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Concept Paper

Studies to Assess the Effectiveness of Community-Based Volunteers: Increasing Use of Free ITNs

Summary

The primary objective of this Red Cross Movement project is to identify the best methods for community-based volunteer networks to deliver malaria prevention services after mass ITN distribution. We will conduct studies of follow-up programs (known as “hang up” or “keep up”) in three to four countries that participate in the free distribution of ITNs in immunization campaigns. The findings will be used to identify best practices for conducting a community-based health promotion (malaria prevention) program. In addition, the Red Cross will develop, pilot test and produce guidelines and supporting training materials, based on the findings, for conducting post-campaign malaria interventions in the community.

Background and Rationale

The Measles Malaria Partnership is working to prevent malaria morbidity and mortality by scaling up delivery of insecticide-treated nets (ITNs) through free mass distribution in immunization campaigns. Linking the distribution of ITNs to vaccination campaigns is a proven method of increasing ITN coverage (Grabowsky, *et al*, 2005a), but unlike immunizations or other interventions delivered in a single dose, provision of free-of-charge ITNs does not ensure that recipients hang them properly or that the targeted risk groups (under-fives and pregnant women, in particular) sleep under them (Korenromp, *et al*, 2003; Grabowsky, *et al*, 2005b; Wolken, *et al*, 2006; Baume, *et al*, 2005; MacIntyre, *et al*, 2006). Assuring that nets are properly hung and monitoring subsequent use appears to be a necessary accompaniment to mass net distribution (Grabowsky *et al*, 2005b).

Community-based volunteers from the Red Cross and other civil society organizations (CSOs) in countries conducting integrated campaigns can communicate essential information directly to poor and vulnerable households to ensure that these interventions are effective. However, the most effective methods of increasing and maintaining high net usage are not yet known.

Post-campaign community activities are now being undertaken by Red Cross volunteers in Togo, Mozambique, and Kenya. Similar programs are planned elsewhere if funding for these programs is secured¹. These programs were developed by the International Federation of Red Cross and Red Crescent Societies (the Federation) and are funded for an initial period by the Federation’s Africa Malaria Appeal. The longer term follow up

¹ Including Sierra Leone, Rwanda, Uganda, Ghana and Indonesia.

interventions aim to ensure high coverage and use rates among the target population: children under five, pregnant women, and the chronically ill. These programs are linked to on-going health promotion and prevention activities implemented by Red Cross volunteers in their communities.

The volunteer activities are aimed at ensuring proper hanging of nets, encouraging use by under-fives and pregnant women, and promoting associated healthy behaviors, including completion of the full immunization series, prompt treatment of fever, and obtaining additional nets as newcomers to the community, newborns and newly pregnant women are added to the target population.

To date, two models are being implemented: a single campaign prior to the rainy season to ensure that nets are up, and longer-term periodic household visits by volunteers to maintain high hanging and use rates, provide information about malaria treatment, refer children to facilities for completion of vaccination series, and support acquiring additional ITNs for newborns, pregnant women and newcomers to the community. Other models that might be tested are house-to-house campaigns just prior to each rainy season, and community meetings, mass media campaigns, and other less labor-intensive approaches to promote effective net use.

In several countries, the Red Cross is implementing rigorous studies to evaluate these programs and identify the most effective methods of increasing and maintaining high net use. The public health community is now calling for improved methods to expand service delivery, but evidence of the effectiveness of community-based workers to do so is limited (Victora, *et al*, 2004; Lewin, *et al*, 2005; Barnes, *et al*, 1999). Nevertheless, the importance of this under-utilized human resource is increasingly recognized (Farmer, 2005).

Project Objectives

The objective is to document the cost and effect of different strategies to promote ITN use. The studies will provide evidence about which models for this community-based work are the simplest, quickest, and most cost-effective. The project will also document the value of civil society and the volunteer's role implementing community-based health programs. Findings will be used to design streamlined approaches for deploying community volunteers to maintain high levels of coverage and net use for post-campaign follow-up programs.

Study Sites

Two national Red Cross societies have already agreed to participate in the Keep Up program and evaluation: Mozambique and Kenya. One or two other study sites will be identified as programs are developed.

In Mozambique, two provinces, Manica and Sofala, received free ITNs in December, 2005. The Mozambique Red Cross' follow-up program covers two districts in each province, expanding to five districts in each in 2007 and 2008. The program will cover a total population of nearly ½ million, and engage approximately 1,150 volunteers, each responsible for 100 families, making household visits four to five times a year.

The Kenya Red Cross plans to implement the program in two divisions in each of four districts, mobilizing approximately 1600 volunteers to reach a total of nearly 130,000 households on a regular basis (approximately one volunteer to 80 households).

Study Design in Brief

The studies will be designed opportunistically, based on the post-campaign programs as they are implemented. Intervention areas where the national Red Cross society is implementing long-term programs (known as “Keep Up” programs) will be compared to areas where only a single house-to-house campaign (known as “Hang Up”) has been implemented. In some sites, it may be difficult to identify equivalent comparison areas, and we will rely on statistical methods for controlling differences for comparisons of households within the intervention area that have and have not been in contact with the volunteers.

Indicators of ITN ownership, coverage and use, and other indicators, will be determined using household surveys at baseline (pre-program implementation) and after two or more years of program implementation. The studies will necessarily vary from country to country depending on the design of program implementation, but will be designed to provide a rigorous test of the models. The essential outcome elements to be evaluated will be consistent.

Some of the key indicators we will measure are household possession of ITNs, hanging rates and source of nets, proportion of under-fives who slept under an ITN on the previous night, sources of information, and contact with volunteers, and caretaker knowledge of malaria prevention and treatment. Costs will also be documented.

For example, in Mozambique, where ITNs were distributed in two provinces, an intensive two-week long campaign to ensure proper hanging and promote use was mounted before the rainy season in all districts of those provinces. We will compare districts where the longer-term Keep Up program will be implemented to those where only the house-to-house Hang Up campaign occurred. After two or more years of Keep Up activities, we will mount a household survey to compare intervention to control districts, and compare both to the baseline provincial estimates provided by the CDC-Canadian Red Cross 2006 survey².

As part of the evaluation studies, it will also be important to assemble data from the volunteer monitoring and supervision system regarding the actual level of volunteer activity, to build a more complete ‘chain of evidence’ about what leads to differences in outcome measures between intervention and comparison areas. Our program evaluation framework is found in Annex One.

We will work with participating Red Cross societies to ensure that their volunteer tracking systems provide evidence of volunteer level of effort. This involves designing streamlined monitoring tools and establishing a simple database at Society headquarters to record volunteer outputs. To ensure that these model programs are implemented efficiently, a consultant will pay periodic visits to study sites to monitor progress and provide management support.

Finally, we propose to collaborate with CDC, which will separately pilot the “EPI contact method” in health posts and clinics and malaria case surveillance in hospitals in study districts³, if approved by WHO-AFRO and the relevant Ministries of Health. Data on ITN use collected at the time of EPI clinic contact will provide another method of monitoring program progress, and will be verified with our survey data. The trend in malaria cases

² An opportunity to partner with the CDC and PMI’s Malaria Indicator Survey planned for 2007 may permit more precise comparisons of intervention and ‘control’ districts.

³ In the EPI contact method, providers ask caretakers of infants at EPI contacts (for DPT3 and measles) and pregnant women at ANC contacts if the infants and pregnant women slept under an ITN the previous night. The surveillance method estimates population coverage of ITN use from <5-year-old in-patient malaria case data.

among under-ones and one to four year-olds presenting at hospitals can be tracked over the course of the program, providing data on program impact. While use of surveillance to estimate impact of the net distributions is still in development, it is the best currently available tool that can be routinely used in all districts. The advantage of the two routine tools is that they allow continuous monitoring of ITN distribution for many years after the campaign and the follow-up activities at little additional cost.

Anticipated Products

- Documentation of costs and effects of volunteer post-campaign follow-up, disseminated to national stakeholders in each country and the international public health community.
- Guidelines for implementing a model program, with accompanying training manual and teaching aids for trainers, and communication tools for volunteers focusing on malaria programming.
- Administrative tools for supervising and monitoring activities of volunteers.

The guidelines, training course, visual aids and administrative tools will be made available to Ministries of Health and other CSOs.

Collaborating Partners: International Federation of Red Cross and Red Crescent Societies (IFRC), American Red Cross, Norwegian Red Cross, Canadian Red Cross, Belgian Red Cross, Kenya Red Cross Society, Mozambique Red Cross Society (CVM), U.S. Centers for Disease Control and Prevention (CDC) and other partners to be named.

To date, these programs have been implemented only by national Red Cross/Red Crescent volunteers⁴. We seek opportunities and other partners to test additional models of post-campaign follow-up in diverse settings to improve the relevance of the proposed program guidelines, and welcome the interest of other CSO collaborating partners to engage in post-campaign programs and evaluation of different approaches.

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⁴ The International Federation has funds only for post-campaign programs conducted by national Red Cross society volunteers.

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