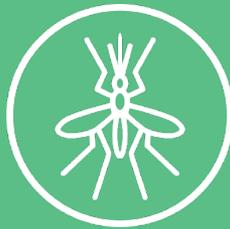


New developments in the DHIS2 entomological surveillance toolkit



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Global **Malaria** Programme



World Health
Organization



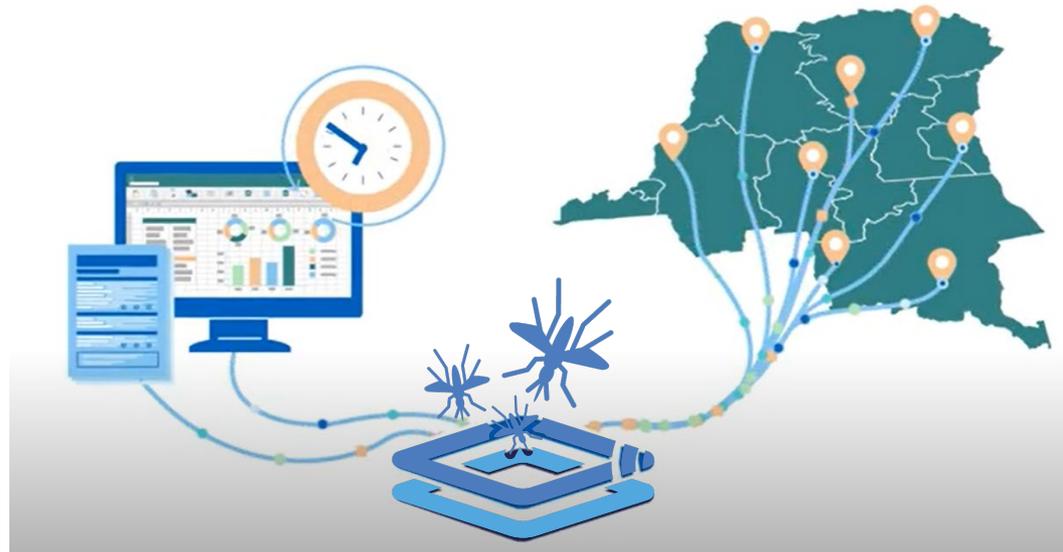
1. The DHIS2 entomological surveillance toolkit
2. Review of contents
3. Review of main features
4. Entomological and vector control activities covered
5. New individual mosquito data collection module
6. New LLIN campaign metadata modules
7. New IRS campaign metadata modules
8. New implementation support apps

Goals of the toolkit

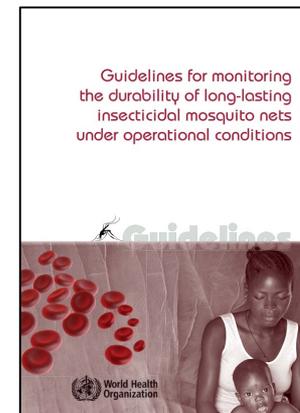
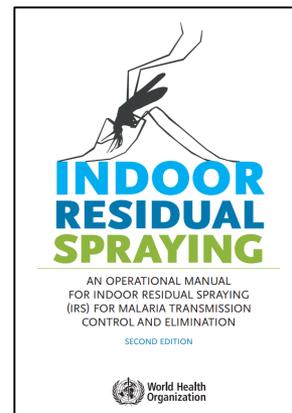
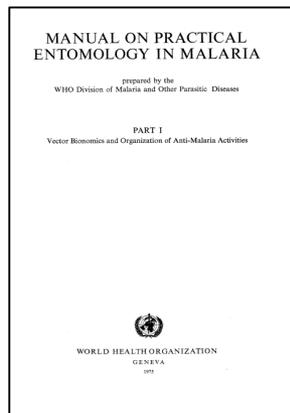
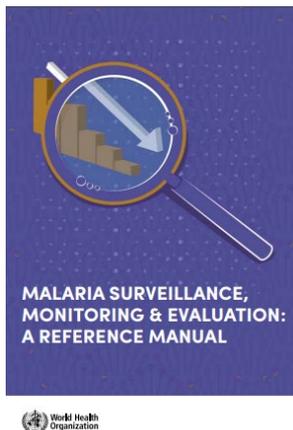


Help countries to

- Collect, collate, interpret and use entomology and vector control data in a standard manner
- Support integrated vector control strategies (one information platform for all vectors)
- Integrate entomology and vector control data with epidemiological data
- Centralize and digitize historical data
- Ease global data reporting



Developed based on WHO official guidance

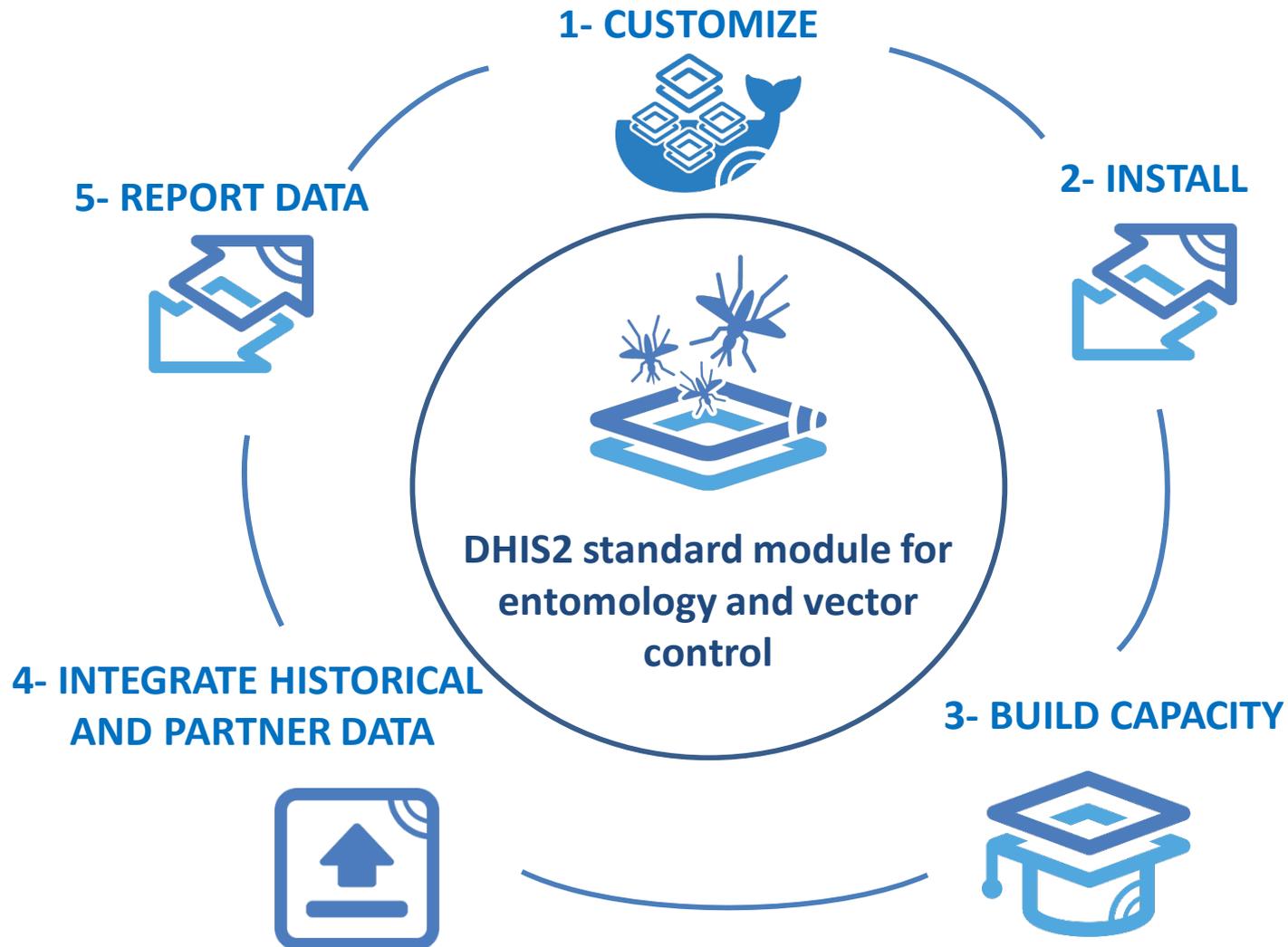


Malaria Surveillance, monitoring and evaluation manual - Chapter 5: Entomological surveillance and vector control monitoring and evaluation

5. Entomological surveillance and vector control monitoring and evaluation	82
5.1 Rationale, definition and objectives	82
5.2 Surveillance systems for entomology and vector control	85
5.3 Main malaria entomological indicators	88
5.4 Frequency of surveys	95
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5.6 Monitoring of vector control	102
5.7 Use of entomological data in programme response	103

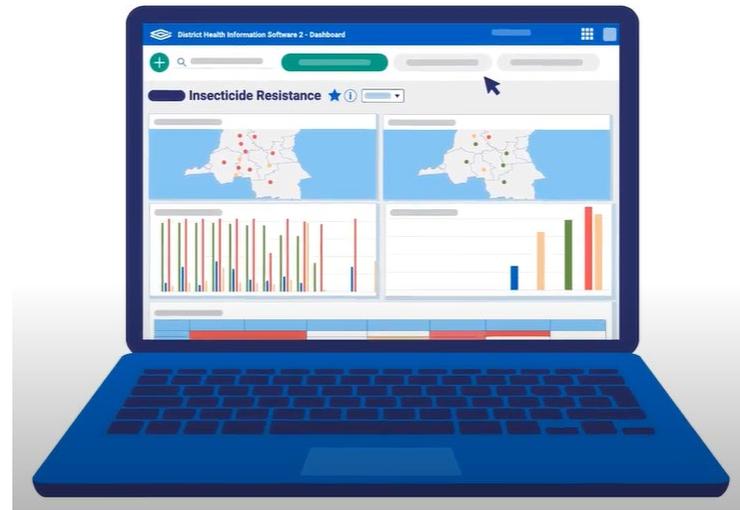


DHIS2 standard modules + NEW implementation apps





- Standard data collection forms
- Automatically calculated indicators: campaign coverage, mosquito mortalities, sporozoite rate, HBR, EIR, etc.
- Data analytics updated on the fly: tables, graphs and maps
- Customizable thematic dashboards



Review of main features



- **Free** of charge
- Integration in existing DHIS2 implementations- **low maintenance costs**
- **Offline** or online data collection from cell phones, tablets or computers.
- Captures **geolocation**
- **Multilingual**: English, French, Spanish and Portuguese, countries can translate it into any other language.

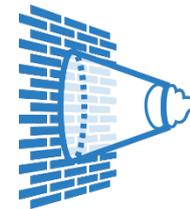


Activities covered and new developments



Vector control

- LLIN campaigns (summary-WHO, **NEW daily household level data-PSI**)
- LLIN bio efficacy (i.e. cone bioassays)
- IRS campaigns (summary-WHO- **NEW daily and structure level data-PMI**)
- IRS residual efficacy (i.e. cone bioassay)



Entomology

- Insecticide resistance monitoring (all standard bioassays)
- Adult surveillance (aggregated and **individual mosquito field and lab data**)
- Breeding site mapping and monitoring



New individual mosquito data collection module



End-to-end data flow: connecting field work, insectaries and labs



For each mosquito the following information can be collected

- Morphological identification
- Molecular identification
- Sporozoites detection
- Blood meal analysis
- Resistance mechanisms
- Gene sequencing

The screenshot shows the ENTO-Mosquito data collection interface. It includes a search bar, a 'Lists' button, and a 'Search' button. The table displays the following data:

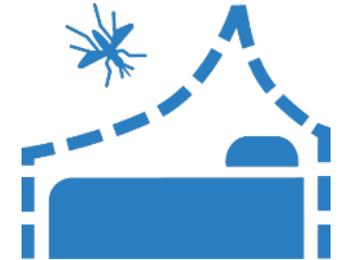
Sample ID	Genus	Species/species complex	Sex	Sample preservation
MOSQ-00270	Anopheles	An. gambiae s.l.	Female	Silica Gel
MOSQ-00269	Anopheles	An. gambiae s.l.	Female	Silica Gel
MOSQ-00268	Anopheles	An. funestus s.l.	Female	Silica Gel
MOSQ-00267	Anopheles	An. funestus s.l.	Female	Silica Gel
MOSQ-00266	Anopheles	An. funestus s.l.	Female	Silica Gel
MOSQ-00265	Anopheles	An. funestus s.l.	Female	Silica Gel
MOSQ-00264	Anopheles	An. funestus s.l.	Female	Silica Gel



MODULE 1: Summary reporting form

- Beneficiary estimates data
- Registration data (population and households)
- Distribution data
 - Includes stock management
- Standard campaign monitoring indicators
- Dashboard
- *Frequency of data collection of choice: daily, weekly, monthly*

Contributed by PSI



MODULE 2: Data collection per household (Tracker)

- Household registration (digital HH registry)
- ITN distribution to household
- Standard campaign monitoring indicators
- Dashboard

ITN MC - Outcome indicators <input type="checkbox"/>							
Period	2020						
Organisation unit / Data	ITN MC - Proportion of registered households receiving at least one ITN	ITN MC - Proportion of registered households receiving at least 1 ITN for every 2 people	ITN MC - Proportion of registered households receiving sufficient ITNs	ITN MC - Proportion of registered population in households receiving at least 1 ITN for every 2 people (estimate)	ITN MC - Proportion of registered population in households receiving at least 1 ITN for every 2 people (actual)	ITN MC - Proportion of registered population in households receiving sufficient ITNs	ITN MC - Proportion of registered sleeping spaces covered by ITNs received
T_CountryDemo	100	100	50	96	100	50	57
T_CountryDev	100	100	100	80	100	100	84
T_CountryTest	100	100	100	102	100	100	146



MODULE 1: Daily reporting form

- Bottle consumption
- Population in sprayed structures (by group)
- Structures and rooms found/sprayed
- Standard campaign monitoring indicators
- Dashboards
- *Frequency of data collection of choice: daily, weekly, monthly*

Contributed by U.S President's
Malaria Initiative - Vector Link



MODULE 2: Data collection per structure

- Household ID
- Rooms found/sprayed
- Population living in sprayed structures (by group)
- Standard campaign monitoring indicators
- Dashboard

Implementation support apps



1- CUSTOMIZE



D2-Docker

Enables customization of standard modules to country context

2- INSTALL



MetaData Sync App

Facilitates import of standard modules and data reporting

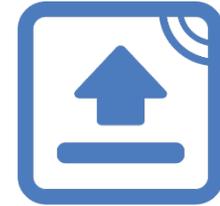
3- BUILD CAPACITY



Training App

Provide interactive training on data collection and visualization process through DHIS2.

4- INTEGRATE HISTORICAL AND PARTNER DATA



Bulk Load App

Generates excel templates to import historical data and data from other systems

ADDITIONAL TOOLS



User Extended App

Facilitate user creation and management



WHO Metadata Browser

Eases exploration of the contents of the standard packages



DHSI2 Google Earth Engine App

Brings weather, climate and environmental data into DHSI2 to understand their impact in disease trends

New Training App



Welcome to training on DHIS2

What do you want to learn in DHIS2?

- Entering data**

- Visualizing data**

- Exporting/importing data to/from Excel**


 Learn to enter data into DHIS2

Training for activity-related data entry

Select a theme below to learn how to enter data for specific activities:

- Insecticide resistance**


 Learn how to enter insecticide resistance data

Learn how to enter data for each activity

Select a tutorial below to learn how to enter insecticide resistance data into specific forms:

- Discriminating Concentration Bioassay**


What will this tutorial cover?

- 1 Select your sentinel site
- 2 Select data category
- 3 Select other data
- 4 Enter data in a new form
- 5 Mark form as complete
- 6 Save and submit form
- 7 Format and sort summary table
- 8 Download data

[Previous](#) [Start](#)

New Bulk Load App



WHO - Standard packages for entomology and vector control - Bulk Load

- Download template
- Import data
- Themes
- Settings

Template

Select template to export... Data Model
All

Organisation units

Select available organisation units to include in the template

Advanced template properties

Language
English

DOWNLOAD TEMPLATE

WHO - Standard packages for entomology and vector control - Bulk Load

- Download template
- Import data
- Themes
- Settings

- ENTO- Adult surveillance - Field and Lab
- ENTO- Adult surveillance - Lab
- ENTO- Breeding sites mapping
- ENTO- Breeding sites tracker
- ENTO- Intensity concentration bioassay
- ENTO- Molecular and biochemical mechanisms
- ENTO- Mosquito
- ENTO- Mosquito collection
- ENTO- Mosquito from bioassay
- ENTO- Synergist-insecticide bioassay
- ITN Mass Campaign - Daily summary form
- ITN Mass Campaign - Household Register
- ITN Mass Campaign - Microplanning Information

WHO - Standard packages for entomology and vector control - Bulk Load

- Download template
- Import data
- Themes
- Settings

Bulk data import

Drag and drop file to import

Select import Organisation Unit

IMPORT DATA

Contributing partners



U.S. President's Malaria Initiative



- IRS campaigns metadata (daily, structure)
- Collaborated on entomology module refinements building on PMI VectorLink DHIS2 modules

- ITN metadata (daily, household)
- Support countries monitoring ITN continuous distribution through DHIS2



Support countries to implement the DHIS2 modules and build capacity.



- **Tool kit information page:** <https://www.who.int/teams/global-malaria-programme/prevention/vector-control/dhis-data-collection-and-collation-tools>
- **Introductory video:** https://drive.google.com/file/d/1AG3GfXd8vWae-F0v_0n-C61_hnerVXT-/view
- **Life demo:** <https://extranet.who.int/dhis2-ento-vc>
- **Configuration files:** <https://github.com/WorldHealthOrganization/DHIS2-standard-packages-nonHF/tree/GMP/VCR>
- **Contact:** Lucia Fernandez Montoya (fernandezl@who.int)

Thank you for your attention



Moving towards better-informed decisions

