

Sierra Leone

Routine Health Information System (RHIS) Malaria Reporting Structures

RHIS Profile: This document outlines the reporting structures of routine health information systems (RHISs) that include malaria data. In Sierra Leone, this includes an integrated health management information system (HMIS) and integrated disease surveillance and response (IDSR), both of which are housed on the DHIS 2 platform from the district level up. The former parallel malaria information system was fully integrated into the HMIS in May 2016. The National Malaria Control Program (NMCP) worked with several technical teams at the Ministry of Health and Sanitation (MOHS) to revise both sets of monthly summary forms (for hospitals and peripheral health units [PHUs]) and to capture new malaria data elements (e.g., IPTp3, IPTi) in the integrated forms. Tools were printed in May 2019. In 2020, the team further revised the tools to harmonize the age categories across all data elements. This led to the rollout of new HMIS data sets in the DHIS 2. For example, age categories for suspected malaria fever that were previously 0–28 days, 1–11 months, 12–59 months, 5–14 years, and 15 years and above were replaced with 0–59 months, 5–14 years and 15 years and above. In 2020, the MOHS also rolled out the logistics management information system (LMIS) to capture data on drug consumption including malaria commodities. The LMIS uses the DHIS 2 platform. To address data quality, the DPPI MOHS trained 250 staff from all community health centers to serve as data entry officers for their respective chiefdoms. (Note: Each CHC supervises 6–15 PHUs).

	HMIS	IDSR
	<p>When started: DHIS 2 was piloted by Health Metrics Network in 2007 and fully launched in 2008.</p> <p>Scale-up status: National</p>	<p>When started: Surveillance pilot began in 1999; IDSR was adopted in 2004. In 2015, IDSR was revitalized and rolled out. DHIS 2 integration occurred in 2016. E-IDSR was rolled out in 2019.</p> <p>Scale-up status: National</p>
National	<p>Reporting format/platform: DHIS 2</p> <p>Managed by: Directorate of Policy Planning and Information (DPPI) at MOHS. NMCP has instant access. For the LMIS component, DPPI provided the Directorate of Pharmaceutical Supplies (DPS) with login details.</p> <p>Dissemination: Quarterly and semester reports for the MOHS and Global Fund. Quarterly reports to US PMI. Malaria Bulletin production for malaria stakeholders.</p> <p>Key tasks: NMCP conducts data quality audits for completeness and accuracy and liaises with District Health Management Teams (DHMTs); trains DHMT staff on recording and reporting; conducts quarterly integrated supportive supervision to DHMTs and sample of PHUs; and analyzes key indicators for reports.</p>	<p>Reporting format/platform: DHIS 2</p> <p>Managed by: DPPI at MOHS. Directorate of Health Security and Emergency (DHSE) surveillance team has instant access.</p> <p>Dissemination: Weekly bulletin shared with partners each Thursday.</p> <p>Key tasks: DHSE reviews data for timeliness and completeness, and then shares with the bulletin team, who adds text and disseminates; reports on notifiable diseases weekly to the chief medical officer and World Health Organization; conducts training and supportive supervision of DHMTs; and provides on-the-job training.</p>

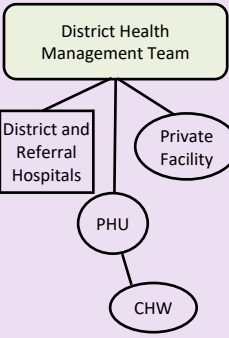
Regional <ul style="list-style-type: none"> Sierra Leone does not have regional-level divisions. 	Reporting format/platform: N/A Managed by: N/A Reported to: N/A Reporting frequency: N/A Key tasks: N/A	Reporting format/platform: N/A Managed by: N/A Reported to: N/A Reporting frequency: N/A Key tasks: N/A
District <ul style="list-style-type: none"> 16 health districts 35 district and referral hospitals 58–124 PHUs per district 	Reporting format/platform: DHIS 2 Managed by: DHMT (Monitoring and Evaluation [M&E] and Malaria Units) Reported to: DPPI and NMCP Reporting frequency: Monthly by the 15th of the month Key tasks: Enter data into DHIS 2 (data entry clerk). Cross-check errors, follow up with PHUs as needed, and submit data on time (District M&E officer and malaria focal person). Provide supportive supervision to hospitals and PHUs for case management and data quality, focused on five key trace indicators each semester.	Reporting format/platform: DHIS 2 Managed by: DHMT (District surveillance officer) Reported to: DPPI HMIS team, who gives access to DPPI Surveillance team for analysis Reporting frequency: Weekly on Mondays Key tasks: Verify and validate IDSR reports on a weekly basis. Centers for Disease Control and Prevention Field Epidemiology Training Program training has enabled almost all DHMTs to produce weekly district bulletins. Attend quarterly disease surveillance officer review meetings.
Facility Level  <pre> graph TD DHMT[District Health Management Team] --- DRH[District and Referral Hospitals] DHMT --- PF[Private Facility] DRH --- PHU((PHU)) PF --- PHU PHU --- CHW((CHW)) </pre>	Reporting format/platform: Paper/DHIS 2 Managed by: PHU in-charge and community health officer at CHC supported by district M&E officer Reported to: Supervising CHCs and DHMT Reporting frequency: Monthly by the 5th of the month Key tasks: Complete and submit health facility summary form. Collect data from community health workers (CHWs) at regular monthly meetings. In-charge PHU will supervise staff, ensure data quality and timeliness, and display data charts in PHUs. First week of the month, in-charge PHU will take reports to CHC and DHMT for data quality review focused on completeness (of full set of forms, all data fields). Private facilities: About half of the private not-for-profit facilities in the country have a memorandum of understanding with MOHS to receive commodities and are expected to report. Ultimately, the goal is to have all private facilities reporting.	Reporting format/platform: Android tablets for e-IDSR reporting. e-IDSR has fully replaced paper-based reporting. Managed by: PHU in-charge (with a substitute also trained so there are two personnel at each PHU). Hospital IDSR focal person. Community form by CHW. Reported to: DHMT Reporting frequency: Weekly on Mondays before 12 noon to DHMT. CHW reports to PHU at the end of each day. Key tasks: Compile, cross-check, and submit reports. For notifiable diseases, report directly to national level.

Table 1: Key Malaria Indicators by System

Indicate Y or N for each reporting element captured by the system.

	HMIS	IDSR
Number of malaria cases		
Suspect/fever cases	Y	Y
Tested (diagnostically)	Y	Y
Diagnostically confirmed (positive)	Y	Y
Clinical/presumed/unconfirmed	N	N
Outpatient	Y	N
Inpatient	Y	N
Uncomplicated/severe	Y	N
Age categories (e.g., <5, 5+) / Sex disaggregation (M, F)	Y/Y	Y/N
Pregnant women	Y	N

	HMIS	IDSR
Number of malaria deaths		
Age categories (e.g., <5, 5+) / Sex disaggregation (M, F)	Y/Y	Y/N
Pregnant women	Y	Y
Commodities (Availability or stockout/consumption)*		
RDT	Y/Y	N/N
ACT	Y/Y	N/N
Severe malaria treatment	Y/Y	N/N
SP	Y/Y	N/N
IPTp 1/2/3+	Y/Y/Y	N/N/N
Completeness of reporting	Y	Y

*Data on commodities are currently tracked by District Medical Stores with the Channel program. Integration of the logistics management information system into the DHIS2 is in process, beginning with a March 2019 pilot in four districts. Full integration was done in 2020.

Data Quality Activities

Routine data quality reviews/audits:

- Sierra Leone has focused on timeliness and completeness of data with remarkable success, and it is now shifting its focus to accuracy. Up to 50 health partners meet on the first Friday of each month for an integrated M&E technical working group meeting; participation has waned since the Ebola virus outbreak.

Monthly or quarterly malaria bulletin:

- Quarterly malaria data automatically populate the last three months of key indicators from the HMIS malaria dashboard, but this information is not saved or printed. NMCP looks for red flags and analyzes results each quarter and will use these efforts to launch an official malaria bulletin soon.

Data availability:

- NMCP and District Health Management Teams (DHMTs) (plus all MOHS departments) have direct access to DHIS 2, along with the World Health Organization (WHO), UNICEF, and Catholic Relief Services, who only have viewer rights. There are data sharing standard operating procedures that allow partners to request specific malaria data from the program manager, who will seek permission from the chief medical officer. DHMTs only have access to their district-level data, not the national database. Data review is currently not done in a systematic way.

Data use:

- The NMCP M&E team comprises a senior M&E officer, three M&E officers, and three data entry clerks now trained as M&E officers who regularly review and analyze malaria data. UNICEF supported integrated district-level data use for planning meetings each quarter, with community organizers, chiefs, nongovernmental organizations (NGOs), and DHMTs in attendance. PHU in-charges meetings and supportive supervision encourage facility-level understanding and use of data but occur irregularly.

Additional Context

- Sierra Leone's NMCP is committed to improving data quality. Its key challenges include the following:
 - Substantial reporting burden for PHU in-charges due to the quantity of registers in use. NMCP is looking into streamlining reporting by utilizing the integrated management of childhood illness (IMCI) register.
 - Hospital reporting has lagged behind PHU reporting.
 - Maintaining a steady stock of registers and summary forms, which are the responsibility of DPPI but are critical for NMCP data needs.
 - Insufficient storage capacity on existing servers supported by NGOs.
 - Technical assistance required from the University of Oslo to make changes to DHIS 2 malaria indicators despite having a University of Oslo-supported staff at the Directorate of Policy planning and information.
- There is a significant community-based surveillance program that was launched during the Ebola virus outbreak and also several logistics management information systems that will soon integrate both supply and demand data into DHIS 2.
- Data entry clerks are not technically trained, and technical malaria focal points do not have DHIS 2 knowledge, so there is a disconnect of skills at the district level. NMCP plans to train the full DHMT together (M&E officer, surveillance officer, MFP, data entry clerk).
- UNICEF, WHO, the Clinton Health Access Initiative, Management Sciences for Health, eHealth Africa, and Focus 1000 support strengthening health information collection, analysis, and use.

Recent updates

- *Full integration of LMIS into DHIS 2*
- *New data elements in the DHIS 2*
- *Regular Malaria Routine Data Quality Assessment*
- *Nationwide coverage for e-IDSR*
- *Continued use of malaria bulletin*

PMI Measure Malaria

University of North Carolina at Chapel Hill • 123 West Franklin Street, Suite 330

Chapel Hill, NC 27516 USA

Phone: 919-445-6949 • Fax: 919-445-9353

measuremalaria@unc.edu • www.measuremalaria.org

This information was made possible by the generous support of the American people through the United States Agency for International Development (USAID) and the U.S. President's Malaria Initiative (PMI) under the terms of the PMI Measure Malaria Associate Award No. 7200AA19LA00001. PMI Measure Malaria is implemented by the University of North Carolina at Chapel Hill, in partnership with ICF Macro, Inc.; Tulane University; John Snow, Inc.; and Palladium International, LLC. The contents do not necessarily reflect the views of USAID/PMI or the United States Government. FS-23-633k PMM

