

# Digital tools for malaria elimination



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Strategic Information for response unit

Global **Malaria** Programme



**World Health  
Organization**



## What is in a toolkit module: Malaria

### 1. Guidance manual

Surveillance in burden reduction and elimination settings

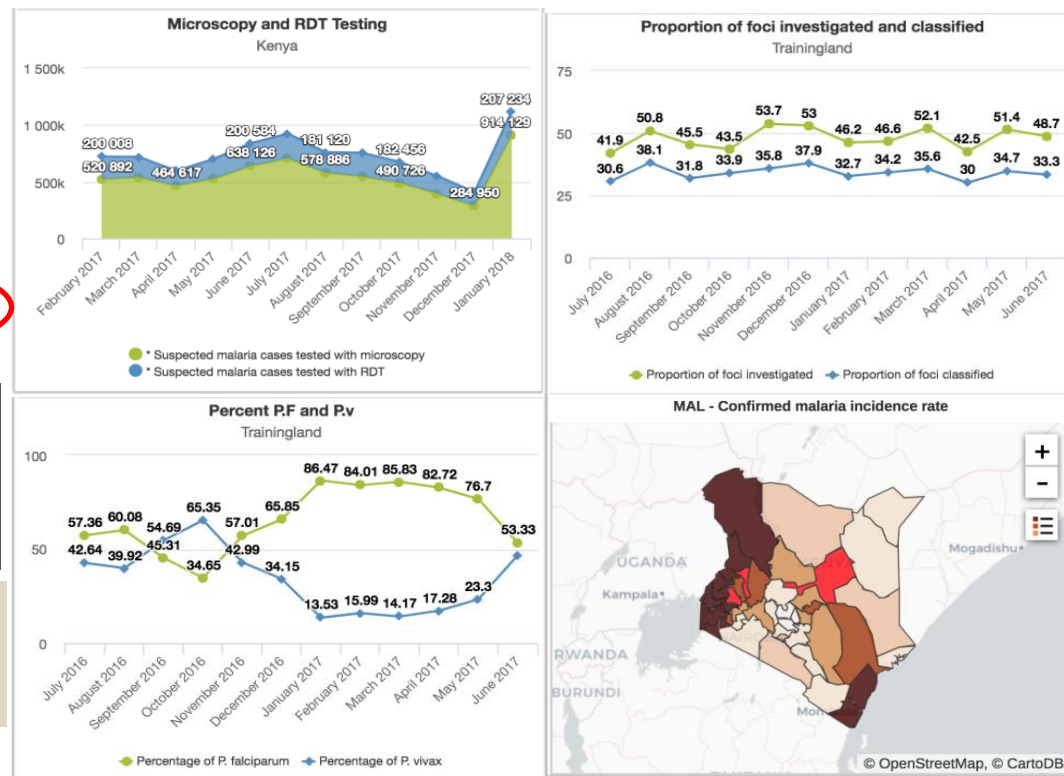
- Burden reduction
  - Morbidity, mortality
  - Prevention
  - Treatment
- **Elimination**
  - Case investigation and classification
  - Foci investigation and classification

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 are built into DHIS2 for the national HMIS

### 2. Analytic Dashboards

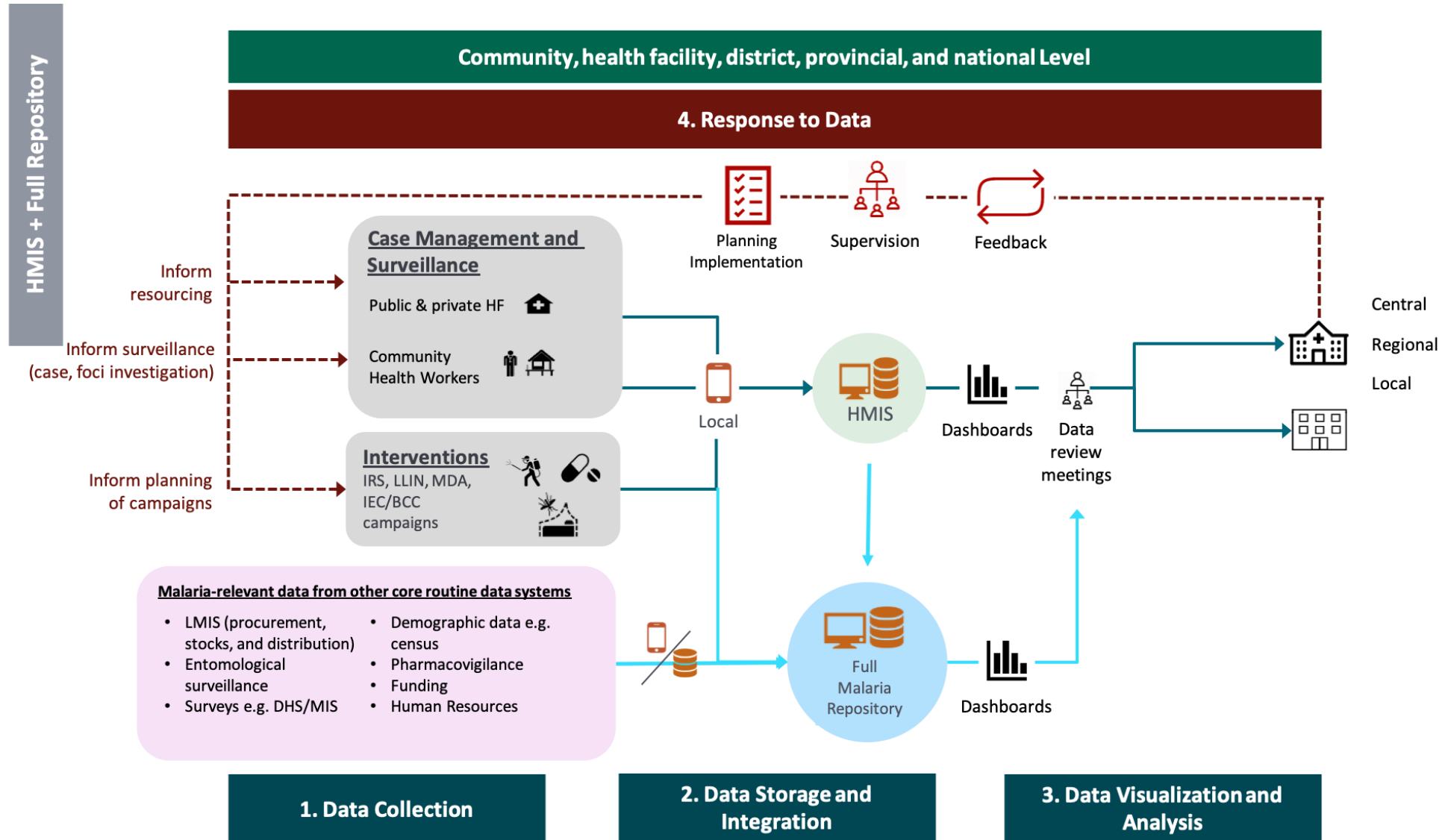


### 3. Training materials



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

# Ideal Surveillance System



# Why digital tools for case-based surveillance?



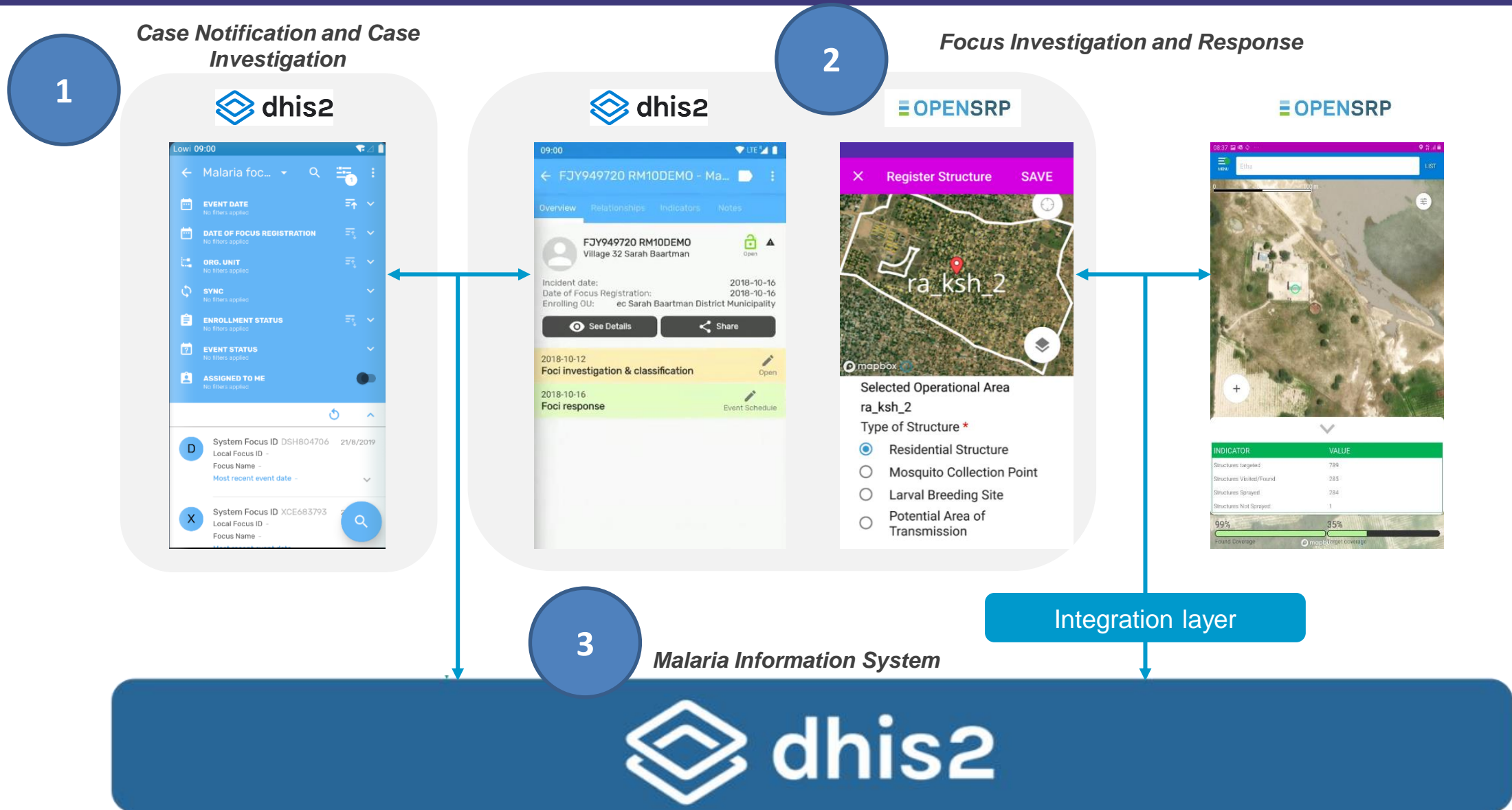
- A landscape assessment of surveillance systems conducted in 16 countries from 2015-16 found that: most health information systems for surveillance had several shortcomings and provided inadequate support for malaria elimination.
- No single information system could facilitate the data collection and analysis of case investigations, focus investigations, response interventions, and support task management. Gaps existed in:
  - Data analytics and visualization, particularly on dashboards and geospatial visualization
  - integrating and linking different types of malaria data
- Mobile surveillance tools
  - did not correspond to the operational workflows of malaria health workers and health facilities,
  - were not built appropriately for low infrastructure settings,
  - and were difficult to configure and customize to different countries



Enhancement and development of existing and new digital solutions  
to address these gaps in information systems and mobile tools



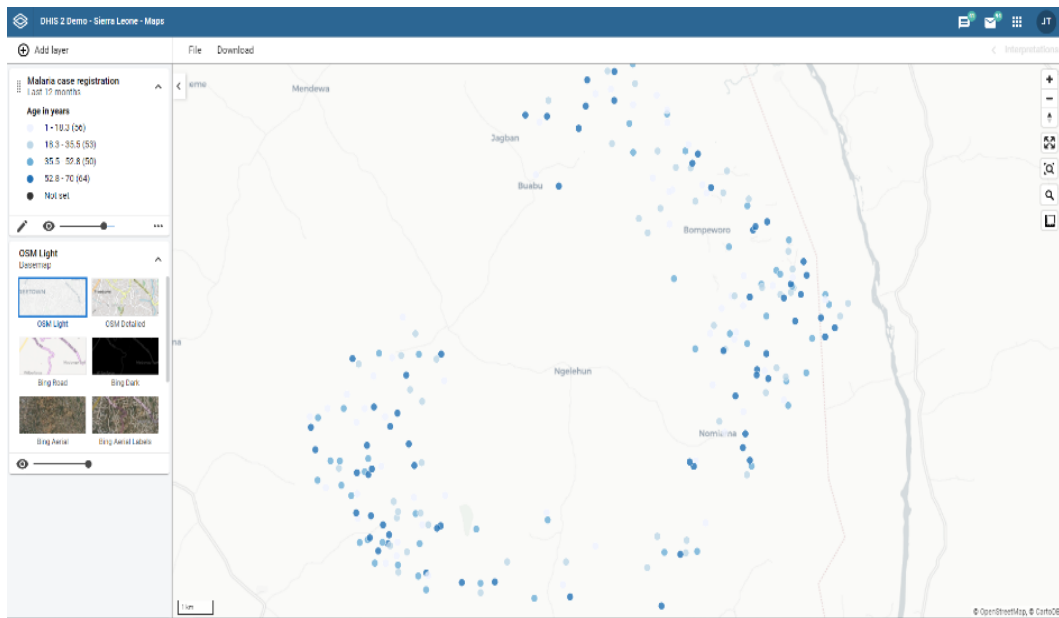
A suite of digital tools developed to address these problems, it was piloted in 4 countries over a period of three years and an M&E framework was developed as part of the tools assessment.



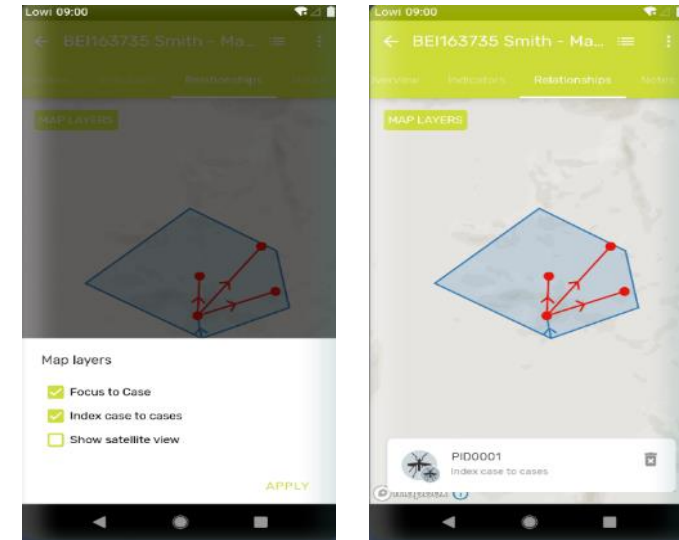
# Malaria elimination tools features



## Visualization of malaria case burden on DHIS2 Web



## Viewing relationships between cases and case to focus in the DHIS2 Android Capture app-based focus investigation and response app



## Viewing case index information for a particular focus, while collecting or monitoring data on OpenSRP

**Normal work**  
 Operating plan start date: 2020-12-07  
 Performance plan end date: 2020-12-27  
 Change status to Done

**Household registration**  
 Measure: Percentage of houses / buildings that have registered household information.  
 Progress: 0 of 46 back (0%)

**Household activity**  
 Measure: Number of people who received blood drawn.  
 Progress: 0 of 100 Person (0%)

**Surveys / plotting / going out mosquito nets**  
 Measure: Number of houses / buildings receiving mosquito nets.  
 Progress: 0 of 90 back (0%)

**Loops**  
 Measured results: number of larvae scooping activities.  
 Progress: 0 of 3 activity (0%)

## Interactive map to navigate through tasks and in-app indicators to monitor intervention rollout in real-time on OpenSRP

INDICATOR	VALUE
Structures targeted	807
Structures Visited/Found	746
Structures Sprayed	594
Structures Not Sprayed	152



# WHO case-based malaria package

Patient registration (patient Id)



Diagnosis, confirmation and Treatment



Case investigation

Foci investigation

Tracker capture

Malaria Case Register [x] | john | Register

Total: 3

Registering unit	Case Number	CitizenID	Patient Name	Age	Gender
Banteay Neang		KH14023213	John Test		
Ballangk	232132342	234123412	john1		Male
Chamnaom		45024953	John 2		

No of pages: 1 | No of rows per page: 50

Malaria Case Register

Data Entry

2016-04-08 Banteay Neang Malaria diagnosis (Open) → 2016-04-29 Banteay Neang Case Investigation (Overdue)

Date of visit: 2016-04-08

13.297420598759711 | 103.3974838256836

Demographic

Temperature: [ ]  
Weight: [ ]  
Travel last 3 weeks: [ ]  
Occupation: [ Select or search from the list ]

Diagnosis

Case detection: [ Select or search from the list ]  
RDT Result: [ - Ve ]  
RDT +ve species: [ Others ]  
Microscopy Result: [ + Ve ]  
Micro +ve species: [ PV ]  
Services: [ Select or search from the list ]  
Clinical Status: [ Severe ]  
Malaria Medication: [ PQ ]  
DOT 3 days: [ ]

Outcome

Referred: [ Yes No ]  
Reason For Referral: [ Select or search from the list ]  
Dead: [ ]

2017-07-12 Cardinal Hospital Ga... Malaria diagnosis & t... (Open) → 2017-07-13 Cardinal Hospital G... Case investigation ... (Open) → 2017-08-17 Cardinal Hospital Ga... Foci investigation & ... (Open)

Date of investigation \*  
2017-07-13

Coordinate  
Latitude [ ] Longitude [ ]

2017-07-12 Cardinal Hospital Ga... Malaria diagnosis & t... (Open) → 2017-07-13 Cardinal Hospital Ga... Case investigation & ... (Open) → 2017-08-17 Cardinal Hospital G... Foci investigation ... (Open)

Date of Foci Investigation \*  
2017-08-17 | 2017-08-31

Coordinate  
Latitude [ ] Longitude [ ]

Foci Investigation

Foci name: [ ]  
Foci name (Village name): [ ]  
Registered as foci since: [ yyyy-MM-dd ]  
Province/state: [ Select or search from the list ]  
District: [ Select or search from the list ]  
Commune: [ Select or search from the list ]  
Name of health facility catchment area: [ ]  
Average location of health facility (from inhabitants): [ Select or search from the list ]  
Population: [ ]  
No of households: [ ]  
Locality: [ Select or search from the list ]  
Type of population: [ Select or search from the list ]  
Vulnerability: [ Select or search from the list ]  
Geographical features: [ Select or search from the list ]



- Make the digital tools available to countries for adoption to augment surveillance processes in malaria elimination settings.
- Disseminate these tools through clear communication across stakeholders.
- Work with partners and donors to help countries in adopting, using and maintaining these tools.
- Continuously monitor uptake of tools and implement any necessary improvements .