

Door-to-Door Mass LLIN Distribution and Hang-Up in Ghana

A Model Based on Evidence and Experience

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Background

To prevent malaria, the National Malaria Control Program (NMCP) of the Ghana Health Service (GHS) has adopted the use of long-lasting insecticidal nets (LLINs). However, ensuring net ownership and routine use has proved difficult:

- Since 1998, nets have been available to Ghanaians through distribution from fixed points.
- The 2008 Ghana Demographic and Health Survey (DHS) indicated that only 32.6% of households owned at least one insecticide-treated net (ITN).
- The 2008 NetMark Household Survey on ITNs found that almost 45% of ITNs owned were not hung and ready to use.

NMCP began to explore new strategy options with technical support from the Ghana Promoting Malaria Prevention and Treatment (ProMPT) project funded by the United States Agency for International Development (USAID) through the President's Malaria Initiative (PMI) and from other partners (NetForLife, WHO, UNICEF). The project is implemented by University Research Co., LLC (URC) in collaboration with the Population Council and the Malaria Consortium.

In 2010, the Ghana NMCP and ProMPT implemented a new strategy: a door-to-door delivery and hang-up campaign model using community volunteers.

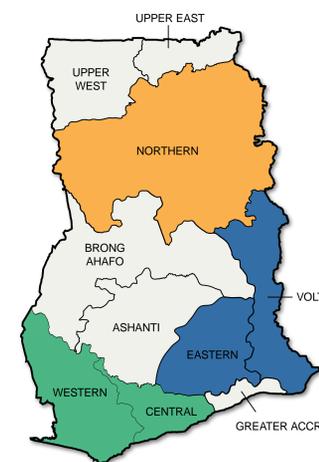
Methodology

The door-to-door mass LLIN distribution and hang-up campaign model was implemented through a series of successive regional campaigns, shown on the Ghana map. The Northern Region campaign targeted only women and children under 5, but subsequent regional campaigns worked toward universal coverage (1 net for every 2 people). The campaign model followed an 8-step process:

1. Engagement of the International Stakeholders, the Ghanaian Government, and Civil Society – Ongoing engagement started at the national level to plan for human resource, commodities, and logistical needs. Local government and civil society groups were also engaged at the regional, district, and community levels for location-specific planning. Individual communities provided various participation incentives to campaign volunteers.



Door-to-Door LLIN Distribution and Hang-Up Campaigns in Ghana



- Targeted campaign completed
- Universal coverage campaigns completed
- Universal coverage campaigns ongoing
- Regions yet to benefit

Photos from left:
 1. LLINs being prepositioned for distribution at sites donated by local communities.
 2. Volunteers transporting supply of nets to a village.
 3. Net hanging demonstration for high school students.

Table 1. Number of LLINs Distributed through Door-to-Door Distribution

Regions Completed	Nets Distributed	LLIN Donors
Northern Region	562,737	PMI/USAID
Eastern Region	1,142,110	PMI/USAID
Volta Region	1,064,672	PMI/USAID
Central Region	1,031,922	UNICEF/DFID
Western Region	1,328,819	UNICEF/DFID
Grant Total	5,130,260	

Remaining Regions: Ashanti, Brong Ahafo, Greater Accra, Upper East, Upper West, and Northern Region complement.

Figure 1. Frequency of ITN Use after the Northern Region LLIN Hang-Up Campaign

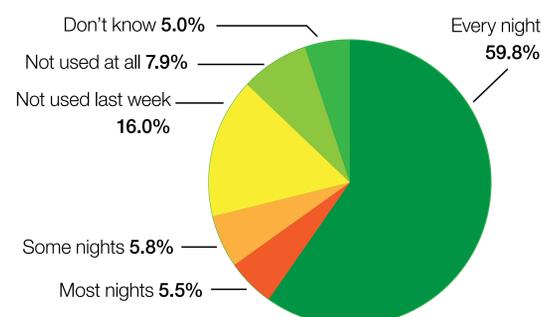


Table 2. Northern Region LLIN Hang-Up Campaign Results for Retention and Use

Indicator	Baseline Ghana DHS 2008		Northern Region Outcome Evaluation 2010
	National	Northern Region	
Percentage of households with at least one ITN	32.6%	26.7%	82.1%
Percentage of households with more than one ITN	10.5%	8.5%	55.1%
Percentage of children under 5 who slept under an ITN the previous night	28.2%	11.2%	52.0%
Percentage of pregnant women who slept under an ITN the previous night	19.9%	7.0%	39.4%

2. Training – ProMPT supported training for trainers, volunteers, community groups and leaders, supervisors, and logisticians. Training included information on community sensitization, household registration, compilation of data, management of supplies, supervision, and net hanging.

3. Social Mobilization – Communication and advocacy activities were carried out before, during, and after the campaign. Social mobilization leveraged volunteers, community leaders, community organizations, radio programs, and other outlets to deliver messages informing people on the campaign, on the benefits of using the nets regularly, and on their care.

4. Household Registration and Validation – To register households for the campaign, community volunteers visited homes to determine numbers of sleeping places, of nets still in packages, and of installed nets. Supervisors rechecked sample data to validate registration information and then determined the number of nets to allocate to each home based on information collected by volunteers.

5. Prepositioning of Nets and Other Campaign Commodities – Total numbers of nets, nails and ropes required for hanging were calculated for districts, sub-districts, and communities. Nets, nails and ropes were transferred to temporary holding sites donated by communities. The transport of nets and campaign commodities was ensured by DELIVER, another USAID project in charge of malaria commodity supply.

6. Door-to-Door Delivery and Hang-Up – Distribution and hang-up in each region took place over a 2-week period. Pairs of volunteers distributed and hung up nets in about 10 households per day. Volunteers also delivered messages relating to the benefits of nets and instructions on how to use them.

7. Post-Distribution Validation – Volunteers were required to bring back empty bags to validate their distribution. Supervisory teams counted empty bags and cross-checked the number of bags with the number of nets sent out for distribution.

8. National Debriefing – Regional and national stakeholders met after each regional campaign to discuss results, challenges, and lessons learned to be applied to the next campaign.

Results

The campaign model has resulted in hang-up of almost 3 million nets in Ghana. See Table 1.

An evaluation of the effectiveness of the campaign in Ghana's Northern Region (a region with one of the lowest ITN coverage rates in the country prior to the campaign) was conducted six months after hang-up.

- The campaign was responsible for more than 70% of the observed increase in ITN ownership.
- 98.1% of LLINs were still in household possession.
- 73.0% of nets were found hanging, suggesting that they were in use.
- There was no significant difference in ITN ownership across wealth quintiles or in urban

vs. rural households, indicating that the campaign achieved equity in distribution.

- Educational messages from volunteers were effective: households that received information from volunteers on the benefit of nets and how to use them were statistically more likely ($p=0.034$) to have a member that slept under a net the previous night.

More results of that evaluation can be found above in Figure 1 and Table 2.

Conclusions

- The door-to-door hang-up campaign model was effective, as it significantly and equitably raised net ownership, retention, and use rates.
- Communication activities prior to and during the campaign were effective in increasing use rates.
- This model should prove to be effective in ensuring a significant increase in country-wide LLIN ownership and use rates and eventually result in lower malaria infections for vulnerable populations.

Acknowledgements

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