
LINK
Data for malaria decision making
Strengthening the Use of Data for
Malaria Decision Making in Africa

Introducing LINK

The LINK project aims to strengthen the use of malaria data for decision making in Africa. LINK assembles and presents data in the form of comprehensive epidemiological profiles for 13 sub-Saharan African (SSA) countries with a high burden of malaria. Through production of these profiles, in combination with strategic engagement with National Malaria Programmes (NMPs), LINK supports ministries of health (MoH) to use local data to target resources for malaria control and prevention where they are most needed.

Where LINK works

LINK works in Democratic Republic of the Congo, Ghana, Kenya, Malawi, Mali, Mozambique, Nigeria, Republic of Sudan, Senegal, Sierra Leone, South Sudan, Tanzania and Uganda.

What is LINK?

The KEMRI-Wellcome Trust Research Programme (KWTRP) established the Information for Malaria (INFORM) project in 2013 which developed epidemiological profiles for eight SSA countries and malaria prevalence risk maps for several others. These products were used in NMP planning and funding applications. LINK builds on that pilot project and has expanded its reach and purpose.

Today's LINK is a collaboration between the London School of Hygiene & Tropical Medicine (LSHTM) and KWTRP to implement a four-year project to produce updated profiles for seven countries included in the initial phase as well as providing profiles and support for an additional six new countries. The LINK team at LSHTM works closely with NMPs to identify existing data and discuss data needs for their malaria control plans. The LINK team at KWTRP, in Nairobi, is responsible for processing country data. They model and map malaria data provided by the LINK countries.

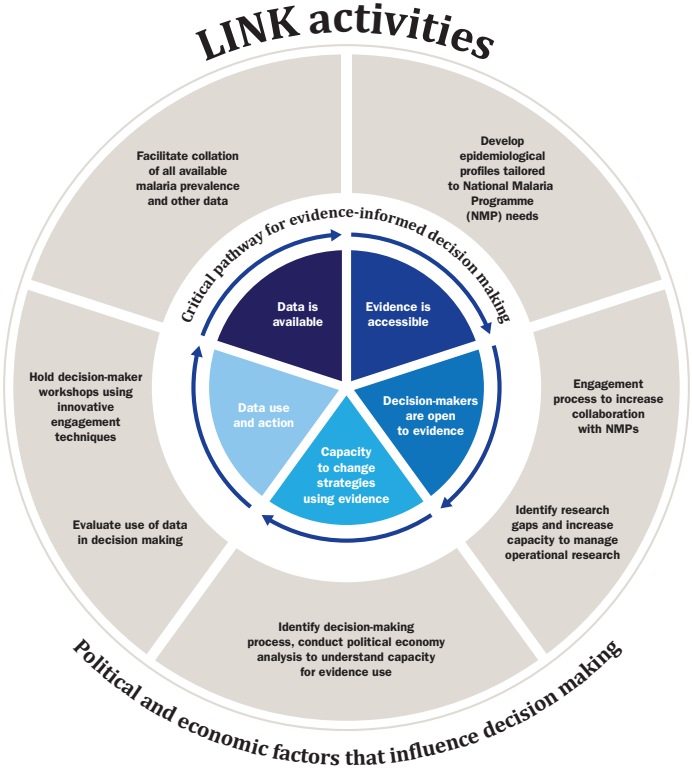

Figure 1: LINK activities and processes

Who does LINK work with?

LINK is a joint effort with the World Health Organization Regional Office for Africa (WHO-AFRO) supported by the Department for International Development (DFID) - funded **Strengthening the Use of Data for Malaria Decision Making in Africa** programme. All of the work is done in partnership with the MoH and NMP in each country.

Additional support is provided by Local Focal Points (LFPs), who are local staff working with malaria organisations, often in collaboration with the MoH. They liaise with the NMP and others to identify and gather existing data.

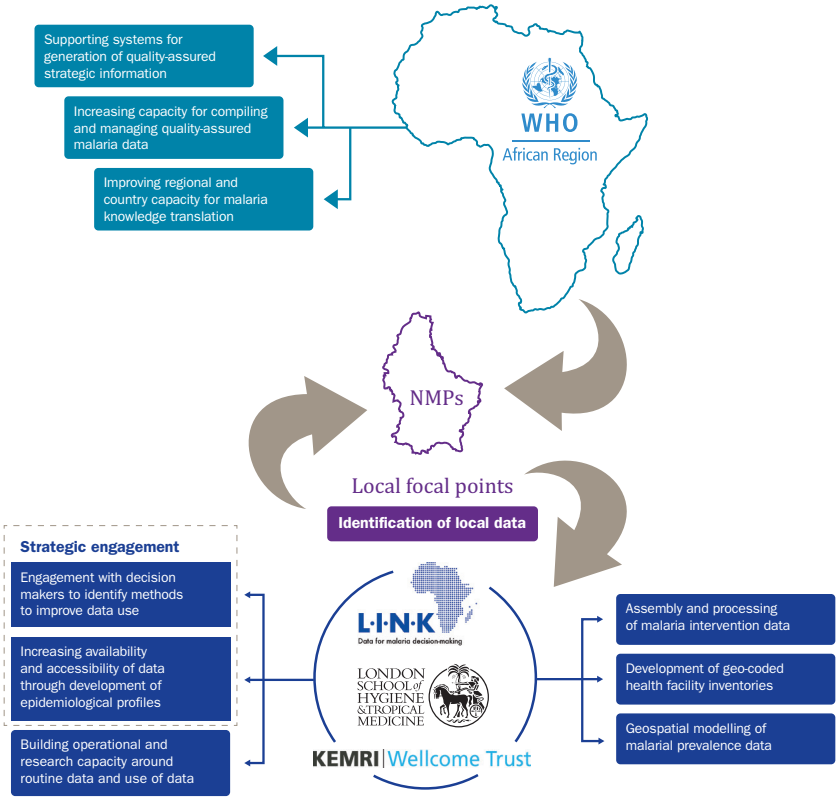

Figure 2: LINK activities and local counterpart engagement

Malaria Rapid Diagnostic Test (Malaria Capacity Development Consortium)

LINK's engagement strategy

LINK's engagement strategy is based on a modified effectiveness cascade toward decision making (Figure 3). Through compiling and presenting local data so that it is available and accessible, LINK works with NMPs to facilitate and understand the willingness and ability of decision makers to use that data.

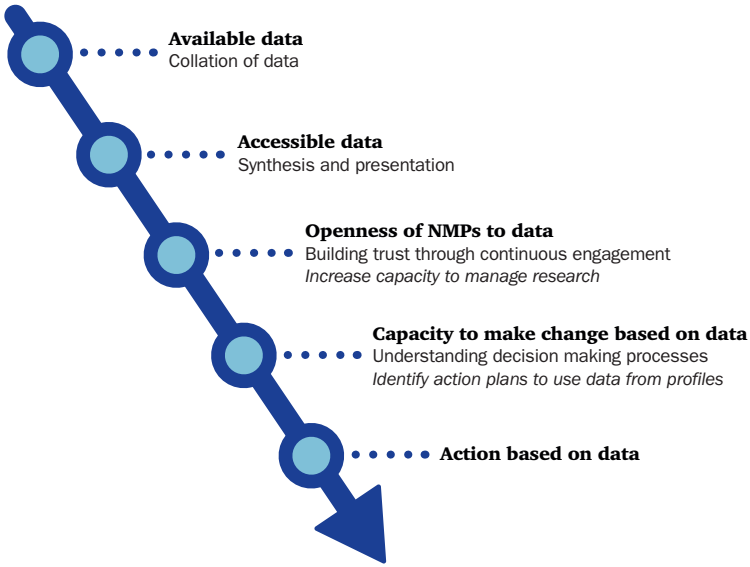

Figure 3: Effectiveness cascade adapted from The malERA Group (Plos One, 2011)

LINK is building and supporting the use of epidemiological country profiles to provide insights into malaria and enhance evidence-informed decision making for better malaria control in SSA.

This is achieved in two ways:

1. by developing epidemiological profiles to elucidate the distribution of malaria burden, parasite prevalence and interventions
1. by engagement activities to facilitate the use of these data to guide planning of control at national and sub-national levels

To initiate each country project, LINK works closely with WHO-AFRO and NMPs to plan profile development in light of a country's funding cycles and programme reviews.

LINK, in collaboration with the NMPs, facilitates other key stakeholders, including other areas of government and partner organisations, to develop and interpret epidemiological profiles during three primary engagement points:

- **Introduction meeting** – First (or renewed) contact point with NMP. LINK and WHO-AFRO present project aims and discuss with NMP and stakeholders what type of data would be required. From this point, locally generated data are identified and shared with LINK for collation, processing and analysis.
- **Mid-term dialogue** – Preliminary modelled and mapped profile components are reviewed and discussed with NMP and stakeholders. Timeline (see page 9) and indicator posters are also presented for NMP review and input.
- **Dissemination meeting** – Final profile is presented and disseminated to NMP and stakeholders. A major component of this meeting is interrogation of data for strategic planning, review of data gaps and identification of operational research needs.

> "The indicator poster triggers discussion and action... Maps are used to communicate to Parliament and donor agencies.
>
> *Dr Samuel Smith,*
> *Director of Sierra Leone NMP*

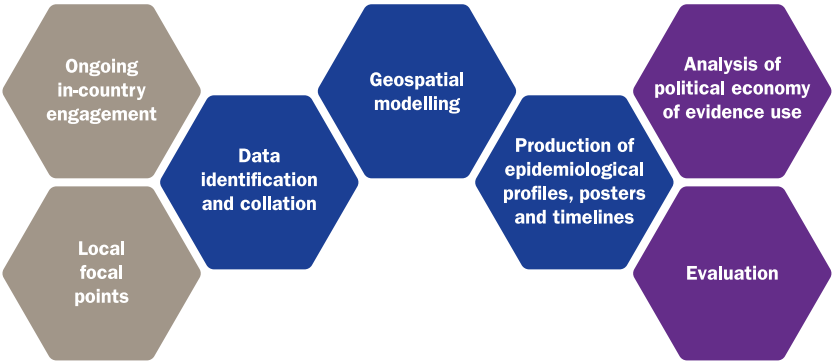

Figure 4: LINK programme components

In addition, lessons are being learnt about the political economy of decision making and the nature of evidence use to inform health policy in target countries. These insights can help improve LINK's ongoing engagement to maximise the use and uptake of LINK's data and products. Further efforts to collectively engage with decision-makers from different countries are planned to enable peer-to-peer learning on how to best use LINK data, and to reflect on broader efforts to improve evidence for malaria policymaking in these settings.

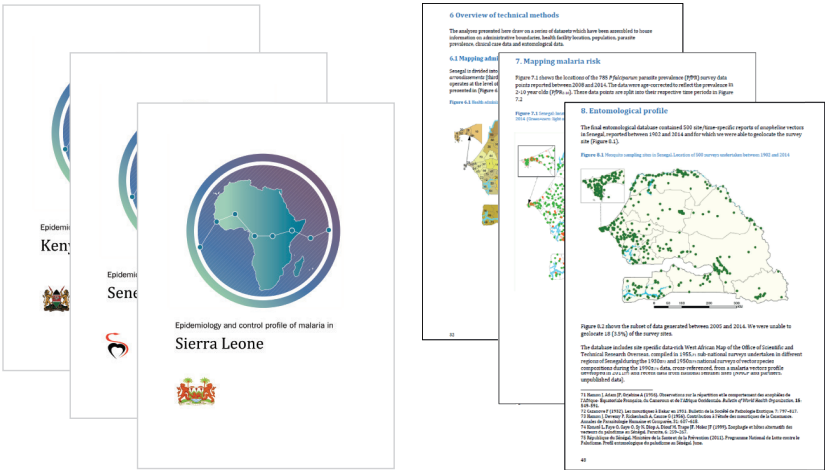

Figure 5: Example of malaria epidemiological profiles and their contents

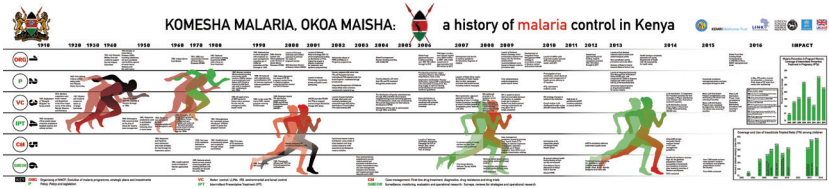

Figure 6: A history of malaria control in Kenya (timeline developed by LINK and Kenya NMP)

LINK delivers three main products for each country:

- A malaria epidemiological profile. The profile presents data on the geographical distribution of malaria prevalence, local mosquito vectors and intervention coverage at the sub-national level. The malaria profile is presented in the context of other relevant information, including the country's malaria control history, geography, climate, population and its health system's structure and function.
- A malaria indicator poster. The poster shows malaria prevalence trends, intervention distribution, and other key elements that the NMP chose to display. This provides visual summaries of malaria risks and control interventions that can be used to interpret malaria data and to advocate for resources
- A malaria control timeline. The timeline is a collection of major events and milestones gathered from document archives, peer-reviewed journals and local NMP historians. The timeline is a useful tool to build institutional knowledge and document potential emerging issues (e.g. insecticide resistance).

Women demonstrating how to mend bed nets in The Gambia (Gates Malaria Partnership)

Examples of maps generated

LINK maps can be used with those developed by NMP routine health data. Comparing these maps can provide information about data quality, healthcare services and burden of malaria across a country.

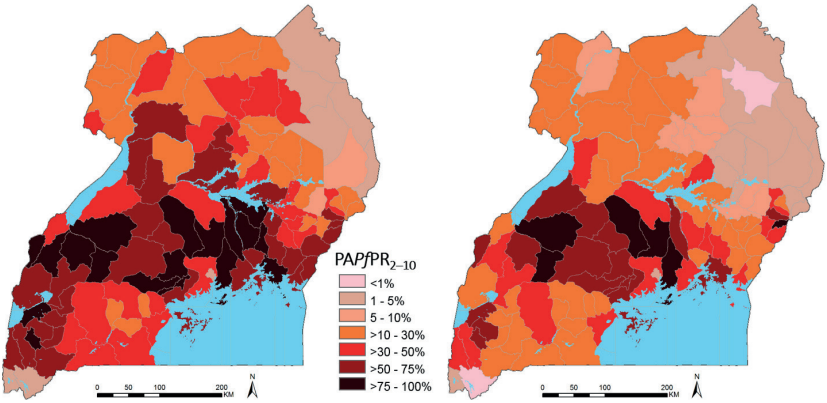

Figure 7: Uganda Population adjusted Plasmodium falciparum parasite rate ($PAPfPR_{2-10}$) by district in 2009 and 2014

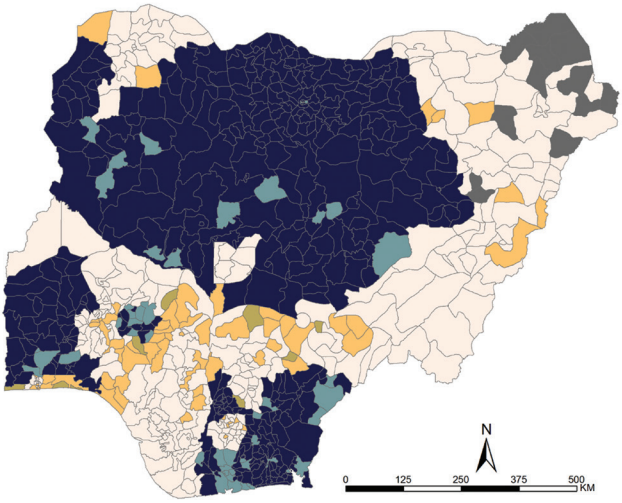

Figure 8: Nigeria long-lasting insecticidal net (LLIN) distribution per capita 2014-6

Supporting operational research

LINK's experience with NMPs has also highlighted the need to provide support, in collaboration with WHO-AFRO's work, to improve understanding and use of epidemiological profiles, most recent Malaria Indicator Surveys and routine data in a complementary way. LINK is actively exploring opportunities to build capacity in using evidence and operational research capacity by:

- supporting regional DHIS-2 training of NMP staff through the Health Information Systems Programme
- building African regional geospatial modelling capacity at WHO-AFRO
- providing seed funding for small operational research projects from NMPs.

Evaluation

LINK has developed a component to evaluate the project and more generally, the use of data for decision making by NMPs and other stakeholders. The evaluation aims to understand to what extent and how, the epidemiological maps and profiles are utilised by malaria stakeholders both directly: for example to define policies, and prioritise and target interventions to control malaria; and indirectly: for example to contribute to new concepts and ideas. In addition, a case study approach will be taken to assess facilitating and blocking factors to the use of data for malaria decision making across several countries. The evaluation process includes collating information from policy documents and conducting in-depth interviews with malaria stakeholders in country (in particular the MoH and NMP). The findings of the evaluation will be used to understand models and mechanisms of malaria decision making, contribution of the project to malaria decision making, and challenges and gaps in the project.

LINK's alignment to the Global Technical Strategy (GTS) for Malaria 2016-2030

LINK's work directly feeds into the three pillars of WHO's GTS aims of accelerating progress towards maximising the impact of existing life-saving tools and strategies. By making local data more accessible and useful to NMPs, LINK's work strengthens the third GTS pillar: "Transforming malaria surveillance into a core intervention." The modelled maps produced by LINK can highlight malaria prevalence heterogeneity and guide tailored strategies to prioritise and/or target interventions where needed. LINK continues to work with WHO-AFRO and countries to go beyond geospatial modelling toward quality-assured routine data, which can provide more granular and timely information for local decision making. Better data means a clearer path towards dramatically reducing morbidity and mortality in malaria-endemic countries.

Funder statement

The LINK programme is funded by UK aid from DFID for the Strengthening the Use of Data for Malaria Decision Making in Africa project; however the views expressed do not necessarily reflect the UK government's official policies.

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Data for malaria decision-making

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