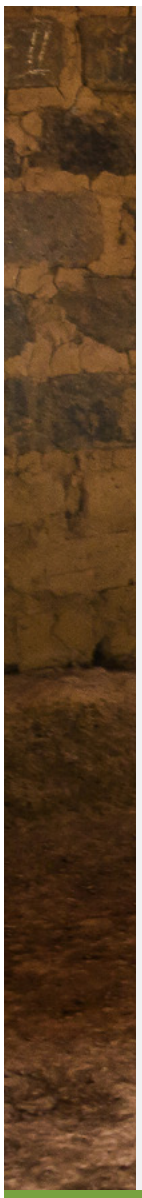

IMA World Health

Hang Up and Track

Mass distributions in every household

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Hang Up and Track Strategy

Malaria is one of the deadliest diseases in the Democratic Republic of Congo (DRC). Research has shown that the use of long-lasting insecticidal nets (LLINs) is effective in preventing malaria.

To address malaria prevention through LLIN distribution, IMA World Health, with approval from the Programme National de Lutte contre de Paludisme (PNLP) of the Ministry of Public Health and funding from the Against Malaria Foundation (AMF) and UKAID, have distributed close to 1.3 million nets in Kasai and Nord Ubangi provinces. To ensure that every household got their intended nets, IMA World Health devised a Hang-up and Track (HUT) campaign in which community health workers (CHWs) not only distributed the LLINs, but they also installed and hung them up in each household and recorded household registration data using smart phones to ensure accountability and accuracy.

Results for Kasai and Nord Ubangi

1,292,694
Nets hung

Close to 1.3 million nets have been hung up in two provinces of DRC.

453,387
Households visited

Close to half a million households were visited in 20 health zones and 366 health areas.

773
Movie nights hosted

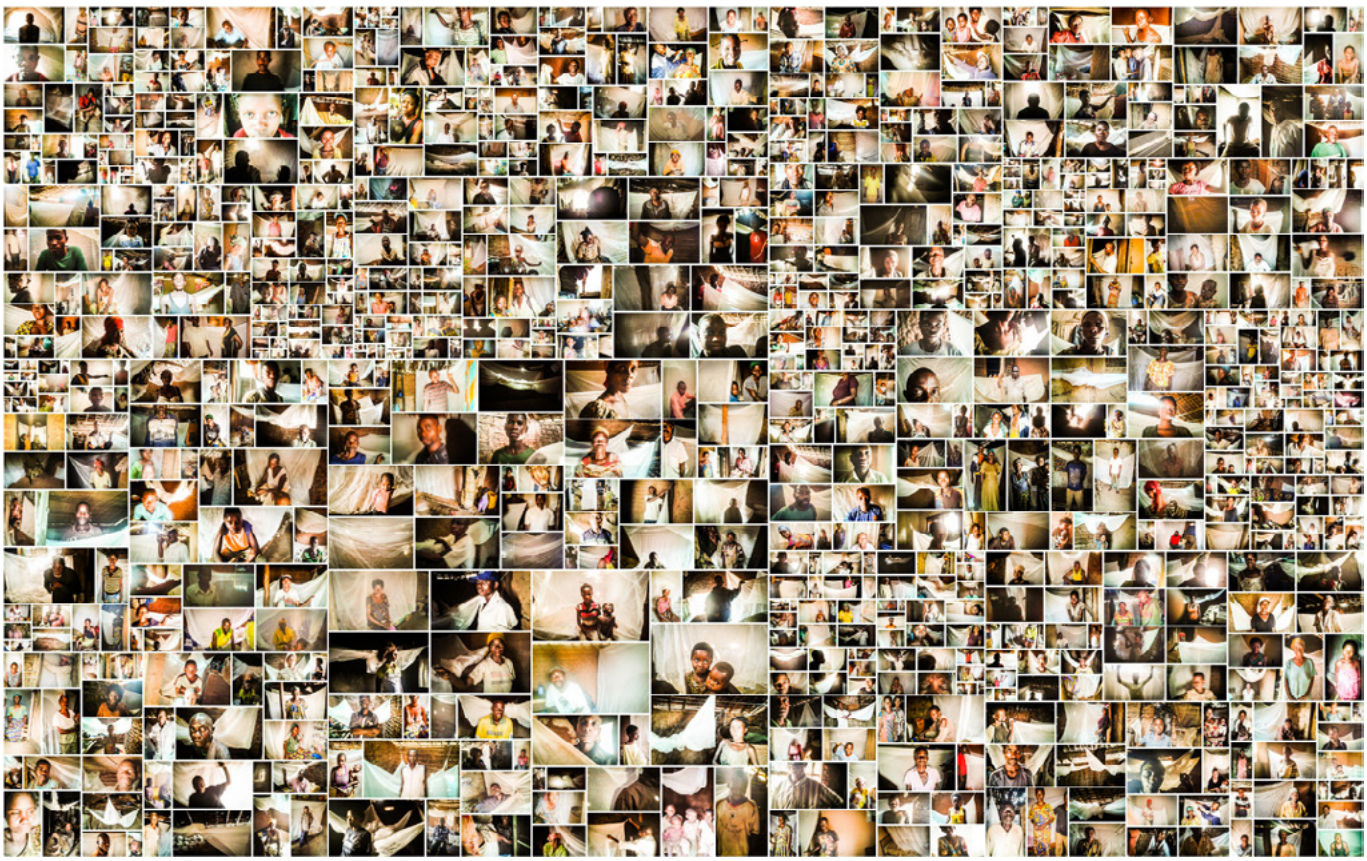
As part of our BCC strategy, Ambassadors of Communication showed educational videos on malaria and bed net usage at 773 movie nights in every health area of Nord Ubangi.

98.3%
Nets still hanging

During a recent post distribution check up in Nord Ubangi, we found that 98.3% of nets were still effectively installed six months later.

Tracking Every Net

Transparency & Accountability

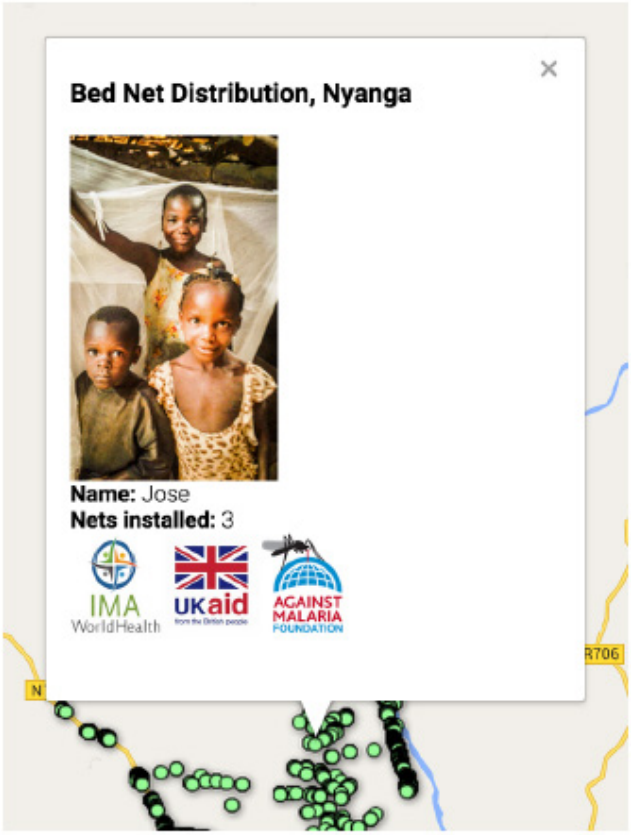


Pictures and GPS coordinates are taken for every net installed to ensure that nets are reaching IMA's intended beneficiaries.

IMA is different than other organizations that distribute LLINs in DRC. For IMA, the fight against malaria involves the distribution and hang-up of LLINs using an innovative version of the Hang-Up strategy, developed by our malaria team called the 'Hang-Up and Track' (HUT) strategy, to more effectively distribute LLINs. The HUT strategy uses Community Health Workers (CHWs) to distribute the nets and hang them at the same time. This is in contrast to some strategies that simply hand out nets to beneficiaries. With the HUT approach, in addition to distribution and hang-up, information on each net hung is captured using Android cell phones equipped with a data collection program called Open Data Kit (ODK). The phones are used to track every net hung in every household by capturing GPS coordinates, demographic information, number of nets installed and a photo of the recipient with their newly hung nets.

Once the distribution has been completed an interactive map is created. The user can click on any point and see a photo of the recipient with their net. This provides a new level of transparency and accountability to net distributions.

IMA's HUT strategy is an effective, cost efficient ($2.00/net in West Kasai) distribution of nets that can maintain coverage of more than 80% utilization of LLINs on a permanent basis. IMA's strategy is based on years of experience of running routine vaccinations with community outreach to achieve and maintain more than 90% coverage using staff and volunteers within the health care system. It is known as the reaching every district approach (RED). This approach used with the HUT strategy for net distribution makes an effective, sustainable, system for maintaining high levels of net usage.



To view the interactive map of the Nyanga bed net distribution visit:
http://maps.asspdrc.org/kasai-maps.html

The Technology

Modern tools and procedures for data collection and analysis are used throughout the Hang Up campaigns to ensure that nets are accountably distributed as well as to measure the usage and effective coverage of the net campaigns following the distribution. Collecting a wide array of information on exactly where and when individual nets are hung up in homes allows IMA to accurately track and measure the longevity and success of distributions and work provided following campaigns.

The techniques and methods used for data collection during hang up campaigns have been implemented in multiple provinces in the DRC and have been proven given the many logistical challenges that can be found working in remote and impoverished areas.

Benefits of Hang Up data collection

- **Accountability** - recording different data points for each individual hang up allows us to verify that supervisors and community volunteers have been to the correct locations (GPS) as well as performed the work required on such a large scale.
- **Effective Coverage** - an accurate insight into an area's population/ net coverage can be derived from comparing the initial distribution data to any follow up studies. This allows the campaign to ensure that a distribution has been implemented effectively.
- **Targeted Response** - analysing information collected during the campaign provides insights into areas that need additional support.
- **Campaign Optimisation/ Development** There are many different campaigns and projects focussed around fighting Malaria in the DRC. Collecting and analysing distribution information puts the campaigns at the forefront of research and development improvement.

Technology Used

Phones are used to collect information on net distributions and follow up surveys. As campaigns are often covering very large geographical areas many phones are distributed among supervisors and community volunteers. Each phone is installed with a toolkit named Open Data Kit (ODK) [1], this allows thousands of 'Surveys' to be collected by supervisors, this information is collected and reviewed by supervisors during the campaign and then output and sent to Kinshasa for final analysis.

During the distribution these phones are used to collect information on each household that will receive nets; this core information provides:

- GPS co-ordinates of the household and nets being distributed.
- The health zone, health area and village name for this household.
- The number of 'Sleeping Spaces' in this house - this is defined as any place one or more individuals sleep during the night.
- The number of nets distributed to this household.

1 https://opendatakit.org/

Technical Specifications - Phones

The phones used during the campaign have the following specification.

Model	Samsung Galaxy Ace 4
Operating System	Android (4.4 KitKat)
Installed Software	ODK Collect, GPS Test
Battery	1900mAh (removable)

Process - Net distribution follow up

After a distribution has taken place, net distribution follow ups can track the effective coverage of the nets over time. During this process phones are again used to collect information on the state of the nets; this can be compared to the initial distribution data to provide insights into the effective coverage.

1. A subset of villages and households is selected using the areas and population information visited and collected during the distribution.
2. A certain number of households are visited by a supervisor for each village. Information on net status is collected:
   a. Number of remaining, functional nets
   b. Health of remaining nets (number of holes)
   c. Number of nets destroyed/ stolen/ lost
3. Each supervisor submits data collected from each health area to Kinshasa. Automatic verification is run against the collected data to ensure it meets certain requirements. If there are any issues detected supervisors can be contacted in real time to ensure data collected is to a high standard.

ODK software installed on Android cell phones is used to collect data and track net installation.

Technology Training

In order to effectively collect information during the campaigns, supervisors in each region must be trained in how to operate the Android phones used as well as how to use the ODK software. Training for large distributions often take place over a week and ensure that all supervisors have a firm knowledge in the processes and requirements for collecting data in the field.

Behavior Change

In August of 2016 our Technical Communications department implemented another innovative program to help us reach our beneficiaries with important behavior change messaging. IMA's Ambassador program is made up of 34 Ambassadors that travel to every health area each month to host movie nights in health centers, schools and churches. During the movie nights IMA shows original BCC short films that are written based on the extensive qualitative and quantitative data collected during distributions and check ups. The data collected informs the program on attitudes and practices of beneficiaries regarding the adoption of healthy behaviors such as bed net usage, allowing IMA's technical communications team to tailor BCC materials directly to our beneficiaries.

To take this program one step further, IMA's malaria team harnessed the communication network created by the Ambassadors to implement a BCC follow up campaign in Nord Ubangi. During the follow up campaign Ambassadors participated in the following activities:

1. Showed malaria specific BCC media during movie nights
2. Trained community volunteers to go door-to-door to deliver key message.
3. Delivery of BCC key messages in churches.
4. Sensitization in schools

The merits of the communication program can be seen in the in the post-distribution check up results. Six month after the distribution ended IMA survyed close to 10,000 households (5%) to determine whether the nets were still hanging. Our data showed that 98% of nets hung up were still hanging.

Conclusion

IMA is the first organization in the DRC to leverage mHealth technology like ODK for mass LLIN distribution campaigns. By using the HUT strategy, not only is each household pinpointed through GPS, but the entire distribution is aggregated visually through GIS. This, along with the signature file and photo of LLIN installation within the household, increases accountability that the LLINs reached the beneficiaries and decreases fraudulent activities. The utilization rate of LLINs is measured every six months to assess user adoption. The malaria perception and treatment data collected is used to formulate better behavior change communication and messaging, and incorporate that into a more holistic approach in the next LLIN distribution campaign.

A crowd gathers during a movie night in Bili, Nord Ubangi