

# Continuous LLIN Distribution

## Community-based distribution: “Pulling” it off in South Sudan

S O U T H S U D A N

M A L A R I A

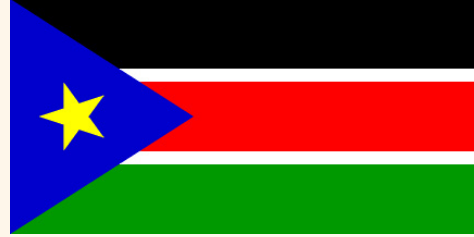
In South Sudan, partners have established a novel “pull system” to enable families to acquire long-lasting insecticidal nets (LLINs) when they need them. In this system, which is funded by USAID/PMI and DFID, families obtain coupons from a designated person in their community and redeem them at primary health care facilities. Monitoring data from the first six months of the pilot shows that community acceptance is high and redemption rates are at 84 percent. Much of this success has been attributed to behavior change communication, close supervision, flexibility, and strong partnerships.



A woman redeeming net coupons for herself and her neighbor.

### HOW IT WORKS

- Social mobilizers, clergymen, and health facility staff sensitize households about the importance of using nets. They also inform households about the pilot program, the eligibility criteria, and the process for obtaining and redeeming net coupons.
- Household members decide a net is needed and they approach a Net Coupon Holder (NCH) in their



community. To be eligible for a net coupon, they must report having one of the following criteria: owning a damaged net, having more than two people sleeping under one net, or having a female household member who has recently given birth and did not receive a net from antenatal care (ANC).

- If at least one criterion is met, the household receives a coupon from the NCH.
- The household then redeems the coupon from the nearest Primary Health Care Center or Unit (PHCC/U).
- Households can only receive one type of net; they cannot choose the net’s shape, color or size. Program data show that, on average, it takes coupon recipients six days to redeem their coupons.
- Approximately 50-60 households in the county are randomly selected to be visited by NCH Supervisors every month. The supervisor ensures that coupons are being issued to eligible families and are being redeemed in a timely manner. They also check that nets are being hung and identify any issues that the family encountered during the net-seeking process.
- When the PHCC/U only has two bales (100 LLINs) left in stock, the facility’s Store Keeper calls the locally-based Malaria Consortium project officer, who works with the County Store Keeper to transport nets from the county stores to the facility. Since this is a “pull” system, the frequency of restocking depends on community demand.

### BACKGROUND

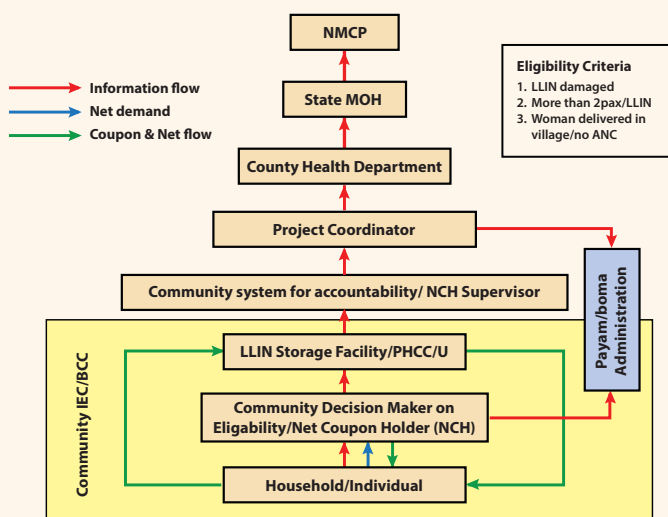
Several factors made South Sudan an ideal location for testing a community-based continuous distribution channel. In this area, malaria is the leading cause of death for all age groups. While the Republic of South Sudan (RoSS) Ministry of Health (MoH) has distributed nets through mass campaigns and routine health services, these efforts have had limited results. Modeling shows that even if Universal Coverage (UC) targets are

Lessons in Brief No. 8



reached, coverage begins to decline immediately after campaigns due to wear, tear, and loss. Moreover, the impact of routine distribution through public health facilities has been muted by low service utilization. Only 55% of pregnant women receive at least one ANC visit<sup>1</sup> and less than 20% of children complete their first year vaccination series, both of which are criteria for receiving a net.<sup>2</sup> In this post-conflict setting, the challenges of net distribution are formidable: inaccurate census data, high logistical constraints, and population movements pose major challenges to achieving UC.

**Figure 1. Flow of coupons, nets, and information**



## PARTICIPATORY DESIGN

In 2011, the USAID-funded NetWorks project conducted a scoping mission to assess the feasibility of continuous distribution models in South Sudan. Channels assessed included schools, food distribution programs, or some other type of community-based distribution. Based on the appraisal, community-based distribution seemed to be the optimal approach.

Participants at design meetings and workshops sought to leverage the county administrative structure of payams (districts), bomas (sub-districts), and villages as a means of distributing nets in a continuous manner. They proposed linking the community-distribution system to the formal health care system and working with the community to design a system which has eligibility criteria based on household need.

Local leaders and community members expressed relief that nets would be available on a continuous basis to all households who met the agreed-upon criteria. Lainya County in Central Equatoria State was selected because it was accessible, relatively secure, and had sufficient storage at the county and health center level.

## QUANTIFICATION

Population estimates varied considerably during the pilot’s design and implementation, making quantification challenging. Issues with the calculation, including a massive influx of returnees in 2011, rendered 2008 census figures inaccurate. Data from the 2011 referendum asserted that there were 75% more households than originally thought, for a total of 35,016 households. Overall, 45,000 LLINs were obtained based on the assumption that every household would seek to acquire at least one net during the course of the pilot.

## STAFFING

Field activities are facilitated by volunteers. They include Store Keepers, Net Coupon Holders, NCH Supervisors (see Supervision) and Social Mobilizers (see Communication). Store Keepers are facility-based health workers who, in addition to providing clinical care, are also responsible for distributing nets and redeeming coupons. When Store Keepers are unavailable, a designated Assistant Store Keeper distributes nets. Assistant Store Keepers are only available at facilities that distribute nets every day. Store Keepers and Assistant Store Keepers receive a cash incentive equivalent to \$33 and \$16.50 per month, respectively. Store Keepers receive the highest incentive amount because they have the longest hours and handle most of the consumer pressure.

NCHs are fellow community members who are responsible for distributing net coupons. They are chosen by steering committees composed of payam and boma leaders, health facility in-charges, and village health committees (VHCs). NCHs must be known for their integrity, must be accessible to community members at specific times and locations, cannot be health workers or elected or traditional leaders, and must have a basic level of literacy and numeracy. Since literacy rates are higher among men than women in South Sudan, 44 of the 50 NCHs in the pilot are men. NCHs receive a cash incentive worth \$25 per month.

<sup>1</sup> Preliminary MIS 2009 results

<sup>2</sup> South Sudan 2011, Lot Quality Assurance Sampling (LQAS) Community Based Survey.



## TRAINING

Training was conducted using a cascade model. The Malaria Consortium project coordinator and project officer trained twelve staff from the County Health Department to be trainers. Pilot volunteers (NCHs and Supervisors, Social Mobilizers, Store Keepers, and clergy) received a two-day training on the pilot's design, malaria prevention, behavior change communication, and monitoring. They were also trained on the data collection tools and IEC materials. Assistant Store Keepers were trained on-site after the distribution began. Laminated job aids and refresher trainings were provided after supervision visits identified



A man redeems net coupons for his household and neighbors. The village is nearly 4 hours away (roundtrip) from the nearest primary health care center.

inconsistencies in implementation. **LOGISTICS**

Nets are stored at two central storage sites (20 and 40-foot containers) located near each end of the county. When PHCC/Us have only two bales of nets (100 LLINs) remaining in their store, the facility-based Store Keepers contact the local project officer. The project officer and County Store Keeper then transport nets from the central storage sites to the PHCC/U stores using a project vehicle or a contracted transporter.

Since this is a “pull” system, the frequency of restocking depends on community demand and may result in more than one trip per month. According to program staff, one way to reduce fuel costs and security risks associated with frequent trips may involve increasing

storage capacity at health facilities. While PHCC/Us would continue to request a re-stock only when they have two bales remaining, project staff could travel by motorbike to unlock and replenish clinics' stocks from an on-site storage container instead of transporting bales on a monthly basis using land cruisers or pick-up trucks. Currently, nine of the PHCCs can store eight to ten bales while five PHCUs, which are smaller, can hold four to six bales. Since the area is politically sensitive, security issues and contingency planning are always taken into consideration when transporting and storing nets.

### *Going the extra mile*

The population of Lainya County is widely dispersed across rural, hard-to-reach areas. Many communities initially experienced difficulty accessing redemption sites due to the distances involved. In response, the pilot expanded the number of sites from nine to fourteen. Most of the new sites had little capacity to securely store nets, distribute them every day and maintain accurate records. They are in hard-to-reach areas and are comprised of one-room health facilities staffed by at least two health workers. To adapt to this environment, metal “drop boxes” were provided. They fit in the corner of a room and can hold 2 bales at a time. To avoid overburdening health workers, these sites redeem net coupons only one day per week. Redemption rates at these facilities are as high as at facilities that are open every day, and sometimes higher.

The program has demonstrated flexibility in other ways as well. Family members, friends, or neighbors are allowed to redeem nets for households with coupons. This was needed to increase access to nets, as some health facilities cannot easily be reached by foot, and/or not all coupon recipients can make the trip during operational hours. In cases where distance is an issue, a community member with a bicycle has often taken several net coupons for redemption, and strapped the nets on the back of his bicycle for his neighbors. Due to the high level of accountability within these small communities, no instances of fraud have been reported even though this approach is often used.

Some Store Keepers have also shown initiative by placing a bale of nets onto their own bicycles and pedaling to a village to distribute nets.



## COMMUNICATION

The communication strategy was developed through focus groups on malaria beliefs, net use, and health seeking behavior during the preparation phase of the project. Messages inform communities about the pilot, the criteria for eligibility, and when and where to obtain and redeem coupons. They also inform them about the usefulness of nets in preventing malaria, sleeping comfortably, and keeping harmful pests out of bed. Messages on the value of LLINs and their benefits to family health and household expenses have also been used to counter complaints about the effort required to obtain nets. Sometimes community members demand nets from Store Keepers even when they do not have a coupon, particularly when they find themselves at a facility, and - out of convenience - would like to obtain a net immediately. The pilot has responded by reminding communities about the agreed-upon process for redemption through social mobilizers.

There are 19 Social Mobilizers (one to three per boma) who deliver weekly messages through megaphones at community gatherings and markets. For their efforts, Social Mobilizers receive a long bar of soap every month and receive a cash incentive equivalent to \$24 every three months. Church leaders also share these messages during services.

## SUPERVISION

NCH supervisors retrieve NCH coupon stubs, visit selected households and ensure that NCHs have sufficient supplies. They are also responsible for notifying the implementing NGO of issues that arise in the community. NCH supervisors received bicycles that they use to visit NCHs twice per month, and use a monthly checklist to track key indicators. Each payam has at least two NCH supervisors, depending on geographical access. There are currently eleven NCH supervisors (ten male, one female), and each receives a cash incentive equivalent to \$26 per month.

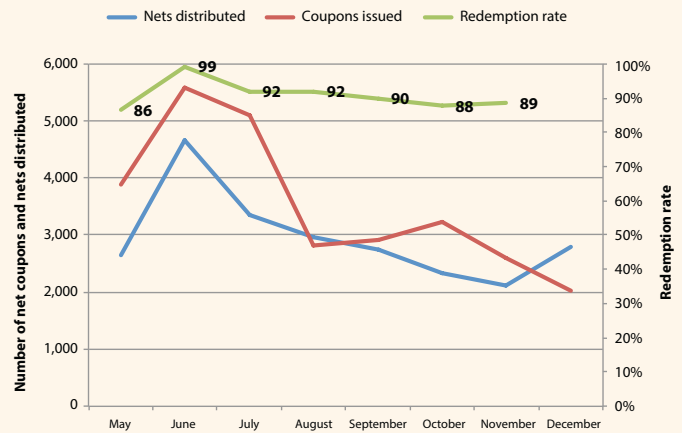
The Malaria Consortium Project Officer and County Health Department Primary Health Care Supervisor oversee Store Keepers and NCH Supervisors during biweekly visits. A checklist is used to monitor key project indicators. Supervision visits focus on access to facilities, data management practices, and net storage conditions. These supervisors also use SMS to send reminders to social mobilizers and church leaders.

## MONITORING & EVALUATION

Several forms are used to monitor the pilot, including: a checklist for supervising NCHs, a checklist for supervising NCH Supervisors, a checklist for supervising Store Keepers, an LLIN registry, and the Store Keeper report. NCH Supervisors track the ratio of LLINs per household, time elapsed between net coupon receipt and redemption, and issues that households encountered in the process. This data is compiled into a monthly report. Project updates and data are regularly shared with community, payam, county, state, and national stakeholders.

The implementation period for the pilot runs from May 2012 to February 2013. In March 2013, an evaluation will measure the pilot's impact on key indicators such as LLIN ownership and coverage, net coupon redemption, and community acceptance of eligibility criteria. The evaluation is intended to explore the feasibility of community-based distribution as a strategy to maintain universal coverage.

**Figure 2. Net coupon redemption , May-December 2012.**



As expected, net coupon acquisition and redemption peaked shortly after the launch of the pilot. Then they gradually decreased during the rainy season, with coupon redemptions slightly increasing during the dry season. Monthly redemption rates peaked at 99% after the launch and ranged from 88-92% thereafter. Between May-December 2012, 28,166 coupons and 23,607 nets were distributed, resulting in a cumulative redemption rate of 84%.



## LESSONS LEARNED

- Understand the context and have the flexibility to adjust to the changing environment.
- Constant engagement with stakeholders is crucial. Communities appear to dislike targeted distributions because they limit many members' access to nets. Support for the pilot was higher when eligibility was based on household need and not pregnancy status or age.
- Increasing geographic access may be more important than increasing operational hours in this setting. Conveniently-located facilities with secure "drop-boxes" and limited hours have redemption rates that are as high as, or higher than, facilities that redeem nets every day.
- Significant but measured logistical support is essential. Consistent logistical support can help prevent stock-outs of nets and other project supplies. But it is also important to minimize the costs and security risks associated with frequently transporting nets. One way to do so may be to increase storage capacity at redemption sites while maintaining strong supervision of the restocking process.
- Community demand will drive the frequency of restocking visits. Demand may vary as a result of communication and seasonality. It may also stabilize over time.
- Avoid overloading busy workers such as health facility in-charges and community leaders by assigning net coupon and redemption responsibilities to ancillary staff and other respected community members. This can reduce the potential for long wait times and avoid interfering with service provision. In-charges and community leaders can maintain a small but key role through overall facility or community supervision.
- Communication about the value and use of LLINs can help motivate households to take the time and effort to seek coupons and travel to facilities. Redemption rates can be high even when some effort on the part of communities is required.
- Support supervision is essential for the volunteers and county health department to strengthen their capacity to implement the pilot.

This 'Lessons in Brief' was developed with support from the Continuous Distribution Systems Work Stream of Roll Back Malaria's Vector Control Working Group, in collaboration with the South Sudan National Malaria Control Programme. Those interested in learning more about the information presented in this document should contact KonstantinaBoutsika, RBM Working Group Secretariat (konstantina.boutsika@unibas.ch) or Dr. Harriet Pasquale, NMCP Programme Manager (pasquale\_h@yahoo.com).



The RBM Partnership  
Secretariat hosted at WHO  
20, Avenue Appia  
1211 Geneva 27  
Switzerland  
Phone: +41.22.791.4318  
Fax: +41.22.791.1587  
Web: <http://www.rollbackmalaria.org>



**USAID**  
FROM THE AMERICAN PEOPLE

