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"Research excellence" in Community Health Research in Togo

A Reflection Paper for the 2013 IDRC / Coady Canadian Learning Forum

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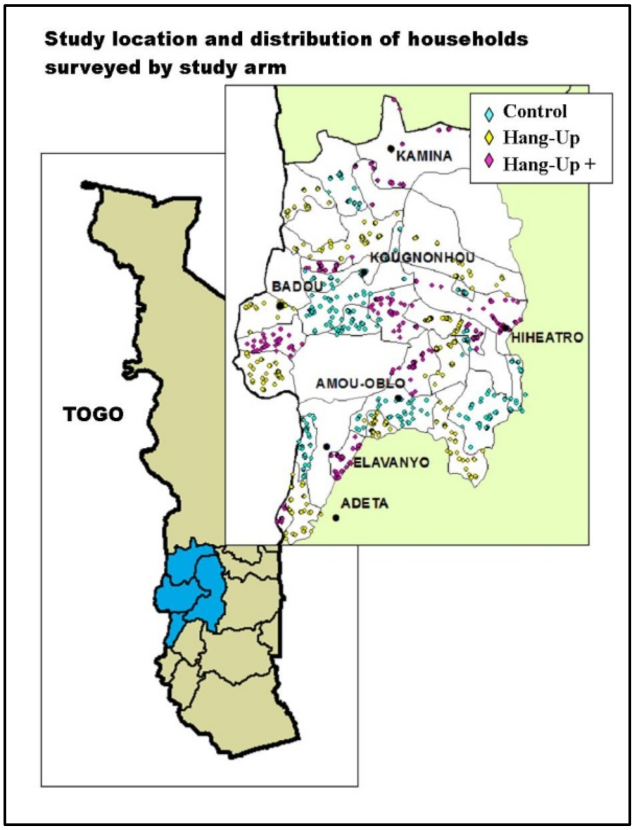
Research Project Title	Effectiveness of post-campaign door-to-door hang-up and communication interventions to increase LLIN utilization in Togo: a cluster randomized control trial
Location of research	Togo, West Africa
Dates research conducted	August 2011 – July 2012
Partner(s)	HealthBridge Canada, International Federation of the Red Cross; Togo Red Cross; Unité de Recherche Démographique, University of Lomé
Funder(s)	International Federation of the Red Cross
Types of research methods used	Cluster randomized controlled trial Cross-sectional household surveys
E-Links	http://www.healthbridge.ca/TogoHangUpStudy_FinalReport_Sept2012.pdf
Did or will your research project lead to a second phase?	Yes, we have developed a follow-up research project proposal to test the effectiveness of SMS messaging to promote ITN utilization in the same region of Togo. It is currently under review by the donor and pending a funding decision.

Introduction

In my work as a public health nutritionist supporting a variety of non-government organizations (NGO) working in low- and middle-income countries to improve health and nutrition, I am often asked to provide technical expertise in the design and implementation of household surveys, either for population assessment purposes or program evaluations. However, the term "research" -- at least as defined by the dictionary as the "careful study that is done to find and report new knowledge about something" and "the activity of getting information about a subject" – is not often used to describe this work. In these organizations, research is perceived as the work done by academics, more for theoretical than practical purposes.

Recently, however, I was involved in an NGO-funded-and-organized study that used a "cluster randomized controlled trial" method to evaluate a bednet-use promotion strategy in Togo. The study brought together several organizations, including: the study funder, International Red Cross Society; the implementer of the intervention, the Togo Red Cross Society; the evaluation team from HealthBridge Canada; and the data collection team from the *Unité de Recherche Démographique, University of Lomé*.



Study location and distribution of households surveyed by study arm

The aim of the study was to assess whether community health volunteers going door-to-door, visiting households and helping them hang up their nets after a national campaign that distributed nets to everyone, would result in higher bednet utilization. We compared net utilization in households from areas that received these visits one, two or three times (at specific times of the year, including dry season and rainy season) to those in areas that received no visits. In this case, it seemed appropriate to consider our work as "research". But is this merely an issue of semantics? Or is there truly a difference in standards between NGO-led surveys and studies done as part of their ongoing international development programmes and the formal research studies led by academics?

Oxfam's Duncan Green recently commented in his blog that international NGO staff are "doers and activists, with little time for theorising – they think in terms of guidelines and toolkits" (Green, 2011). However, he describes what good policy research might look like from an international NGO perspective:

> "A clear story, bringing together a decent review of the academic literature with those real life stories; preferably relevant to what is on the agendas of decision-makers over the coming months; drilling down into the issues of power, inequality and social relations that often go missing in conventional research. For impact it also needs a sprinkling of killer facts, an answer to the inevitable 'what's new in this research?' question, and clear and convincing recommendations and solutions."

Habicht *et al.* (1999) published a helpful guide to program evaluation designs, with the premise that the complexity and precision of an evaluation depends on who the decision maker is and what types of decisions would be made as a result of the study findings. These authors propose a continuum of study designs that range from simple (e.g. measuring increase in coverage of services) to complex (e.g. measuring impact of a program), with the level of precision and accuracy dependent on who needs to be influenced. Yet the authors also maintain that each design requires equal rigour across the board. With this in mind, when we consider the concept of research excellence, what are we referring to and what underlying principles of excellence should apply across such a continuum?

From my perspective, the concept of research excellence is best summarized by the principles of scientific rigour, contribution to the evidence base for improved policy and practice, and community engagement and capacity building. In the following sections, I explore how these three principles played a critical role in the design and implementation of our malaria research project in Togo.

Scientific rigour

Scientific rigour requires a commitment on the part of researchers to be disciplined and pursue excellence at each stage of the process. It starts with formulating the research question, and then selecting the appropriate study design and methodology for testing the question, conducting the study, and finally analyzing and interpreting its results.

Excellent research is guided by internationally-accepted research protocols and experience shared by fellow researchers in the peer-reviewed literature. While building on generally accepted conditions of scientific validity, such as adequate sample size, unbiased measurement outcome and suitable study population, study designs must also be appropriate for the local conditions and be feasible, given the social, political and cultural environment in which it is being conducted (Emanuel et al., 2004).

In our Togo malaria research project, we made efforts to be scientifically rigorous throughout the project. For example, during the design stage, we followed guidelines found in peer-review literature for cluster randomized controlled trials (Hayes and Moulton, 2009). Based on these guidelines, we chose to use a restricted randomization method to ensure an acceptable balance among study arms, including similar proportion of cantons assigned from each district, distribution of these cantons across study arms and similar average cluster population size across study arms. Although our study's design was based on a protocol designed for a parallel study done by another organization, we took specific steps to increase the rigour by calculating the sample size based on the cluster randomized design and increasing the number of comparison groups (control group kept throughout the study) in order to more precisely answer the research question. During the analysis stage, the cluster design was taken into account and estimates of standard error calculated accordingly (Coupland and DiGuiseppi, 2010, Hayes and Moulton, 2009).

During data collection, we insisted on a simple, random, sampling (SRS) method despite various field level challenges this presented. When writing the protocol, SRS sampling was deemed feasible by our team due to the fact that a household net census had recently been conducted across the whole study area to inform the national campaign. However, upon arrival in the study area, we discovered three challenges:

- the lists of households were being stored at their respective primary health care units and, therefore, the survey teams were required to visit each decentralized location to identify the name and size of the households randomly selected for their area;

- a small percentage (~5%) of errors were found in the reported number of households in these community registers on which the sampling frame was based; and
- replacement rates were higher than expected due to the difficulty in accessing household members during the day and the logistical challenge in returning multiple times to very remote communities for the purpose of surveying one or two households (in contrast to a cluster survey where 30 households are included in the survey).

Contribution to evidence base for improved policy and practice

A second key principle underpinning research excellence is that research should make a contribution to our knowledge, also called the evidence base, and influence current policy and practice. In the field of public health nutrition, excellent research ultimately results in improved effectiveness and efficiency of health and nutrition interventions.

The Togo research project was designed to contribute to the evidence base for improved practice in malaria prevention. While insecticide-treated bed nets (ITNs) are acknowledged as a key intervention for malaria control (Lengeler, 2000), researchers have consistently observed a gap between the levels of net ownership and use (Korenromp et al., 2003). To address the own-use gap, one approach used by NGOs is to train community volunteers to conduct door-to-door visits of households to share educational messages and assist with hanging nets (Alliance for Malaria Prevention, 2012). These “hang-up” visits typically are carried out following mass ITN distribution campaigns, or prior to peak malaria transmission periods. However, these visits are costly despite being conducted by community volunteers; more evidence is needed to determine if this approach should be generally recommended or in what situations it is likely to be beneficial.

In order to ensure that the results of our study made the largest possible contribution to the existing evidence base, we used outcome measures that corresponded with the most up-to-date indicators as defined by the *Roll Back Malaria* monitoring and evaluation group. We also tried to ensure a certain level of comparability to other similar studies and interacted with these other researchers to determine the best methods for assessing behaviours and attitudes related to ITN use.

We promptly shared our research results with the international malaria community through presentations at the *Alliance for Malaria Prevention* meetings in 2012 and 2013. This interaction provided an opportunity to reflect on the programmatic significance of the results we observed. We have also written up the study results in a formal manuscript and expect to publish them in a peer-reviewed journal within the next year.

Researchers have also suggested that "examining the process of ***how*** community-based interventions improve health may be just as critical as -- if not more important than -- evaluating the outcomes of community interventions" (Atienza and King, 2002). This requires the use of program theory models to examine the different pathways of impact. Our research project was specifically designed to evaluate the outcome of the volunteer door-to-door visits and did not attempt to answer the "how" question. However, a qualitative study was done by a local research team in tandem with the quantitative evaluation to help answer some of those questions more specifically.

Community engagement & capacity building

A third principle underlying research excellence is the opportunity for local/community engagement and capacity building. This principle implies that:

- communities involved in the research are empowered in some way;
- their lives are improved as a result of the research project; and
- the research process allows both researchers and participants in the research (e.g. stakeholders) to strengthen their knowledge and other capacities.

Although broadly embraced by researchers in theory, the principle of community engagement is much more difficult to realize in real-life practice. As Faber and Kruger suggest, the rural poor are particularly vulnerable to research risks and thus, "research undertaken in resource-poor settings should be socially relevant and provide appropriate benefits"(Faber and Kruger, 2013). In our project, communities were expected to benefit from the intervention (community health volunteers promoting bednet use), either during the study or immediately afterwards when all control areas were reached with the intervention. However, their engagement in the research study process was very limited. The role of engaging with communities over a longer period of time was more capably conducted by the Togo Red Cross staff in the context of their ongoing relationship with the communities who participated in the study. In addition, one of the other local partners, the *Unité de Recherche Démographique,* conducted stakeholder interviews and community focus group discussions as part of a complementary qualitative evaluation.

Guidelines for ethical research can help minimize the risk of exploitation of individuals and communities in developing countries, where poverty, limited health-care services, illiteracy, cultural and linguistic differences and different understanding of scientific research may increase the possibility of such exploitation (Emanuel et al., 2004). These guidelines include:

- Develop partnerships with researchers, makers of health policies, and the community;
- Involve partners in sharing responsibilities for determining the importance of health problem, assessing the value of research, planning, conducting, and overseeing research, and integrating research into the health-care system;
- Respect the community's values, culture, traditions, and social practices;
- Develop the capacity for researchers, makers of health policies, and the community to become full and equal partners in the research enterprise;
- Ensure that recruited participants and communities receive benefits from the conduct and results of research; and
- Share fairly financial and other rewards of the research

In our Togo research project, we made efforts to foster collaboration amongst the various partner organizations and encourage mutual knowledge sharing and capacity building, for example through:

- regular coordination phone calls with the organization carrying out the intervention;
- sharing new technology with local university-based demographic research organization
- organizing a training workshop to build their staff capacity to use the technology in other research projects;
- collaborating in training and field data collection in an effort to strengthen local capacity for high quality data collection;

- sharing co-authorship for publication of results in peer-reviewed journals (in process).

The *National Malaria Control Programme* (NMCP) committee oversaw the research study which was carried out with the Togo Ministry of Health and the implementing partner, the Togo Red Cross. In addition to sharing the research protocol with them and requesting permission to proceed with the study, our team also met with them after the first evaluation to share some preliminary results that were particularly time-sensitive and salient to the national campaign delivering ITNs to all households. Sharing the campaign-specific results in this context helped to clearly define the indicators, assess the value of the research to the NMCP and facilitate the integration of the study's learning into the local health system. Further sharing of results with this group has been more challenging due to the timing of the evaluations, the language barrier and the end of the study funding.

Challenges to Achieving Research Excellence

In retrospect, the quality of stakeholder participation is one aspect that could have been considered more carefully in the project design and budget. One factor that made this difficult was the location of some partners. The organization providing the study coordination role (IFRC) was based in Geneva and had one staff person traveling to Togo intermittently to provide oversight. This person left the organization halfway through the study and was not replaced, leaving a gap in coordination of partners in the latter half of the study. Our organization (HealthBridge) is based in Canada and provided oversight to the evaluation surveys, with staff traveling to Togo only for the survey training and implementation periods (3-5 weeks at a time). This made ongoing collaboration with local partners very difficult to do effectively.

No specific plan for post-study communication of results to local partners and communities was outlined at the beginning of the study. Given that the Togo Red Cross was planning to continue engaging with local stakeholders in malaria control efforts, we assumed the study results would naturally feed into their strategy and discussions. However, the study protocol only required one final report (in English) that presented the results from the full study to be submitted to the donor at the international level. In hindsight, this was not adequate to meet the knowledge needs and desires of the local partners, including the Togo Red Cross. In order to facilitate more timely sharing of the findings, a standalone report on the first survey results was written in order to provide an overview of the initial findings to Togo Red Cross and its partners. The study final report was also translated into French and shared with the local partners directly, with the intent of providing not only the information but also an opportunity for input and feedback to the interpretation of the results.

The extent to which the results of the study will be used by Togolese partners to disseminate the findings or inform the design of future malaria control programming is unknown at this time. In reflecting on the gaps in knowledge dissemination from this study, I wonder if more creative and non-formal methods of communication may have been useful. Using in-person and electronic channels of communication, including a real-time online discussion of the study's key findings with local stakeholders may have facilitated more meaningful engagement on the interpretation and implications of the results found. Another possibility would be for the coordinating organization to facilitate a post-study meeting of partners to reflect on the results of the study and implications for future programming. Proactive advocacy on our part to see this type of partner engagement be included in the study design and budget may be required in the future.

Conclusion

In summary, conducting excellent research is possible in the context of non-academic organizations when there is an understanding of and commitment to scientific rigour, the importance of contributing to the evidence base and fostering community engagement and capacity building. These underlying principles provide a common base upon which to build collaborative partnerships, both here in Canada and internationally.

Epilogue: Reflections After the Learning Forum:

Following the discussions during the learning forum in Antigonish, which were heavily focused on community engagement and participation in research, I continue to wrestle with the challenge of how to design and implement public health research studies in ways that maximize interaction with the community while retaining scientific rigour and policy influence. There is often a disconnect between population health measures that are meaningful locally and those that are internationally recognized standard indicators. In our study, we rigorously measured standard indicators in order to maximize program and policy influence. However, I wonder how community members would have defined and measured “bednet utilization”, for example, if we had taken time at the beginning to engage them in the process of designing the key outcome indicators. This would have enhanced the quality of our research as measured by level of local participation and local relevance; yet the implications for the level of influence of the study findings at the policy and program level for the broader malaria control community worldwide are less clear.

In a discussion on building capacity for research excellence, one participant made the astute observation that civil society organizations (CSO) often interact with research in one of two ways:

1) they either commission someone else (often an academic partner) to do the research and use the results; or

2) they are involved in the research process throughout.

This has important implications both for the type of research capacity needed within an organization itself and the expectations of the role of each partner involved in the research project.

In our study, the CSO who commissioned the research was involved in the process from the outset, having identified the research question and basic research design. An external research partner was brought in to ensure the research was conducted with a high level of scientific rigour, with the express purpose of maximizing credibility of the results and ultimately policy influence. When multiple partners are involved, as in this example, it is helpful to clearly identify the specific role and responsibilities of each partner in order to ensure that the “division of labour” is complete. In our case, the responsibility for dissemination of results to local government and community stakeholders was not clearly outlined at the beginning and remained unclear at the end. Therefore, although the value of the research outcomes at the international level was relatively high, the value at the local level was less apparent.

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