

# DHIS2 Metadata Toolkit for Malaria Elimination: Building Capacity through Technology

APMEN Surveillance & Response Working Group | Nov 1, 2021

Rebecca Potter, Technical Lead for Global Health Content University of Oslo (UiO) Health Information Systems Programme (HISP)





# WHO Toolkit for Routine HIS



 Metadata packages
 installed in integrated HMIS



- 60+ countries use DHIS2 as national HMIS
- Scales from community to facility to district & national levels
- Supports data quality and core functionality for routine data management

#### Flexible Multi-level Analysis

dhis2



- Analyze at any level (national, district, facility catchment area, community depending on nat'l system structure)
- Cross-program
- Integrated or disaggregated community & health facility data

### Global adoption of WHO metadata packages





#### WHO Packages: 64

Afghanistan (j)	Chad	
Angola (j)	Dem. Rep. Congo (j)	
Bangladesh (i)	Djibouti (i)	
Benin (j)	East Timor	
Botswana	Eritrea	
Burkina Faso (i) Ethiopia (i)		
Burundi (i) Ghana (i)		
Cameroon (i) Guinea (i)		
Cape Verde Guinea Bissau (		
Central African Rep. (i) Haiti (i)		

Indonesia () Ivory Coast () Jammu and Kashmir Kenya () Kyrgyzstan () Laos () Lebanon Lesotho () Liberia () Madagascar () Malawi () Mauritania () Mauritius () Mizoram Mozambique () Myanmar () Namibia Niger () Nigeria ()

Norway Pakistan () Palestine () Republic of the Congo () Rwanda () Sao Tome () Senegal () Sierra Leone () Solomon Islands () Somalia

Somaliland South Africa South Sudan (Î) Sri Lanka Sudan (Î) Tanzania (Î) The Gambia (Î) Togo (Î) Uganda (Î) Vanuatu Vietnam Yemen Zambia (j) Zimbabwe (j)

#### 60+ countries use DHIS2 as national scale HMIS

64+ countries adopted standard packages (e.g. immunization, TB, HIV, malaria)

55 countries rapidly deployed packages for COVID-19 surveillance and/or vaccination

77 countries use DHIS2 tracker

36 countries use DHIS2 Android App



### WHO standards-based toolkit: Malaria

#### 1. Guidance manual

Surveillance in burden reduction and elimination settings

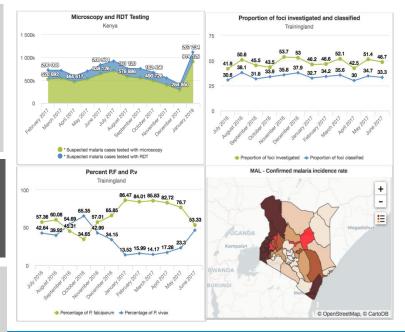
- Burden reduction
  - Morbidity, mortality
  - Prevention
  - Treatment
- Elimination
  - Case investigation and classification
  - Foci investigation and classification

### Strengthen aggregate and case-based data

- Improve data quality
- Improve data analysis and use
- Data driven decision making

WHO malaria recommendations: standard data elements and indicators built into DHIS2 for the national HMIS

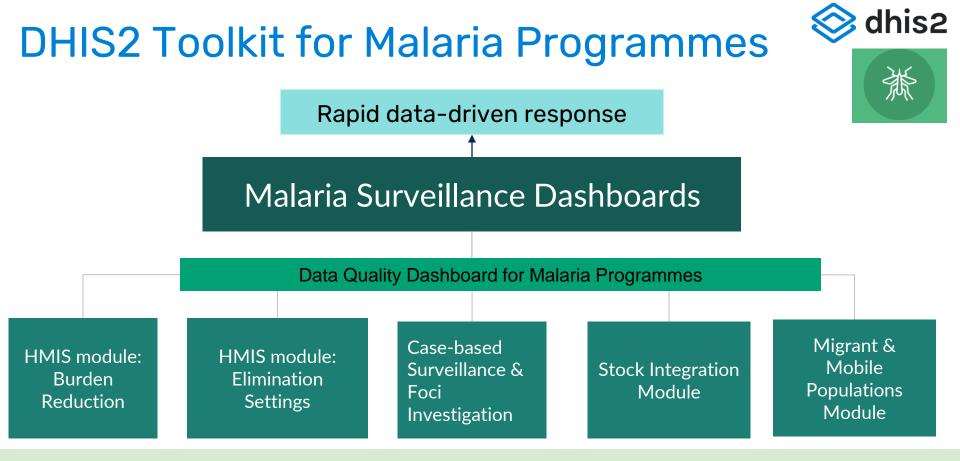
### 2. Analytic Dashboards



### 3. Training materials



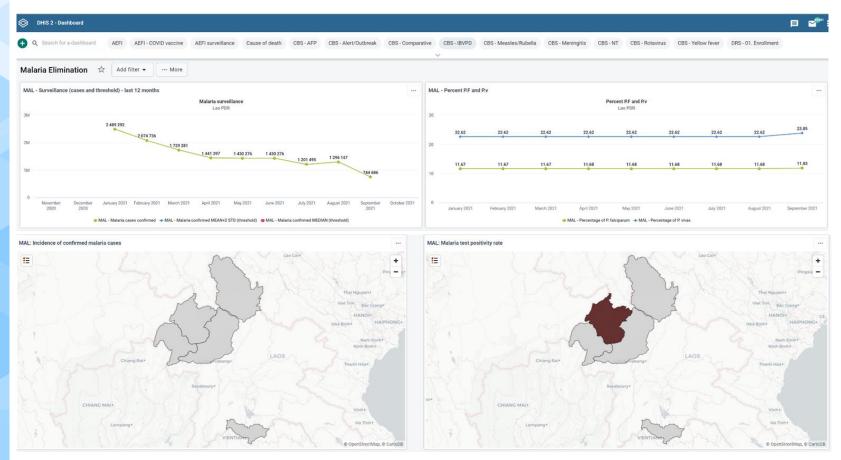
- Guidance
  - English/French
- Exercises
  - Tutors' Guide
  - Learner's Guide



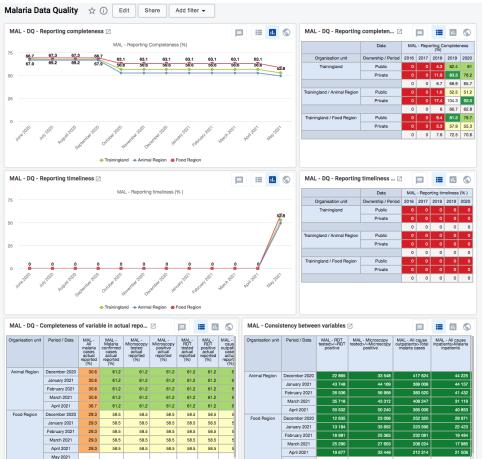
Optimized data collection and field-based workflows

### Malaria Elimination Dashboard





### Malaria Data Quality Dashboard



#### Objectives of DQ Dashboard

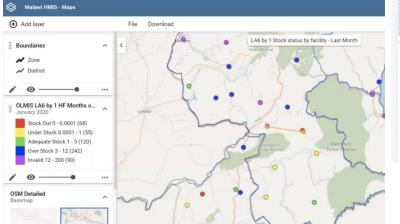
- Bring key data quality metrics to the users routinely through use of DHIS2 dashboards to facilitate data quality improvement activities;
- Monitor completeness and timeliness of reporting malaria data;
- Monitor completeness of reporting of core malaria data variables in the monthly health facility reporting form;
- Monitor internal consistency between variables to detect inconsistencies for quality improvements;
- Compare trends of key malaria indicators at the various reporting levels and rapidly detect anomalies as red flags for poor data quality.



## **Stock Integration Module**

#### Logistics data package for DHIS2

- Cross-cuts vertical health programs
- Facility & last-mile reporting
- Integrated analysis of stock & service delivery data
- Programme-agnostic logistics data framework with programme-specific analysis



#### WHO Aggregate Configuration Sandbox Instance - Dashboard 0 Q Search for a dashboard 05. COVID-19 Surveillance Aggregate (v1.0) [PLACEHOLDER] TB Additional dashboards items BCG Stock Status CH - Adolescent Health CH - Child Health CH - Child protection & interpersonal viole Show mor Malaria stock 🕁 🛈 Edit Share Add filter • DEFINITIONS Closing balance = Opening balance + Received - Distributed - Redistributed - Discarded ->Automatically calculated indicator to count the remaining items at the end of the period Stock on hand = physical stock count at the end of the period Usable stock = Opening balance + received Coverage time = Usable stock / Distributed + Discarded + Redistributed = nb. of months of supply Stock discrepancy = Stock on hand - closing balance If discrepancy = 0 --> Stock on hand = closing balance (green cell) If discrepancy < 0 --> closing balance > stock on hand (dark red cell) MAL - RD... 🗹 🔲 📰 🔯 MAL - RDT stock status [2] MAL... 🗹 🔲 🔳 🔝 🕥 MAL - RDT st... 🗹 🔲 🔠 🚺 🔇 taininglan MAL - ROT stock coverage time by facil MAL - RDT stockout days by facility - RDT opening Period / Data MAL - RDT kits MAL-RDT MAL - RDTs MAL - RDTs closing MAL - RDTs stock - RDT stock March 202 135 581 176 759 43 516 March 202 E E April 2021 43 516 104 343 5 061 212 142 506 40 455 April 2021 May 2021 46 459 137 491 5 0 4 6 178 669 43 516 May 2021 43 539 5 061 142 531 June 2021 104 345 212 40 455 June 2021 July 2021 46 459 135 581 5 0 4 171 176 759 July 2021 43 516 August 2021 43 516 August 202 MAL - Proportion of facilities with ... 🗵 = 10 0 MAL - RDT used for diagnosis vs RDT distr... 🗵 Cases tested with RDT vs. RDTs issued from stock Traininglan 80 455 68 879 68 879 68 879 64 472 508

## Coming soon: Case-based Surveillance



Longitu

#### Case notification, investigation & response

Back 4 🕨 📓 MA	L-CS- Malaria Case notification, inves	sugation and response	
nrollment			
Owned by: Lao PDR			
Enrolling organisation unit	Lao PDR		
Enrollment date	2021-10-20		
Complete Deactivate	A	Delete	
dicators			
dicators			
MAL-CS Malaria age curre	ent (years) Malaria species type	Preliminary case classifica	ation Malaria test performed
	Malaria species type PV	Preliminary case classifica Induced	Malaria test performed MICROSCOPY
MAL-CS Malaria age curre 36	2021-10-20 Lao PDR		
MAL-CS Malaria age curre 36 Imeline Data Entry 2021-10-20 Lao PDR Diagnosis & treatment	2021-10-20 Lao PDR Case investigation & cla → Neigh	Induced	MICROSCOPY 2021-10-20 Lao PDR Case outcome

#### Foci investigation, classification & response

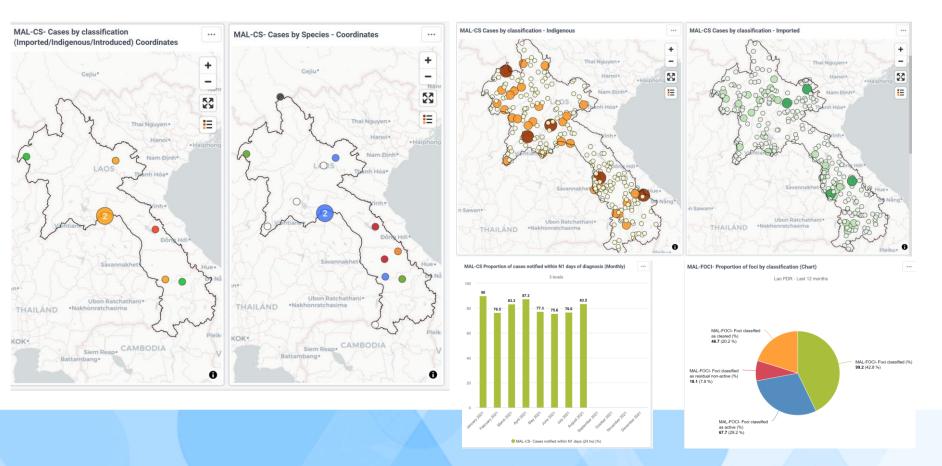
Back A MAL-FOCI- Malaria foci investigation
Enrollment
Owned by: Lao PDR
Enrolling organisation unit Lao PDR
Date of Foci Registration 2021-09-28
Complete Deactivate
Indicators
Foci classification RESIDUAL_NON-ACTIVE
Timeline Data Entry
2021-09-28 Lao PDR Focus status, investig (Open) 2021-09-28 Lao PDR Focus status, investigati (Open) 2021-09-28 Lao PDR Foci response (Open)
Date of foci investigation *
2021-09-28
Event point

Latitude

**Case Detection** 



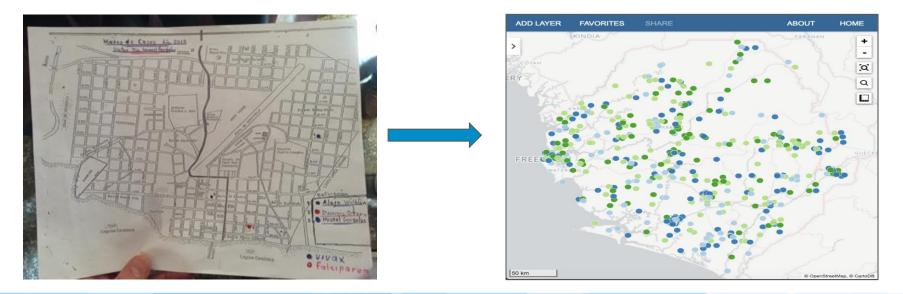
### Malaria Elimination Dashboards: with CBS





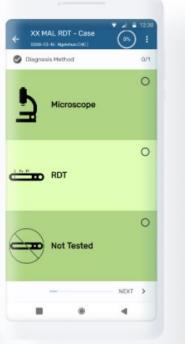
# **DHIS2 Feature Enhancements**

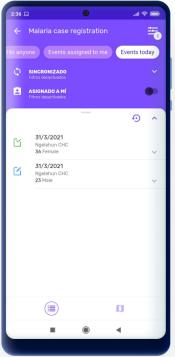
Example from a map in Honduras color coding vivax vs falciparum on the left - an example from how this can look in the DHIS2 maps app on the right



### **DHIS2 Android Enhancements**













# Thank you!

Contact: Rebecca Potter (rebecca@dhis2.org)

Resources: https://dhis2.org/who/ docs.dhis2/metadatapackages