of all deaths (%)
- 14 Diseases of the skin and subcutaneous tissue of all deaths (%)
- 12 Diseases of the musculoskeletal system and connective tissue of all deaths (%)
- 13 Diseases of the musculoskeletal system and connective tissue of all deaths (%)
- 04 Endocrine, nutritional and metabolic diseases of all deaths (%)
- 08 Diseases of the ear and mastoid process of all deaths (%)
- 02 Neoplasms of all deaths (%)
- 15 Pregnancy, childbirth and the puerperium of all deaths (%)
- 18 Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified of all deaths (%)
- 16 Certain conditions originating in the perinatal period of all deaths (%)
- 13 Diseases of the musculoskeletal system and connective tissue of all deaths (%)
- 04 Endocrine, nutritional and metabolic diseases of all deaths (%)
- 08 Diseases of the ear and mastoid process of all deaths (%)
- 02 Neoplasms of all deaths (%)
- 15 Pregnancy, childbirth and the puerperium of all deaths (%)
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Percentage of all deaths

2019
Feeding other death analysis

Our MCCOD module send data to ANACONDA for special death analysis.
Challenges and mitigation

Transfer of Doctor and nurses is one of the major problem to retain train people; so we training all doctor and nurses on that respective hospitals and have refresher training yearly.

Main technical challenge is size and analytics generation time (65 Hour) despite of high resources. Also tracker used by more users have abnormal process utilization.

Connectivity at the facilities with mobile internet; GoB expanded national broadband connectivity with support from MoT.
Challenges and mitigation

Support including IT is being provided through Facebook group ([https://www.facebook.com/groups/305500140186899/](https://www.facebook.com/groups/305500140186899)); maintain by MOH; central HMIS team and HISP are tagged if there is specific technical issue they cannot solve.
Challenges and mitigation

MCCOD SoP and DHIS2 user manual are already a part of Nursing education curriculum. Doctors curriculum (MBBS) are user discussion to added ICD 10 and MCCOD SoP.

Also creation of ‘Coder’ position in the hospital are under progress through GoB budget and for interim measure one doctor for each ward / facility have a focal person. Also each hospital has a HMTW to review the coded forms if there is wrong/bad coding.

Private hospitals are also start using this tracker to reporting death electronically.
Roll-out plan

District Level Hospitals: By 2019
- 37 district hospitals (100 bedded)
- 20 General hospitals (200-250 bedded)

3,000 physicians will get MCCoD training at district level hospitals

At Upazila Level Hospitals: By 2022
- Out of 477 hospitals only in 23 hospitals MCCoD training completed.
- 9,300 physicians will get MCCoD training at upazila level hospitals
THANK YOU