Health Information Systems Program - DHIS 2

- HISP a global action research network initiated in collaboration with University of Western Cape in 1994 funded by Norad (Norwegian Foreign Aid)
- DHIS 2 is an open source software platform for reporting, analysis and dissemination of data for all health programs
- Shared and integrated data warehouse for essential health data: information for action
- Aggregate, events, and patient data
- Generic and generative platform - supports a wide range of uses also beyond the health sector
- Financed and endorsed by all global health agencies, WHO, Norad, Global Fund, PEPFAR Unicef, Gates Foundation, GAVI, CDC, PATH
- WHO collaborative centre on Health Information Systems (HIS)
- DHIS2 used in 88 countries in the “Global South”
DHIS2 adoption by MoH 2018

Global footprint 2.28 billion people

+ 60 NGO’s, 58 PEPFAR countries, 60+ PSI countries, 10 global organizations
Action research: Capacity building through innovation

- Strengthening national health information systems (HIS)
  - Collaborating with Ministries of Health
  - Participatory design (Scandinavian tradition)

- Action Research: Building knowledge on implementing HIS while building systems on the ground through partnerships.

- HISP PhD school at University of Oslo: 50 PhDs graduated, 30 active

- International Masters programs in South Africa, Mozambique, Malawi, Tanzania, Ethiopia, Sri Lanka (400 graduated)

- Regional DHIS 2 Academies, 87 Academies since 2011, 4800 graduated

- Online Academy: Fundamentals, PEPFAR, In country Data Use (Indonesia)
Platform for Global Digital Public Good
A growing DHIS 2 community

• Open source development in a global community
  – HISP Vietnam, HISP Tanzania (UDSM), HISP Uganda, HISP India, HISP US, HISP UiO, HISP South Africa, PSI

• Implementing partners in multiple countries
  – HISP Nigeria, HISP Rwanda, HISP Bangladesh, HISP West and Central Africa, Akros, RTI, CHAI, PATH, PSI and many more

• Collaboration with global agencies and NGOs
  – Norad, WHO, CDC, Gates, Global Fund, Pepfar, GAVI, UNICEF, PSI, CHAI, MSF, NRC

• WHO develops standard health apps on DHIS2 with recommended indicators and best practice for data use at country level.
University of Oslo is working with WHO to develop and deploy standardized material as DHIS2 configuration.

HISP/UiO is WHO Collaborating Centre for Innovation and Implementation Research for health information systems strengthening.

Global Fund for AIDS, TB and Malaria and GAVI are supporting financially the implementation of this material in countries.

A set of program-specific meta-data packages ("configuration packages") have been developed, together with curriculum for how to do program-specific specific analysis based on this.

HISP/UiO role is to work with WHO, GAVI and Global Fund to support countries who want to use this package.
Global guidance and tools

- Programme specific indicators and data elements
- Best practice dashboards, analyses
- Aggregate and case-based reporting
- Standard data entry forms/registers
- Data quality metrics
- Sources, evidence base and regular updates
DHIS2 Standards based Health App in collaboration with WHO

Package of reference data standards for countries to improve data quality, analysis and use

STANDARDS FOR MEASUREMENT
- Core indicators and metadata
- Data quality metrics

METADATA REPOSITORY

DATA QUALITY REVIEW (DQR)

HEALTH SYSTEMS AND DISEASE-SPECIFIC MODULES
- Programme specific indicators and data elements
- Best practice dashboards, analyses
- Aggregate and case-based reporting
- Standard data entry forms/registers

MORTALITY

MORBIDITY

IMMUNIZATION

EARLY WARNING

MALARIA

DOWNLOAD

DOWNLOAD

DOWNLOAD

DOWNLOAD

DOWNLOAD

DOWNLOAD

DOWNLOAD
Innovation through partnerships
Biometrics

- Partnering with private companies to create global goods
- Enables health care records even for people without national ID
- Enables anonymous unique ID for vulnerable populations
- Closes the gap between the wealthy and poor when it comes to achieving Universal Health Coverage
DHIS2 Country platform: Integrating health programs & data sources

- Data capture from paper forms
- Data from Mobile devices
- Extract Transform Load

Data warehouse
- Data mart
- Meta data
- Visualising tools

Getting data in - Data warehousing

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

Web Portal

Dashboard

Graphs

Maps
Closing technology gaps: Android Apps and SDK

- Vital for offline environments
- Can run on inexpensive mobile devices
- Easy to carry with community health workers
Customizable dashboards for all with real-time data
Training Mobile Dashboard for Head of Facilities in Indonesia
DHIS2 for disease surveillance
- preventing the next big Ebola outbreak

- Ebola outbreak in West Africa in 2014 triggered a need for better routine surveillance systems
- CDC and UiO collaboration (GHSA) on case-based surveillance systems, focused on early detection, communication between health clinics and the national laboratories
- Uganda, leading the way, implementing DHIS2 for surveillance at implement national scale
• Web, Android, SMS for early notification
• Links clinic and labs > confirmed cases
• Triggers alerts on suspected outbreaks
• Supports response teams with data analysis
DHIS2 as a generic platform: beyond health

- Water and Sanitation
- Nutrition
- Education
- Agriculture
- Reuse of software features
- Reuse of IT capacity in country/region
- Leverage global community
Extending the DHIS reach through mobiles

- Districts / Hospitals
- Clinics
- Community Health Workers
- Community / Villages

- SMS
- Java
- Browser
- Android
- PC/laptop/tablet
The current population of Bangladesh is 163 million
The big picture of an entire business model together in one handy visual
The big picture of an entire business model together in one handy visual

- In some cases, the role of Open is minimal. In others, it is fundamental. In many cases in-between, it is integral but could be more so. Open has the potential to affect nearly every part of the business model canvas.

- UiO and a winning formula for innovation where it wasn’t really previously possible to this scale
Challenges and opportunities to the DHIS2 Business Model

• Open platform and extendibility
• Interoperability platforms versus monolithic singular platform for innovation
• Growth of ‘tracker’ component and use as a tool for individual records
• Procurement mechanism and general capacity for infrastructure / people
• Growth of Mobile / countered to e.g. GDPR
• Governance! Privacy, Security, Infrastructure matters of Data Sovereignty.
Strengths of the DHIS2 approach to such Challenges

• Open Community, learning community
• Engagement and share stake in the system and strategies for DHIS2 deployment
• Burgeoning awareness of Digital Health and the need for coordinated investment (would not happen without a platform like DHIS2). New WHO WHA 71 Resolution on Digital Health
• Critical mass for a Critical System
• Innate awareness of the challenges of systems development and deployment
! The Future is Bright!

DHIS2 COMMUNITY WELCOMES YOU

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