Integrated Community Health Information Systems
Way Beyond mHealth
Overview

• The need for community health information systems (CHIS)
• What is a CHIS?
• What is the current state of CHIS?
• What are some solutions to CHIS challenges?
Choking on mHealth

• 25% of mHealth projects go beyond 1000 users
• In some countries, there are dozens of parallel mHealth projects with little coordination
• Ministries report having little oversight or control over community reporting systems
• Ministries want community data to feed into the HMIS
• Interoperability is often custom and, so far, too expensive for ministries to maintain
Why is this necessary?

- Community is the new facility!
- mHealth tools need to be integrated into a single platform
- Community data needs to be integrated into the HMIS
- Community stakeholders need data to promote health programs
- 27 countries are already planning to take DHIS2 to national scale as a CHIS
CHIS Guidelines

- Comprehensive guidelines on how to assess, develop, implement, and sustain a CHIS using DHIS2
- Dozens of use-cases
- A living document
- Collaboration of 14 MoH, 11 NGOs, UiO, UNICEF, HDC and GF
- Available in English and French at: dhis2.org/academy
CHIS Macro Assessment

- Developed as part of the CHIS DHIS2 Guidelines
- Platform agnostic – DHIS2 not mentioned
- Based on HMN assessment
- 58 questions in 5 thematic areas, each to be scored between 3 (best) and 0
  - For the corresponding four possible scores, representing highly adequate, adequate, present but not adequate, and not adequate at all

<table>
<thead>
<tr>
<th>Items</th>
<th>Highly Adequate</th>
<th>Adequate</th>
<th>Present but Not Adequate</th>
<th>Not Adequate At All</th>
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<tbody>
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<td>Is there an established CHIS Technical Working Group (TWG) lead by</td>
<td>Yes, there is a</td>
<td>Yes, there is a</td>
<td>Yes, there is a</td>
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Conducting Macro Self Assessment – Who Participated

- Participants identified by CHIS steering community
- In each country a stakeholder identification exercise to identify all relevant participants or groups involved in the assessment

<table>
<thead>
<tr>
<th>Hierarchy/roles</th>
<th>Stakeholders</th>
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<tbody>
<tr>
<td>Community</td>
<td>CHWs, Chiefs, Mayors, Religious leaders, Parent Teachers Associations (PTA), Village Health Committee</td>
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<tr>
<td>Facility</td>
<td>Information Officer, Clinic in-charge, Supply Chain manager, Clinician</td>
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<tr>
<td>District</td>
<td>District Health Team members</td>
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<tr>
<td>Province</td>
<td>Provincial Health Team</td>
</tr>
<tr>
<td>National</td>
<td>Health Program Units, such as the IDSR Unit, Ministry of Health – HMIS Manager, Disease Program Advisors, Human Resource, Finance Advisors, M&amp;E Advisors, other ministries and governmental agencies</td>
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<tr>
<td>International</td>
<td>Donor agencies, Implementing partners</td>
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Conducting Self Assessment – Who Participated

- Benin, Burkina Faso, Cameroon, Congo, The Democratic Republic of the Congo, The Gambia, Ghana, Guinea Bissau, Ivory Coast, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Chad, and Togo
- Results were presented at the May 2018 CHIS Academy in Dakar
Assessment Results – Thematic Area Composite Score

Composite Score (%) = \frac{\text{Total Aggregated scores across all countries}}{\text{Total available score}} \times 100
Assessment Results – Key Take-Aways

• No or little engagement between system developers, community health workers or key community stakeholders prior to the assessment
• Data feedback to CHWs and community stakeholder is understood to be critically important but largely lacking, especially to community stakeholders
• Infrastructure, access to cell phones, reliable electrical power supply, and mobile network continue to be principal limitations to community information systems
Assessment Results – Key Take-Aways

• Governments are severely under resourced to support robust community health information systems
  – Caused by and actually promotes the reality of siloed, unconnected, and program specific community based mhealth and support tools
• Complex and expensive interoperability layers between mHealth apps and the CHIS will be unsustainable to MoH given their financial constraints
• Ministries also reported in both the qualitative and quantitative assessment data that SOP are still lacking and general governance over the CHIS is a persistent problem
Assessment Results – Key Take-Aways

- The CHIS assessment conducted in 17 West and Central African countries has shown the need and desire is high amongst countries to have a CHIS that harmonizes the fragmented landscape of CHW reporting tools and populates data into the national HMIS.
Addressing Challenges

- mHealth implementers must plan from beginning to integrate with HMIS
  - Expensive/complex interoperability layers/ETL are not a solution
- Ministries should demand and implementers should only use technology that complies with global data sharing standards
  - Open API, ADX, HL7, and FHIR
  - Use digital global goods to share risk of software development
- Ministries must produce policy and guidelines on how community data is reported into CHIS/HMIS
- Ministries need to develop HMIS architecture to represent the community data; NGOs and donors should support this
Addressing Challenges

- Do not force technology where infrastructure does not exist
- Data feedback is critical to low level users; if they do not get feedback the system fails
- Driving periodic engagement between system developers and end-users (CHWs) is critical
- Agile continuous development and improvements are necessary
DHIS2 for CHIS

How can DHIS2 be the CHIS?
DHIS2 Architecture
Data Capture – Everything mobile
Data Feedback – Get Data Out

District MCH key Monitoring Indicators
March 07, 2018
Please find attached the last month’s data for your review

Delivery: ANC, inst delivery, skilled delivery last month user organut
Key maternal health indicators last month
Data Feedback – Dashboard Android App

- PoC just completed!
- Android & iOS
- Fully supports all in-built dhis2 charts, maps & table types
- No install required: built into DHIS 2.3X