

# Continuous LLIN Distribution

## Senegal's Push and Pull Combination Strategy

S E N E G A L

M A L A R I A

In 2013, Senegal piloted an innovative combination model, where multiple channels for continuous distribution of long-lasting insecticide-treated nets were introduced and tested at the same time. From February to August 2013, health facilities, community-based organizations and schools in the regions of Louga and Ziguinchor distributed 102,869 nets using both free and subsidized mechanisms. The multiple channels offered broad and affordable access to nets. Partners appreciated using existing structures and building multisectoral ties in the process.

### BACKGROUND

Since 2010 the National Malaria Control Program (NMCP) in Senegal has been engaged in an ambitious plan to achieve universal coverage of long-lasting insecticide-treated nets (LLINs). Between 2010 and 2013, NMCP distributed 6.9 million LLINs through mass distribution campaigns in all 14 regions. Universal coverage in Senegal is defined as households having one LLIN for every sleeping space, with the goal that by 2015, at least 80 percent of the population will have slept under a net the previous night. Although the mass distributions were highly effective at raising coverage, finding alternative ways to ensure ongoing access to nets is critical. Nets wear out over time and new sleeping spaces are continuously created through births, marriages and migration.



Credit: Mohamadou Diop. Courtesy of NetWorks

School children pose with their new nets. School-based distribution was selected as a push channel due to the opportunity to capitalize on existing enrollment registers, staff, and storage.



To assess options for maintaining universal coverage, USAID/PMI supported a national continuous distribution assessment. The assessment included a document review of distribution channels used in Senegal and other countries, data from Demographic and Health Surveys and Malaria Indicator Surveys, and in-depth interviews and focus groups with partners, regional officials and community groups. This assessment also used [NetCALC](#) to project the coverage that could be attained by various distribution channels.

The resulting strategy combined push and pull distribution channels to ensure optimal and ongoing access to nets. Push channels included antenatal (ANC) clinics and schools while pull systems involved CBOs as well as all health services outside of ANC. "Pull" systems require households to make some effort to obtain a net, such as by making transport or retail payments, while "push" systems require limited action and free LLINs. Pilots were rolled out between February and August 2013 in five districts in Ziguinchor (population: 764,426) and eight districts in Louga (population: 984,455). Guidelines, training manuals, checklists and communication materials were developed with the universal coverage national coordinating committee to streamline local implementation. Focal points from Dakar were deployed to the regions so they could work closely with the districts during the pilot phase. Experiences and lessons learned from each district were documented and presented to the NMCP and national coordinating committee in September 2013. Planning is now under way by the NMCP to launch the multichannel strategy nationally in early 2014 with support from USAID/PMI.

### HOW IT WORKS

#### Health facilities

LLINs can be obtained through health facilities in two ways. First, nets are available free of charge to all

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pregnant women during their first ANC visit. A pink coupon is given to the woman who can redeem it at the facility's pharmacy for a free LLIN. Second, clients can obtain a net when they go for either curative or preventive services at the facility. These clients are given a blue coupon, which they exchange at the pharmacy along with a copayment of 500 CFA (approximately US\$1) for a net. Expanding LLIN accessibility to all people seeking care requires the involvement of the entire health facility and the engagement of all health care workers to make it work effectively.

### Community-based organizations

CBOs provide access points to nets for those who may not be reached through schools or health facilities. The CBOs are made up of *relais* or volunteers who distribute a yellow coupon to individuals who wish to obtain an LLIN. Coupons are available during regular CBO activities such as home visits, health talks and community outreach activities, or at the homes of *relais*. Individuals can exchange the coupon plus a copayment of 500 CFA for a net from *relais* homes, local kiosks, small shops such as cloth vendors and tailors, pharmacies (Dara Mousty district) and bars (Bignona district). Individuals can receive only one coupon at a time; if they wish to receive more coupons, the *relais* arranges a home visit to look at sleeping spaces and confirm the need for multiple nets.

CBOs were selected through a competitive process managed by the local community development office and the district health management team. Criteria for eligibility included being officially registered, good geographic coverage, proven experience working at the community level, availability of community-based *relais*, absence of any record of fund mismanagement, and, if possible, a bank account in the CBO's name. Types of CBOs that were selected included women's groups, sports and cultural associations, youth groups and volunteer associations.



Credit: Diana Mrazikova, Courtesy of NetWorks

All clients could redeem coupons for a net at the health facility by adding a small top-up of 500 CFA. Pregnant women could redeem net coupons for free.

### Recouping distribution costs: How the 500 CFA is put to use

**CBOs:** Funds generated from LLIN copayments are used at two levels. For each 500 CFA copayment, 200 CFA are given to the district health committee or health center/post that serves as the reference point for the CBO. The remaining 300 CFA are kept by the CBO for use in any of the following ways: 1) transportation of LLINs to the community distribution sites, 2) support for community mobilization initiatives and home visits for the promotion of nets and appropriate use, and 3) incentives for *relais* and others engaged in making the program work.

**Health facilities:** Funds generated from LLIN copayments are used for 1) transporting nets and 2) malaria education and net promotion activities including local radio programs and special events. The funds are shared among the various levels in the following ways:

Level	Beneficiary	Revenue share by net sold for 500 CFA
Health center/post	District health committee	100 CFA
	Health center health committee Health post health committee	400 CFA
Hospital and enrolled private medical institution	Hospital or private institution management committee	100 CFA
	District health committee	400 CFA
Health hut	Health hut committee	300 CFA
	Health center health committee Health post health committee	200 CFA



## Schools

The school distribution model involved distributing a free net to all first- (C1) and fourth- (CE2) grade students attending primary schools in the two regions. These classes were selected based on the availability of resources, and the fact that the UC campaign had happened less than one year earlier. School directors, teachers and management committees shared student enrollment information and participated fully in the distributions. In most instances, nets were delivered to the schools not more than 48 hours before the distribution and parents went to the school to help their child claim their net and bring it home safely.

Teachers advised students to bring cloth or a plastic bag to school on the distribution day to carry their new net home and to air it out for 24 hours before hanging it to minimize skin irritations. Students were taught about the importance of net care and repair as well as the mass campaign's signature slogan, "Trois Toutes" or "Three Alls,"—nets should be used by "all the family, all year long and every night because the mosquitoes are always there!" Teachers also received a net to encourage their participation. Among all the continuous distribution channels employed, the school-based channel was the only one that did not involve coupons since nets were distributed directly to the parents of students.

## CROSS-CUTTING FEATURES: SUPPLY CHAIN, MONITORING AND EVALUATION, AND COMMUNICATION

### Supply chain

LLINs for continuous distribution were delivered using the following chain: from national medical stores → regional medical stores → health districts → to health facilities, CBOs and schools. Transportation of LLINs for the pilot from the central level to the regional stores was provided by the project. Getting the nets from the regional medical stores to the next level was the responsibility of the district. Districts stored nets for all channels.

Health facilities and CBOs received an initial stock of LLINs based on NetCALC estimates and population data, which could be adjusted following preliminary planning meetings with the district. Restocking of LLINs and coupons was based on reports submitted to the NMCP through the district health teams. Schools received a one-time supply of nets which was calculated based on school enrollment.

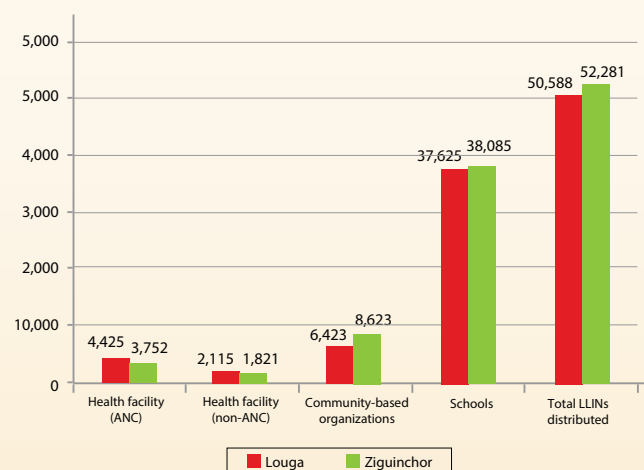
## Monitoring and evaluation

Schools and CBOs sent their reports to the area health facility. Health facilities compiled net and coupon information from the CBO, school and health facility distributions and shared it with the district. At the health facility, information about nets distributed to pregnant women was integrated into ANC registers and written on women's health cards. Pharmacies or depots used the color-coded coupons to tally the number of free and subsidized nets distributed, and information was included on the medical stock registers. Two or three months after the launch of the pilot, each district conducted a process assessment to review accomplishments, strengths and weaknesses, and propose recommendations. In addition, district-level supervisors conducted supervision visits to monitor activities. They used checklists and, whenever possible, incorporated these visits with other scheduled supervision visits.

## Communication

Community radio was used to advise households about the LLINs, particularly the school distributions. During the pilot, a humorous six-part radio series was broadcast in local languages to stimulate community discussion about key net messages. CBOs and health facilities were given booklets in multiple languages and counseling cards to facilitate interpersonal and small group discussion on net use, care and repair. Schools used a variety of print materials and conducted special sessions on malaria with students and parents. The "Trois Toutes" logo was featured on all communication materials including sign boards that were posted at all distribution sites to promote the availability of nets.

**Figure 1. Nets distributed between February and September 2013, by channel and region.**



## STRENGTHS AND CHALLENGES

### Health facilities

A total of 12,113 LLINs were distributed by 408 facilities. Free net distributions to pregnant women through ANC worked well for the most part in all pilot areas, and in many districts midwives were directly involved to ensure the integrity of those operations. Some facilities did experience stock outs of pink coupons and in some, information about free LLINs was not systematically shared with ANC patients. As a result, some women did not receive LLINs although they were in stock. As for all others seeking care, the number of subsidized nets distributed was less than expected. This may have been due to communication problems – the providers may not have offered coupons to all clients who were eligible and clients may not have known about the program to ask. We expect to learn more about improving demand for these nets as the multichannel strategy is rolled out to other areas of the country.

Strikes by nurses in both regions affected the quality of data collection and reporting. For example, in Louga, a number of health facilities with strong union ties boycotted the distributions. Non-ANC nets were not moving as quickly as anticipated, so certain districts in Louga reported problems storing large quantities for extended periods. With the exception of one district in both Louga and Ziguinchor where there were stockouts, there were no other reported problems with supply. In almost all areas, promoting the availability of LLINs and increasing interpersonal communication with net recipients about the importance of regular use and care was recommended for the future.

### Community-based organizations

A total of 108 CBOs and 1,208 *relais* participated in the pilot program. Altogether, they distributed 15,046 LLINs. In all districts, the engagement of CBOs in LLIN distribution activities was considered an asset on multiple levels. First, the *relais* associated with the CBOs were well known and their extensive reach optimized LLIN access beyond schools and health facilities. Next, motivated *relais* found it relatively easy to include the promotion of LLINs and distribution of coupons into their ongoing outreach activities during events such as immunization days, regular home visits and other opportunities for information exchange. Finally, the LLINs provided a platform for collaboration between the health and community development sectors, bringing local leaders and institutions together in the promotion of a common goal.

One of the most common problems identified with the CBO channel was that not enough *relais* were assigned to give out coupons. In areas where at least two *relais* were involved, it appears that geographic reach was better and more nets were distributed. Another constraint cited by multiple districts was the low literacy levels of many *relais* which made training, data collection and reporting challenging. Because both the CBOs and community development sectors had limited budgets, follow-up visits to supervise and support field work were constrained. Identifying secure locations for net storage at the community level was likewise reported as a problem in some areas. Certain CBOs were able to distribute hundreds of nets while others seemingly generated little or no activity. As the program evolves, attention will be given to factors that may increase the potential for CBOs' success in continuous LLIN distribution, such as prior involvement with health programs.

### Schools

A total of 75,710 LLINs were distributed to 1,153 schools with the participation of 2,265 teachers and 73,445 students. Many districts reported that net distributions through this channel were highly effective and easy to carry out. Accurate school registration lists made quantification easier, and the use of existing infrastructure, including school management committees and staff, helped make distributions effective. Educators were enthusiastic about the distributions and incorporating LLINs into the school's "Lessons for Life" curricula on malaria. Many described the small and colorful "Frequently Asked Questions" booklets and "Golden Rules" bookmarks as useful tools that prompted students to take messages about net use, care and repair to their families at home.

Some constraints included periodic teacher strikes that affected planning and scheduling, and difficulty transporting LLINs to schools due to limited resources in some districts. In districts that launched their pilot activities in July and August, school distributions had to be organized at the very end or even after school had been officially closed for the year. In these areas, community radio was extensively used to advise parents about the school distributions and to inform them about net pick-up dates.





## LESSONS LEARNED

### Continuous distribution assessment

The continuous distribution assessment and NetCALC analysis were cornerstones in the design of the pilot. The assessment facilitated input from the health, education and community development sectors at all levels. The results enabled partners to pilot a combination of push and pull distribution channels that no other country had tried before.

### Pull distributions

#### Community-based organizations (CBOs):

- CBO distribution was easily incorporated with other work being done by the *relais* such as home visits, immunization days and health talks. Certain groups may have been more successful than others because they were able to piggyback distribution work on to other health activities or had more *relais* in the field. In the future, the ability to safely store nets at the community level should be considered one of the criteria for CBO selection.
- CBOs with *relais* that had higher literacy rates had a better chance of accurately filling out coupons, following checklists and completing reports.
- Ways to increase numbers of *relais* or engaging similar agents such as community leaders as coupon distributors should also be considered.

#### All clients at health facilities:

- Making nets available to non-ANC patients at the highly subsidized price of 500 CFA was slower to take off than the other channels. Targeted operations research to explore the reasons should help the NMCP to better understand the dynamics of this channel and ways to improve it.
- More attention should be given to advising clients that nets are available at a subsidized cost when they go for services and how to obtain one.

### Push distributions

#### Schools:

- School-based distribution proved to be feasible. Data were easily compiled and shared with health facilities. The distribution brings a practical element to school lessons on malaria and generates new opportunities for reaching households with malaria messages through students.
- The main constraint faced was timing; every effort should be made to plan school distributions with local officials during the school year.

#### Pregnant women at health facilities:

- Free distribution of nets to pregnant women through ANC is a familiar activity for health providers in Senegal. It is a strategy that ensures that nets continue to be distributed to urban and rural households throughout the country.
- In the future, minimum thresholds for resupply of coupons should be enforced and providers should be oriented on how to improvise and document free ANC LLIN distribution in the event of a shortfall of coupons.
- Health providers should be encouraged to ensure that all ANC patients are sensitized about their eligibility for free nets, net use and care.

## CONCLUSIONS

The multichannel distribution pilot gave Senegal an opportunity to explore ways to ensure optimal and equitable LLIN access for households in two regions of the country. Plans are currently under way for scale-up nationwide. While each channel has definite advantages as well as limitations, collectively they offer broad and affordable access to nets. Together with a well-designed communication strategy to promote the new channels and reinforce regular LLIN use and appropriate care, Senegal's strong net culture will continue to grow and flourish.

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 Senegal National Malaria Control Program. Those interested in learning more about the information presented in this document should contact Konstantina Boutsika, RBM Working Group Secretariat ([konstantina.boutsika@unibas.ch](mailto:konstantina.boutsika@unibas.ch)) or Dr. Mady Ba, Coordinator, NMCP ([mady.ba@pnlp.sn](mailto:mady.ba@pnlp.sn)).

