Health Information Systems Program

HISP & DHIS 2

- HISP: global network for HIS development, Open Source Software, education and research
- DHIS 2 open source software: reporting, analysis and dissemination of health data & tracking individuals
- Started in South Africa in the 1990’s - Now 40+ countries using DHIS 2
- DHIS 2: core funding from Norad and PEPFAR
- Partners: WHO, Global Fund, GAVI, UNICEF
3 components of the HISP ‘Network of Action’

**Health Information Systems**
- Integration, standards, architecture
- Use of information for action
- Health management

**Free & Open Source Software**
- Distributed DHIS development
- Sharing across the world
- Knowledge & support

**Building Capacity, Training, Education, Research**
- Training of health workers
- Graduate courses, Masters, PhD
- Sharing teaching /courses

**DHIS 2** *(District Health Information Software)*
Inequity between blacks & whites, rural & urban, urban & “peri-urban”, former “homelands”, etc.

“Equity” main target

– But how to know whether targets are achieved?

Need standard data from across the country on Health status & Health services provision

Districts: Building blocks for new Health System Integration of health services

DHIS v1 – District Health Information System
District management & equity across country

Background: DHIS developed for South Africa after apartheid in the 1990’s
South Africa after apartheid
- From fragmentation to integration;
Decentralisation: From central control to local empowerment

A) Pre-apartheid centralised, vertical and fragmented structure in Atlantis (simplified).

B) Decentralised integrated district model
As according to the ANC Health Plan
HMN architecture (2007) – Integrated National data warehouse:
DHIS2 implementing the HMN architecture

Data capture from paper forms

Data from Mobile devices

Extract Transform Load

DHIS 2

Data warehouse

- Data mart
- Meta data
- Visualising tools

Data from Mobile devices

Data capture from paper forms

DHIS 2

Getting data in - Data warehousing

Getting data out - Decision support systems – ‘Business intelligence (BI)

Web Portal

Dashboard

Graphs

Maps

Data from
Mobile devises

Dashboards

Graphs

Maps

Getting data in - Data warehousing

Getting data out - Decision support systems – ‘Business intelligence (BI)
Integrated Health Information Architecture ("Horizontal integration")
- integrating sub-systems, technologies, health services & programs

Integration of technologies, systems, data & health programs
Integration and interoperability

**DHIS**: Data warehouse
Statistical data

Data transfer from OpenMRS To DHIS, e.g.:
#deliveries
@health centre X for month of May

DHIS is calculating
the indicator:
**Deliveries per midwife**
Per facility per month

Data transfer from iHRIS to DHIS, e.g.:
#midwives
@health centre X for month of May

**OpenMRS**: Medical records

**iHRIS**: Human Resource records
Mobile subscribers per 100 persons, Africa

Source: World Bank
Internet: Total bandwidth of communication cables to Africa South of Sahara

Source: AFRINIC
All devices integrated in Lightweight Browser or Android app
Improved Internet & mobile network – ‘cloud’ infrastructure

Rapid scaling – from ‘hundreds’ of installations to 1
Example: EAC Regional Data warehouse (East Africa Community)

- Essential indicators from EAC countries
- Cross country analysis and comparison
- ‘Drill down’ to district level
- Cross border disease surveillance
Facility Delivery Rate Coverage In EAC Member States
Facility Delivery Rate Coverage In Tanzania Regions

Delivery Rate Coverage Tanzania

Delivery rate in Facility 2013

- 22.50 - 28.70 (%)
- 28.80 - 35.50 (%)
- 37.40 - 42.10 (%)
- 43.00 - 78.40 (%)
- 84.00 - 144.60 (%)

Delivery Rate Coverage By Province

<table>
<thead>
<tr>
<th>Organisation unit</th>
<th>Delivery rate in Facility Jan to Mar 2013</th>
<th>Delivery rate in Facility Apr to Jun 2013</th>
<th>Delivery rate in Facility Jul to Sep 2013</th>
<th>Delivery rate in Facility Oct to Dec 2013</th>
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<tbody>
<tr>
<td>Tanzania</td>
<td></td>
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<td>21.9</td>
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<tr>
<td>Kilimanjaro Region</td>
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</table>
Facility Delivery Rate Coverage In Arusha District
# SCORE CARD

The EAC Regional Reproductive Maternal Newborn and Child Health Scorecard - November 2014

<table>
<thead>
<tr>
<th>Partner State</th>
<th>National priorities</th>
<th>Pre-Pregnancy</th>
<th>Pregnancy</th>
<th>Birth</th>
<th>Postnatal</th>
<th>Infancy/Childhood</th>
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<tbody>
<tr>
<td></td>
<td>Maternal Mortality Rate</td>
<td>Under 5 Mortality Rate</td>
<td>New-born Mortality Rate</td>
<td>Under 5 Stunting Rate</td>
<td>Contraceptive Prevalence Rate</td>
<td>antenatal Care (4+ visits)</td>
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<td>Burundi</td>
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<td>104.0↓</td>
<td>36.0↓</td>
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<td>30.0↑</td>
<td>48.0↑</td>
</tr>
</tbody>
</table>

**KEY**
- **Target achieved/on track**
- **Progress but more effort required**
- **Not on track**
  - Increase from last period
  - Decrease from last period

*Sustaining political momentum for women and children’s health in the EAC through improved accountability for results and resources*
Example: WAHO / West Africa Regional & Country platform
WAHO (West Africa) Dashboard
Ebola cases; Guinea, Liberia, Sierra Leone