TAMTAM
together against malaria

RESEARCH BRIEF

Mass insecticide treated net distribution: Boosting usage via household installation

Overview

Context

For countries or organizations planning large scale free distribution of Insecticide Treated Nets (ITN) to prevent malaria.

Project

Two randomized controlled trials testing two interventions designed to improve ITN usage:

- ITN installation in homes
- Monitoring message

Results

- ITN installation boosts net usage by 18% and reduces the cost per net used by 8%.
- The monitoring message had no observed impact on usage.
- Baseline usage between southeast Uganda (79.5%) and north Uganda (57.0%) differed greatly.

Recommendations

- Integrate ITN installation in ITN distributions whenever possible.
- Continue testing of messaging interventions.
- Assess regional variation in ITN usage before launching a large scale ITN distribution program.

About TAMTAM

TAMTAM distributes free ITNs to underserved communities in a cost-effective manner and conducts operational research to increase the efficacy of ITN distributions. To date, TAMTAM has distributed more than 20,000 ITNs in Kenya, Uganda and Malawi.

A widely-cited randomized evaluation of TAMTAM's Kenya program found that women who received free ITNs were just as likely to use them as those who paid a subsidized price.[1] A separate evaluation established that delivering fully subsidized ITNs through prenatal clinics could result in 18-21 lives saved per 1000 pregnancies.[2] These findings have informed the ITN approaches of several national governments, DfID, Population Services International and many others.

TAMTAM is committed to a practical research approach that prioritizes policy-driven action over academic publication. TAMTAM rigorously evaluates ideas posed by practitioners and policymakers and reports results and recommendations in a timely fashion.

Project Design

1 2 interventions designed to improve ITN usage were evaluated:

ITN installation
Community Health Workers (CHWs) hanging ITNs in recipient homes.

Monitoring message
At the time of distribution, ITN recipients were given the following message: "We are giving you a bed net for free and are expected to use it properly. To verify this, a village health worker will visit your home in one month to verify proper net usage."

2 2 distinct project locations in Uganda:

Koro Sub-County, Gulu District:
- One of 6 sub-counties in Gulu District in Northern Uganda. There has been significant migration back to Koro by displaced people following the civil war, and many community members have received significant emergency aid in the past.
- ITNs distributed to women through 11 community gatherings.[3]
- 523 households were included in evaluation.

Ntenjeru, Mukono District:
- 30km southeast of Kampala and 10km north of Lake Victoria.
- CHWs traveled home-to-home to deliver ITNs and assigned interventions.
- 421 households were included in the evaluation.

3 Net recipients randomly selected into 4 groups:

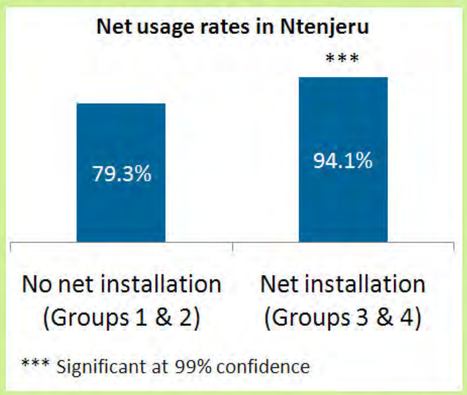
Group 1:	Group 2:	Group 3:	Group 4:
Pure control 25%	Message 25%	ITN installation 25%	Message and ITN installation 25%

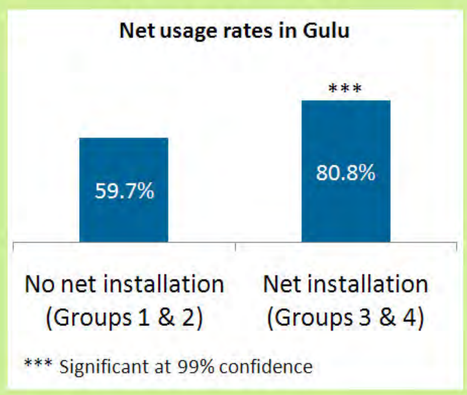
4 3 interactions with ITN recipients:

1. Baseline data collected for each household.
2. ITNs distributed to households with assigned interventions.
3. Household survey administered 3-4 weeks after distribution to assess net usage.[4]

Results[5]

ITN installation increased net usage by 18% or more.
In Ntenjeru, ITN installation is estimated to increase net usage by more than 14 percentage points, raising overall usage by more than 18%. In Gulu, ITN installation is estimated to increase net usage by more than 21 percentage points, representing an increase in net usage of more than 35%.





These results indicate that ITN installation is highly cost effective.

Estimated benefit of incorporating an ITN installation campaign is an 8% reduction of cost per net used.[6]

Monitoring message had no significant impact on usage.
In Gulu, individuals that received the monitoring message had a usage rate 3.7 percentage points higher than individuals that did not receive the message. In Ntenjeru, individuals that received the monitoring message had a usage of 0.1 percentage points lower than the individuals that did not receive the message.[7]

Baseline usage varies greatly across regions.
Net usage of households without ITN installation or monitoring message was 79.5% in Ntenjeru and 57% in Gulu.

Recommendations

ITN installation proved successful and should be incorporated into ITN distributions whenever possible.
Key elements of implementing ITN installation include:

Field staff/Community Health Workers (CHWs):
- Training: Before distributing ITNs, it is essential to train field staff/CHWs on distribution logistics, ITN installation procedures, and key facts about malaria/ITNs.[8]
- Local knowledge: Close collaboration with local field staff can greatly enhance the planning and coordination of an efficient ITN installation campaign.
- Baseline data: Obtaining basic data on names and household locations prior to distribution is highly recommended.

Local NGOs/CBOs:
- It is impossible to execute a large ITN distribution without local support.
- Local organizations can greatly enhance the coordination of successful ITN distributions and installations.

Messaging:
Innovation of messaging is a promising avenue, as it can can potentially boost usage at zero incremental cost. Testing of different messages has therefore potentially high payoffs. If a randomized evaluation design is used, consider randomizing at community rather than household or individual level.

Managing regional usage:
Small pilots in different geographies to predict regional variation in ITN usage should be conducted before executing a large scale ITN distribution. Regional variation is very high, and pilots are critical to understand how different communities will respond to various modes of distribution.

Notes and References

[1] Cohen, Jessica, and Pascaline Dupas. 2008. "Free Distribution or Cost-Sharing? Evidence from a Randomized Malaria Prevention Experiment." Revised March 2009; forthcoming, Quarterly Journal of Economics.

[2] Dupas, Pascaline. 2005. "The Impact of Conditional In-Kind Subsidies on Preventative Health Behaviors: Evidence from Kenya ." Unpublished manuscript.

[3] At gatherings, ITN recipients were instructed to go to four different stations corresponding to the four evaluation groups where group specific information including the monitoring message and/or ITN installation information was provided. For households assigned to ITN installation, CHWs visited the household 1-2 days after the community gathering to install the net for the recipient.

[4] Baseline data was used to balance randomized groups across key observable characteristics. To verify usage, the follow-up survey instructed the CHW to ask: "May I see the bed net you received." It was then noted if 1) the net was out of the package and 2) if the net was hanging over a sleeping space. The CHW then asked "Was the net used last night?" The response to this second question was the primary measure of net usage.

[5] Intention-to-treat analysis was used to estimate the effects of the ITN installation and monitoring message interventions. In both distributions, households were given a treatment other than the one that was assigned (36 in Ntenjeru and 84 in Gulu) necessitating this approach. Because of this, the estimated effects of the interventions are likely smaller than their actual effect. Also, 10 households in Ntenjeru (2 from Group 1, 3 from Group 2, 1 from Group 3 and 4 from Group 4) and 54 households in Gulu (17 from Group 1, 15 from Group 2, 12 from Group 3 and 10 from Group 4) could not be found for follow-up and were dropped from the sample. It is unlikely that dropping these households materially affect the outcomes of this study.

[6] The cost-benefit analysis utilizes 4 variables: 1) cost/ITN, 2) percentage point increase in usage due to ITN installation, 3) cost/CHW/day, and 4) households visited per CHW per day. 8% reduction in cost/net used assumes $10/CHW/day, 15 ITN installations/CHW/day and $10/ITN. Appropriate interpretation of this analysis should use fully-loaded costs. Cost/ITN should include purchasing, transport, storage, distribution and overhead costs required for large-scale distribution. Likewise, cost/CHW/day should include per diem, supplies and training costs.

Percent cost savings*

USD/CHW/day	Percentage point increase in net utilization: 10%	15%	20%	25%
$-	10%	15%	20%	25%
$ 5	3%	8%	13%	18%
$ 10	-3%	2%	7%	12%
$ 15	-10%	-5%	0%	5%

*assuming 15hhs/CHW/day, $5/net

Percent cost savings*

USD/CHW/day	Percentage point increase in net utilization: 10%	15%	20%	25%
$-	10%	15%	20%	25%
$ 5	7%	12%	17%	22%
$ 10	3%	8%	13%	18%
$ 15	0%	5%	10%	15%

*assuming 15hhs/CHW/day, $10/net

[7] Strong conclusions cannot be drawn from these results. An effect on usage may have been muted by spillovers between groups – e.g. individuals in Groups 2 & 4 who received the monitoring message may have told individuals in the other groups about the message. Thus, it is possible for monitoring message to have had a significant impact on usage without any observed differences in observed usage between groups.

[8] TAMTAM ran one-day trainings for CHWs prior to distribution and a separate one-day training prior to follow-up surveys. All activities were actively monitored by TAMTAM coordinators and local partner organizations.

TAMTAM

Our Story

TAMTAM was founded in 2004 by development economists, Pascaline Dupas and Jessica Cohen, and NGO manager Carolyn Nekesa. Through their work in the rural district of Busia, Kenya, Pascaline, Jessica and Carolyn realized that distributing bed nets is one of the most efficient means to save lives and improve the health of mothers and their children. TAMTAM was born out of their desire to put this finding into action.

TAMTAM stands for "Together Against Malaria, Tunapenda Afya na Maisha." The Swahili translates to "We love health and living."

It is TAMTAM's goal to fight malaria effectively for healthier families in Africa.

1 Western Avenue #816
Boston, MA 02163 USA

Please contact TAMTAM at
info@tamtamafrica.org
for more information.

www.tamtamafrica.org

together against malaria

Tunapenda Afya na Maisha, "We Love Health and Living"