Data analysis conceptual framework for evaluating the role of health data

A synthesis of multi-country experience to guide better understanding of data and the role for ICT

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“Technology is so much fun but we can drown in our technology. The fog of information can drive out knowledge.”

Daniel J. Boorstin
Experience: Importance of an analytical process

1. RTI experience: Bangladesh, Ethiopia (NTDs), Nigeria (nutrition, food security, HIV), Lao PDR (malaria)

2. Experience of others: e.g., Kuunika (Cooper/Smith, Vital Wave); Nutrition Data Value Chain (BMGF Nutrition)

3. Analytical process to follow, domains to consider, requirements to identify to shape approach
The foundation

1. Know all the qualities about data users: who is currently using data? Who *should* be?

2. For what purpose?

Data Users  
How data *should* be used
Data collection

1. Sorts of data
2. Sources of data
3. How is it collected?
   a) Who
   b) Methods
   c) Process

Data elements and indicators

Data Users
Data Use

Data collection
Levels of data aggregation

**STC Control Program/National level**
Under supervision of the Ministry of Health
Data from all Districts are submitted and entered into a new spreadsheet (can’t analyze data across the deworming campaigns)
Data could come in electronically (usually as a scan of the standard form) but also comes in as a hardcopy along with an invoice to distribute funds to the district

**Aggregation 6**

**District level**
Under supervision of the Ministry of Health
Data from all Upazilas within the District are aggregated to the District level
District level data are delivered to the STH Control Program
This level can submit data both in hardcopy and electronically (computer with USB modem)

**Aggregation 5**

**Upazila level (Sub-District)**
Under supervision of the Ministry of Health
Data from all Unions within the Upazila are aggregated to the Upazila level
Upazila level data are delivered to the District level Health Officer
This level can submit data both in hardcopy and electronically (computer with USB modem)

**Aggregation 4**

**Union level**
Under supervision of the Ministry of Health
Data from all Wards within the Union are aggregated to the Union level
Union level data are delivered to the Upazila level Health Inspector

**Aggregation 3**

**Ward level**
Under supervision of the Ministry of Health
Data from all schools within the Ward are aggregated to the Ward level
Ward level data are delivered to the Union level Assistant Health Inspector

**Aggregation 2**

**School age children**
Under supervision of the Ministry of Education
Drugs and forms dropped off by Health Assistants who return 1 week later
Data collected on student lists with checkmarks for those treated
Health Assistants will come to the school and fill in a standard aggregate form

**Aggregation 1**
1. Sorts of data

2. Sources of data

3. How is it collected?
   a) Who
   b) Methods
   c) Process
1. Other existing platforms to leverage? (e.g., HIV and AIDS)

2. Systems, functions
   - Curation – aggregating, structuring and reporting field data
   - Compatible, able to integrate with DHIS2?

3. Analytics

4. Access to data; how is it translated for consumption?
   - Visualization – dashboards

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Data platforms

Data elements and indicators

Data collection

Data users

How data is used

Data collection
Everything is linked – understand the domain relationships

Data Quality

Data elements & indicators

Data platforms

Data collection
Data Quality

- Governance
- Accountability

User Data Use

Data Platforms

Data Collection

- Data Elements/Indicators

- Capacity
- Governance
- Accountability
Data at each level of the administrative hierarchy

- National
- State/province
- Region
- District
- Facility
- Community
Speaking of linkages: interoperability and sharing

1. Privacy
2. Confidentiality
3. Data security
Lack of country consensus on country prioritization of data needs. Critical data is incomplete, missing, or out-of-date.

Insufficient, inconsistent funding and lack of capacity. Lack of data culture limits decision-making with many decisions on policy and resourcing not evidence-based.

Overreliance on 5 years DHS/MICS surveys. Lack of coordination of different county data platforms.

Data are fragmented across many databases, not publicly accessible, with limited inter-operability.

Disaggregated sub-national analyses underpowered. Data analytics are weak.

Data not packaged or presented in ways that are actionable for decision-makers. Low demand for information.

Country policy makers – and the entities which support development – make evidence-based decisions to drive country development and tackle undernutrition.

Applying value chain analysis across the data value chain (from BMGF)

Overall Vision

OUTCOME GOAL

Strengthened Country Data & Information System for Nutrition to: 1) Diagnose; 2) Design; 3) Use; and 4) Report
THANK YOU!

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