Health Data Collaborative
Nov 2018

Central Monitoring and Evaluation Division
MoHP Malawi

Malawi Health Data Collaborative
Presentation outline

• Data management and reporting
  – HIS capacity building
  – Strengthening electronic medical records
  – Master Health Facility List (MHFL)
  – Civil Registration and Vital Statistics (CRVS)

• Data analysis, interpretation and use
  – NHI handbook and online documentation tool
  – Standard operating procedures (SOPs) drafted
  – Data use campaign tools & EMR portal
  – Facility data analysis and use tools
  – Data reviews
  – Update on SDI / SARA survey
  – CMED web-based portal
  – Institutionalization of data bulletins
HIS Capacity Building
HIS capacity building

Assessment
- TNA conducted to Assess HCW level of competency to HIS

Development 1
- HIS Curriculum outline developed with 8 HIS Modules
- Training Guide developed to support governance of HIS trainings

Development 2
- Training manuals developed and piloted

Roll-out
- Training of trainers to be conducted in November
- Curriculum to roll-out in December 2018
HIS capacity building cont´d

HIS MODULES

1. HIS Concepts
2. Data Mgmt
3. Digital Literacy
4. Electronic HIS
5. Data Quality
6. Data Analysis and Use
7. Data Security
8. System Support
Towards eRegisters and comprehensive Hospital Management Information Systems
Towards comprehensive eRegisters

The advantages associated with eRegisters and HIS:

• Comprehensive = cover all processes at the point of care
• Enhanced decision support at the point of care
• Eliminates 3 sources of error (entry of data into registers, aggregation to reporting forms, aggregation to DHIS2)
• Cost saving initiative – paper-based registers too expensive
• More dynamic – changes can be made easily
Baobab Health EMR
Strengthening EMRs (BHT, GIZ)

- **National EMR System**
  - Joint implementation with LIN and MoHP Departments
  - HTS Module (Scale up to 140 health facilities in progress)
  - ART Module (122 high-burden health facilities)
    - Managing 56% of ART national cohort
    - The only electronic system that meets national ART guidelines
- **National LIMS (7 Reference Labs):** based on iBLIS software from Kenya
- **Demographic Data Exchange (DDE):**
  - Sharing unique health IDs for unique patient identification
- **Argus:** weekly disease surveillance SMS report (280 sites) via SMS using WHO’s software
- **Electronic Integrated Disease Surveillance and Response (eIDSR):**
  - Screening of incoming travellers at airports and at OPD patients
- **Zam’mudzi Mwathu (Electronic Village Registers (EVR))**
- **Chipatala cha pa Foni (CCPF) Hotline** “Health Centre by Phone” with VillageReach
- **Stock Management System** for EMR hardware.
Strengthening EMRs (cont’d)

Challenges and Solutions:

• Steep learning curve with on the job training
  – Introduced formal training for technical staff
• High maintenance costs
  – Migrating to off-the-shelf solutions: Workstation, done. Hybrid Power backup system in progress
• Using unsupported software platforms
  – Upgraded to supported versions with SoPs to upgrade regularly.
• Slow Report generation
  – Reporting from flat tables with export features to spreadsheets
  – Use of high capacity servers for large volume sites
• Unreliable connectivity
  – Expanding options to utilise available infrastructure: Airtel, TNM, GWAN.
  – Implementing industry standard high-end infrastructure to optimise connectivity performance.
Master Health Facility List
Master Health Facility Registry

• To enable data use by standardizing data sharing between Health Information Systems
• Harmonizes naming and coding of health facilities, provides authoritative facility list
• First developed the Guidelines for the Management of the Master Health Facility Registry
• Includes Public (Government + CHAM) and Private for Profit Health Facilities
• A web resource available online
Welcome to the Master Health Facility Register of Malawi. You may select any of the districts to your left to filter the charts below.

- **Total Facilities**: 1400
- **District Hospitals**: 24
- **Health Centres**: 603
- **Dispensaries**: 493
- **Health Posts**: 169

For a more detailed analysis of facilities, click the link to go to advanced search.
Interoperability Layer

- To enable data use by facilitating data exchange between Health Information Systems
- Platform customized from the Open Health Information Exchange (OpenHIE)’s software known as the Open Health Information Mediator (OpenHIM)
- Currently customizing Mediators (software modules on top of OpenHIM Platform) to enable data exchange between OpenLMIS (Drugs + Essential Supplies System) with DHIS 2
- MHFL and already been linked with DHIS 2 through the Interoperability Layer
## Transactions Log

### Auto-Update Transaction List
- Enabled

### Basic Filters
- Status: Don't filter
- Channel: Don't filter
- Date Range: Start date: __, End date: __
- Limit: 20
- Show Reuns: Don't filter

### Re-run Selected Transactions

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Civil Registration and Vital Statistics
Civil Registration and Vital Statistics

CRVS is a system government uses to record vital events as required by laws or regulations of the country. Has legal and statistical purposes.

• Malawi launched universal and compulsory registration in August 2015 (birth) and February 2018 (death) in health facilities (only).

Birth registration

• Within 18 months, facility-based birth registration rates in pilot districts reached 30%* (from <1%).
• In December 2017, health facility-based birth registration in 583 health facilitates and 28 districts.
• CRVS-ID data base integration: Integration for the current registration has been tested and is successful.
  – Birth certificates are printed with ID number.

Death registration and medical certification of cause of death

• Piloted in 120 Health facilities of 4 pilot districts
• More than 520 clinicians trained in medical certification of cause of death as per ICD-10
• Central Coding Unit (CCU) for coding the cause of death was established at KCH and coders trained as per ICD-10.
• CCU will generate cause specific mortality statistics.
CRVS cont’d

Efforts to Institutionalize CRVS in MoHP routine operations:

– Established MCCoD sub-TWG to oversee implementation of death registration, MCCoD and coding of causes of death.
– MCCoD and coding of COD training for MoHP clinicians and coders
– Developed national training manual on MCCoD
– CRVS representation in: 1) Health Sector Strategic Plan II, 2) MEHIS Strategy, 3) National Health Indicator Handbook, 4) National Community Health Strategy, and 5) Community Health Indicators
– Drafting MoHP-NRB-NSO MoU on data sharing to easy access of data by MoHP

Community birth and death registration

• Objective is to implement registration of community current births and deaths as is being done in health facilities.
• Piloted birth registration in Ntcheu district in September, 2018
• Conduct verbal autopsy for a sample of community deaths for cause of death.

Challenges

• Need for MoHP and NRB to work closely together to institutionalise system in MoHP
National Health Indicators
NHI handbook (GIZ, D4H)

- Presented in Detail Nov 2017
- Aims to provide guidance on strategic indicators of national priority:
  - definitions,
  - data sources,
  - DHIS2 data elements,
  - calculations,
  - interpretations,
  - custodians,
  - targets,
  - etc.

Malaria Case–related data elements (27)

8th Nov 2018
Malawi Health Data Collaborative
NHI handbook – cont’d

• Indicator Management Tool developed
• Programme-level indicators in documentation phase, could use partner support to work with specific programmes
• Already utilized in other activities – e.g. district health bulletins
• **BUT** Requires ALL partners to adopt these guidelines and consistently use these indicators as defined – in strategic planning, M&E frameworks, new projects (e.g. the health situation room), etc.
• NHI Handbook identifies the data sources that will ultimately be used for reporting national health data; helpful for streamlining data collection
• If any issues, challenges, this information is welcomed
SOPs drafted, ready for piloting

1. Revision of indicators and data collection tools
2. HIS Security Guidelines
3. Use of ICD 10 code for COD
4. User Account Management
5. User Support
6. Data Access and Release
7. Data Analysis, Interpretation, and Use
8. Data Collection, Reporting, and Storage
9. Data Quality Assessment
10. Guidelines for Management of the MHFL
11. Guidelines for the Development and Revision HIS
12. Introduction of new Health Information Systems
SOPs drafted cont´d

Next steps:

- **Pilot**
  - Pilot the SOP
  - Integrate suggestions for improvement

- **M&E TWG**
  - Present SOPs to M&E TWG
  - Get endorsement from M&E TWG

- **Senior Management**
  - Present SoPs to Senior Management
  - Get approval from Senior Management
  - Scale up SOPs
EMR Portal
Underpinning Architecture

EMR Central Server and Web Portal*

*Augmenting core investment by CDC through PEPFAR resources

- Formatted datasets
- Central Repository (new)
- BHT EMR
- Local server
- ART module database
- OPD module database
- BHT VPN

Business intelligence software platform for analytics and dashboard generation

Data transferred wirelessly at routine intervals (daily)

Remote access to EMR outputs, including cohort reports and clinical/site performance monitoring

Start Here
Visual and Interactive Dashboard

Leveraging EMR Data
- De-identified
- Restricted Access
- Secure
- Accessible via Web and Authorized Credentials
Data Use Campaign
What is the data use campaign

As part of the Kuunika “core package” districts will receive an activity called the “data use campaign” which delivers to each facility an exposure to the various data use services planned and encourage them to explore what is already available.
How will the campaign improve data use

By Improving:

**Data Access**
Ensuring all decision makers & data handlers at district and facility levels have logins and know how to access DHIS2 and EHR data

**Knowledge & Understanding**
Providing simple training, how-to guides, and basic intros to data systems

**Critical Thinking**
Through case studies and examples of how others are using data in decision making
How will we do this?

- Visit all sites across 5 districts (200+ Sites)
- Start with Zomba district
- ~40 facilities will be reached within 2 weeks

- Teams of consultants (4 teams of 2) will go to each facility, meet with the staff, provide materials, help them download the mobile application, and follow-up on technical support issues

- Accompany DHIS2 mobile application, DHIS2 dashboards, and EHR dashboards
How will we know if we are successful

Use a mobile application for tracking consultants delivering materials to collect demographic data and track what each individual and facility received as part of the campaign.

Track DHIS2 analytics by user using Google Analytics.

Produce reports on district and national DHIS2 usage.
The Malawi HMIS Dashboard Mobile Application:
Accompanying materials (available in English and Chichewa):

DHIS2 Getting Started Guide - a simplified DHIS2 training booklet for the application and the web browser.

Data Use Case Studies – to engage in critical thinking and understand how others are using data in healthcare settings.

Campaign and Project Brochures – to help users orient to other available services and understand the campaign.

Visit www.Kuunika.org to download copies of the materials.
Facility Data Analysis and Use
Facility data analysis (CMED, WHO)

National stakeholder workshop: strengthening facility data analysis and use 05-07 Nov 2018

Workshop outcomes:

1. Achievements:
   - Brought together stakeholders from key programmes to discuss how to strategically strengthen data analysis and use
   - HIV: Achieved clarity around constraints and TA needs for migrating to DHIS2
   - Malaria: updated DHIS2 dashboard
   - TB: completed indicator mapping process for dashboard
   - EPI: gained momentum for migration from DVD-MT to DHIS2
   - Introduced cross-cutting dashboard for integrated health services analysis and reviewed priority indicators
Facility data analysis cont’d

Workshop outcomes cont’d:

2. Challenges identified:
   - Denominator issues (need timeline re preliminary census report)
   - Multiple disaggregations create high workloads
   - Accessibility of DHIS2 due to poor connectivity

3. Requests to all stakeholders:
   - Clarity from partners on how disaggregations are used: justification
   - TA for requirements to make DHIS2 dashboards integrated in workflows – including HMIS/DHIS2 configuration, upgrades, training
   - Log in to DHIS2 to see standard analyses and visualizations
   - Avoid parallel systems when existing systems can do the job – Align partner activities with the national system
   - Share data and metadata for interoperability – with TA
Improving routine data use
A Collaborative approach to improving routine data use in the context of the decentralized health sector

- Inadequate data use is a complex challenge, requiring multidimensional and collaborative approach
- Health Policy Plus (HP+) is a USAID funded project which strengthens and advances health policy priorities at global, national, and subnational levels.
- As part of supporting MoHP/CMED 2017-2022 MEHIS Strategic activities on data use, the project worked with CMED and other partners to standardize data bulletin template in collaboration
- Supported trainings of all district health planning and data management focal persons in data use principles and approaches based on the measure evaluation approaches and methodologies including the use of the standardized data bulletins to strengthen data dissemination and use, in collaboration with the Global Fund
- Supported semi-annual reviews for clusters of districts based on key indicators contained in the standardized bulletins
Some immediate results ??

- All Districts developed data bulletins using key indicators standardized templates.
- Presentations based on the key indicators extracted from the bulletins were used during zonal review meetings that were attended by District Health Management Team Members from all the districts in August 2018.
- During the review meetings district health management teams identified best practices and service delivery bottlenecks and then develop plans of action to deal with the bottlenecks or scale up best practices.

An Example of graph extracted from a district bulletin highlighting a combination of malaria treatment practices and supply chain issues.
Some immediate Results

• Issues identified from the reviews are included in both programme, district quarterly review and the national joint annual health sector review meetings

• Districts are encouraged to share the developed action Plans with district level partners to mobilize adequate support for implementation

• Progress on the implementation of the action plans is checked through further follow on reviews and on going mentorship to programme coordinators and DHMTs

• Sample of District level Action Plan
SDI / SARA Survey
SDI-SARA Survey

• Harmonization of survey: Questionnaires agreed upon between WHO and World Bank – these are now finalized.
• Training on tools (questionnaires) is underway
• Field work starts on 12th November 2018 running to 15th January 2019
• Achievement: Harmonized survey tool combining SDI and SARA!
CMED Portal
CMED Portal (CMED)

- CMED Web portal is meant to enable stakeholders access data related resources and information products to facilitate use of data in decision making.
- CMED uses the website for communication and provision of updates on health information in Malawi.
- Repository for all relevant M&E and HIS documents of MoH
- The website has a portal component where approved service delivery statistics shall be present to the general public
- **Portal currently being integrated in MoHP domain.**