

A conversation with Dr. Albert Kilian on February 26, 2014 about malaria data collection

Participants

- Dr. Albert Kilian — Co-Founder and Technical Director, Tropical Health LLP
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Note: These notes were compiled by GiveWell and give an overview of the major points made by Dr. Kilian.

Summary

GiveWell spoke to Dr. Kilian, Co-Founder and Technical Director of the Tropical Health LLP, as part of its shallow investigation of malaria data collection. Conversation topics included: the funding landscape for data collection, different forms of data collection, the impact of monitoring and evaluation, and opportunities for philanthropic funding in operational research.

Funding landscape for data collection

No major donors specifically invest in or target malaria-related data collection per se. However, there is virtually universal consensus that it is important, and it is usually integrated into larger projects in the form of Monitoring and Evaluation (M&E) work. For example, Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) grants can allocate 5-10% of their budgets to M&E. In general, one can expect major malaria projects to allocate 5-10% of their funds to data collection. In practice, not all funds for data collection are always put to use. Sometimes, a particular M&E survey will not be carried out due to time constraints, at which point the funds will remain unused.

There are some large malaria M&E projects currently under way. For example:

- DFID has a 5-year, £100 million project to support malaria control in Nigeria that has a research component examining net usage and net life.
- The Norwegian Council of Research funded surveys in Tanzania to try to increase information about insecticide resistance, chemical residue of ITNs, and many other topics. These surveys cost \$1 million, covered 8 districts, and will take place over the next 3 years.
- The Gates Foundation gave a small grant to a group of three entities--Results for Development (R4D); Tropical Health LLP; and the Nonwovens Innovation & Research Institute (NIRI)--to do research that is similar to NetWorks' research. The project involved forensic textile analysis, in a bid to study the mechanics of net deterioration (what causes holes in nets, and how they expand). The first phase of this project is now finished, and the data is currently being compiled into a report.

3 types of data collection

There are three distinct types of malaria data collection.

- 1) Routine Data Collection – Data relevant to malaria control and elimination that is collected through routine health services, as part of the overall health system. Data collected through these mechanisms includes, for example, the number of treatments provided (e.g. nets distributed).

Development actors will primarily focus on this type of data collection in the future. As countries reduce their rates of malaria transmission, they will need to switch to a system of health record-keeping that is sensitive to individual cases rather than broad overviews of the malaria landscape because eventually, malaria control will have to move from system-wide activities to targeted treatment.

This transition has already started in Asian countries, particularly in Southeast Asia. For example, a number of countries in the Greater Mekong Subregion are using SMS-based systems in which each case reported is tracked by the location of the mobile phone. These cases are then mapped, and a team is sent to each hotspot to administer a targeted intervention (e.g. spraying, net distribution, etc.).

However, this transition is only possible when routine health services are already positioned in the field.

Challenges of routine data collection

Many countries have been trying to create routine data collection systems, but there has been little progress because creating these systems is difficult.

The main problems with the current health data collection systems in these countries are data timeliness and accuracy. For example, in a typical case, an overworked health worker may fail to count the exact number of malaria cases for a month and report a figure based on the previous month's total, with minor adjustments. Cases are often recorded late and there can be problems transferring data from peripheral health centers to central headquarters.

Donors often attempt to fix data transfer problems by setting up more efficient data collection systems (e.g. internet-based systems such as District Health Information System 2 (DHIS2)). These function well while the donors are providing funding and support, but they tend to collapse when countries are left to implement them on their own.

Even if a health information system is effectively implemented, many developing countries lack the resources to process the data and use the data to improve policymaking.

Many philanthropic funders would not view routine data collection as a promising area because it is difficult to have short-term success in this area. To have success, one would have to take a systematic approach, involving a long process of changing attitudes in ministries of health and developing sustainable infrastructures.

- 2) Standardized & post-campaign surveys – Surveys of individual households or health facilities, sometimes conducted after a health campaign (e.g., a mass-distribution of insecticide-treated bed nets (ITNs)).

Examples of these types of surveys include:

- Malaria Indicator Survey (MIS)
- Demographic Health Survey (DHS)
- Multiple Indicator Cluster Survey (MICS), as developed and practiced by UNICEF

These surveys are usually conducted by various independent entities, often in conjunction with malaria control programs in the Ministries of Health.

NetWorks, with which Dr. Kilian is affiliated, is a project working in this area of data collection that focuses on measuring the performance of net distribution campaigns. NetWorks is funded by the US President's Malaria Initiative (PMI) and implemented by the Johns Hopkins University Center for Communication Programs. Its surveys resemble the MICS and MIS, building on the same questionnaire but focusing primarily on nets and their use.

Funding

Of the three areas of data collection, this area probably receives the most funding. The main donors for the larger surveys (e.g. MIS, DHS) are USAID, DFID, UNICEF, and the Global Fund.

Smaller post-campaign surveys are usually funded by Global Fund grants for malaria elimination campaigns, and they are contracted out to NGOs.

- 3) Operational Research – Broader or more foundational research that could make program implementation more successful or efficient. For example, operational research might examine the social barriers to net use or obstacles to acquiring nets.

Coordination

There is very little coordination of operational research. National malaria programs, which would ideally take a leading role in commissioning further work, often do not have a clear overview of the current state of research. As a result, gaps in the research are often left unaddressed (e.g., questions about the role of the commercial sector in stimulating demand for ITNs).

The working groups organized by the Roll Back Malaria (RBM) Partnership are among the few institutions that attempt to generate a broad understanding of existing operational research. These working groups provide a forum in which stakeholders meet at certain intervals to discuss ways in which they can cooperate. For example, the Case Management Working Group is currently examining the state of research into malaria medicine distribution mechanisms.

Funding

Operational research is generally not very well funded, and there is no single donor considered the go-to source. Rather, such research is generally funded as part of the M&E budget of a particular anti-malaria program or campaign (which would typically be funded by the Global Fund, for example). Limited funding can also occasionally be sourced from the Gates Foundation, the President's Malaria Initiative, or from universities and research institutes.

The WHO used to provide funding for operations research. However, this funding has diminished in recent years. The WHO is currently rethinking its overall strategy, and it is unclear whether they will be providing funding for these projects in the future.

Potential impact of M&E

Conducting proper M&E can have significant effects on programs. For example, a recent randomized control trial in Uganda indicated that it is not necessary to conduct post-campaign household visits to ensure that nets are used properly. It found that people who are motivated to use ITNs will find ways to use them properly, regardless of household visits. On the other hand, people who are not convinced of ITNs' benefits will simply dismantle them after a household visit has been carried out.

The trial indicated that net use may depend more on creating the proper culture around net use than on household visits. Spending \$2.30 per household to conduct household visits did not seem to change behavior.

Programs are now saving money previously spent on household visits and are using those funds to procure more nets and to carry out high-quality Behavior Change Communication campaigns.

However, the lessons from data collection generally take 1-2 years to be translated into practice.

Research into net decay

International actors are trying to persuade governments to monitor the durability of nets being used in their territories. From the limited data which is currently available (most of which comes from NetWorks and a few other PMI-funded projects), it seems that decay varies dramatically according to environment and patterns of use. For example, nets tend to last much longer in homes than in refugee camps.

However, most countries are not currently monitoring net decay. Previously, this was because there was no agreed-upon methodology to do so. Now, an agreed-upon methodology has been developed, but there is little to no capacity in-country to carry it out.

Building capacity to monitor net decay may not be a difficult project. Given an appropriate set-up period, the system would likely be easy to maintain. As a result, for the next 1-3 years at least, this may be an area where funders could have a significant impact.

Net life surveys generally cost approximately \$50,000 to \$200,000.

NetWorks

NetWorks is one of the larger projects that focus specifically on operational research. It receives its core funding from USAID. NetWorks' core staff consists of 8-9 people based in Baltimore; 20-25 people work on its activities in total.

Operational research projects are usually formulated by the core staff, but sometimes USAID country missions request particular projects. For example, the USAID mission in Nigeria requested information on aspects of continuous net distribution. The core staff approved the data collection project and included it in the PMI budget.

NetWorks' current phase of operations is scheduled to end in September, and it is currently being reviewed for a second phase of funding. It will know if its funding is renewed in a few months.

External funding

Because NetWorks is a US government-funded project, it does not have other readily available mechanisms to receive additional funds. However, it would be possible to approach other groups that the US government has contracts with (such as the Johns Hopkins Center for Communications Programs) to propose a new project on malaria net research.

Approaches to philanthropic funding of operational research

There are two general approaches that a philanthropic organization could take in funding operations research.

1) Funding a comprehensive research agenda in a specific area of data collection (e.g., net distribution).

ACTwatch takes this approach in the area of antimalarial drugs.

2) Funding proposals across many areas of data collection on the basis of applications from qualified researchers.

There are workstreams, such as the RBM working groups, which identify gaps in current research but do not have research budgets of their own. Thus, there is a need for a dedicated institution that systematically funds research across all areas of data collection as needs arise.

Such an organization could also cover last-minute funding gaps for crucial research projects. For example, the Swiss Tropical and Public Health Institute conducted a promising case-control study in the Democratic Republic of the Congo (DRC), funded by a PMI/NetWorks project, that had to be stopped when its operational costs grew beyond its allocated budget. An organization of the type proposed could enable such research to be finalized.

Limits of large donors

Larger institutions tend to be more rigid and take a longer time to respond to proposals and data needs on the ground than smaller philanthropic funders.

However, because large donors provide a much greater share of funding, they have more leverage to put better M&E practices on the agenda and to push for those practices on the ground.

Some argue that large donors face political incentives to fund direct deliverables (e.g., nets) rather than research. Dr. Kilian believes that this would probably have been a problem in the past, but that it is no longer the case. He believes that most of the larger donors have developed a strong value-for-money ethos, which incentivizes them to fund operations research.

Other people to talk to

- Christian Lengeler — Head of Health Interventions Unit, Swiss Tropical and Public Health Institute

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