CONTINUING REVIEW REPORT TEMPLATE

1. Protocol Title: Studying Incidence of Malaria from Routine Health Facility Reporting to Assess Impact of Targeted Control Interventions: Transforming Surveillance for Malaria Control
2. Protocol version and date v1.0, 30 January 2023
3. Expiry date of current approval: 10 Mar 2025
4. Period covered by this report: 10 Mar 2024 - 10 Mar 2025
5. **BRIEF OUTLINE OF THE RATIONALE FOR THE STUDY**

Health facility routine data, reported through Health Management Information Systems (HMIS), promises a reliable source of spatio-temporally variable indicators of disease burden. However, its quality and reach aren't well understood leaving it underutilized for policy decision support. At unrivalled temporal and geographic scales, however, HMIS-based malaria burden indicators, such as incidence, are low-cost for trends assessments. Importantly, HMIS reporting has improved following the introduction of the online district health information system version 2 (DHIS-2) in 2012, that replaced paper-based reporting. These improvements could facilitate implementation of surveillance as a novel core intervention, a major pillar in the global malaria reduction strategy, if HMIS-based indicators are fully investigated and utilized.

6. **RESEARCH OBJECTIVES:**

Main objective:

To investigate the effectiveness of HMIS-based incidence in assessing the impact of targeted control interventions on malaria burden, through the following objectives.

Primary objectives:

1. **Evaluate the quality of routine HMIS data generated through the national surveillance system (DHIS-2) against facility register records.**
2. **Describe population spatial access to routinely reporting health facilities and estimate health facility catchments.**
3. **Estimate the impact of targeted control interventions on incidence of malaria within health-facility-catchments.**
4. **Investigate the level of residual burden of malaria missed by routine surveillance using randomised surveys.**

Secondary objectives

1. **Explore the effect of stockout of first-line antimalarial drugs on health facility attendance and use of alternative antimalarials.**
2. **Explore the effect of stockout of diagnostic testing commodities on case reporting**
3. **Validate the current national health facility geo-locations database.**
4. **Evaluate the knowledge, attitudes, and practices of health care system workers in routine reporting using HMIS.**
5. **Assess national progress towards global and national targets for malaria burden.**

7. **NUMBER OF SUBJECTS ENROLLED**:

Category	Total Number this Reporting period	Cumulative Total

Number of subjects approved to enroll:	Objective 1 - 30 districts and 9 cities Objective 2-4 - all districts and cities	146 districts
Number Enrolled:	Objective 1 - 30 districts and 9 cities Objective 2-4 - all districts and cities Objective 2 - 1866 health facilities	146 districts Objective 2 - 3306 health facilities
Number Lost (deaths, other) and reason for each: **Deaths**	222 - closed 14 - Declined 987 - Not found 67 - Require special permissions 75 - Relocated 8 - Merged 67 - Specialized in non-relevant field	1440 health facilities:
Number withdrawn by Investigator and reason for withdrawal(s) of each:	None	None

Number withdrawn (drop outs – subject withdrew him/ herself) and reason for withdrawal(s) for each:	None	None
Number of active subjects:	Objective 1 - 30 districts and 150 health facilities Objectives 2-4 - All districts & health facilities	Objective 1 - 30 districts and 150 health facilities Objectives 2-4 - All districts & health facilities
Number completed all study activities:	None	None

8. **CURRENT LITERATURE**

None

9. Summary of Adverse Events/ Side Effects:

The one adverse event that occurred was not as a result of study procedures. It was the derailment of a car full of study team members heading out the field, along the highway between Soroti and Moroto. This was a result of a really deep pothole on the road that led to dislocation of the front wheel. However, thankfully, none of the car occupants was injured in any way.

10. Summary of results to date:

73 districts visited to enumerate reporting health facilities and map them.

3306 health facilities visited with 1866 (56.4%) enumerated.

30 districts and 9 cities sampled for on-going data quality assessments and routine reporting surveys (round one of two, completed).

97 surveyed within the data quality assessments (round one of two), a 64.7% success rate, given the initial target of 150.

30 districts and 9 cities sampled for on-going data quality assessments (round two of two, beginning in Feb-2025).

11. Future Plans/ Activities:

Continue objective-specific analyses

Round 2 of data quality assessments - fieldwork

Assessment of DHIS-2 update plans and their impact on reporting

Assessment of impact of control interventions,

Engagement of stakeholders and sharing results

Publication of study findings

12. Declaration & Signature:

I Declare that the above information is true and correct

Signature of PI: simon peter kigozi **Date: 20-01-2025**