



RESEARCH REPORT

Senegal Culture of Net Use

Phase Two Report

Johns Hopkins Bloomberg School of Public Health Center
for Communication Programs

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List of Abbreviations

BCC	Behavior Change Communication
CCP	Center for Communication Programs
CONU	Culture of Net Use
FGD	Focus Group Discussion
IDI	In-depth Interview
ITNs	Insecticide-treated nets
JHUCCP	Johns Hopkins University Center for Communication Programs
JHU	Johns Hopkins University
LLINs	Long-lasting insecticide-treated nets
M&E	Monitoring & Evaluation
MIS	Malaria Indicator Survey
PNLP	Programme National Lutte contre le Paludisme
USAID	United States Agency for International Development

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Introduction

Background & Methods

In August 2012, the second phase of the Culture of Net Use Study was fielded in Kolda, Fatick, Louga, Dakar, Kedougou, Ziguinchor, Thies and Saint Louis regions of Senegal during the rainy season. This two-phased study utilized multiple methods to collect data from extended family compounds in Senegal over two visits. Study methods include qualitative methods such as focus group discussions and in-depth interviews, as well as quantitative, sleeping space questionnaires specific to each sleeping space in the compound. The first visit was made in January 2012 to 24 compounds in the regions of Kolda, Fatick, Louga and Dakar. During this initial visit, in-depth interviews and small group interviews were held at the compound level. Research questions during the initial visit were general in nature and focused on the following areas of inquiry:

1. Barriers and motivators of net use
2. Allocation of nets within compounds and to extended families
3. How compounds value and care for nets
4. Misconceptions related to malaria, nets or net use

During the second phase of the study, results from the initial phase were used to target and refine the study questions. The study questions for the second phase, then, focused on the following emergent themes:

1. Perception of the insecticide in mosquito nets
2. User-determined end of net life
3. Net care and repair behaviors and motivations
4. Alternative uses of mosquito nets and motivations for repurposing

In addition to the four initial regions, the regions of Kedougou, Ziguinchor, Thies and Saint Louis were added to the sample. The eight regions had received nets through mass distributions at different times and have been color coded in the graphs throughout the report as follows:

Table 1: Timing of mass net distribution campaigns by study region

	Phase 1	Phase 3	Phase 4	Phase 5	Phase 6
Regions of Intervention	Kédougou Kolda	Fatick	Saint Louis	Louga Ziguinchor	Thies Dakar
Time period	May - Oct 2010	Apr – July 2011	Sep – Dec 2011	April – June 2012	Not yet completed

In the four old regions, two compounds were added to each region. In the new regions, six compounds per region were included in the sample. In each region, compounds were evenly divided between a rural and a peri-urban location. Compounds selected for participation in the study owned at least one net and respondents were at least eighteen years old. In addition, since the first phase of the study targeted compound heads, the second phase randomly selected another adult family member as a respondent.

In new regions, two focus group discussions per region were held with members of the community- one in the rural site and one in the peri-urban site. Additionally, these focus groups alternated by sex. For example, if the rural Ziguinchor FGD was conducted with males, the peri-urban Ziguinchor FGD would be conducted with females. The second phase of the study resulted in a total of 56 IDs and eight FGDs. In terms of the quantitative sleeping space questionnaires,

These data were coded in Atlas.ti by a team of four individuals from the NetWorks team. The team used a set of standardized definitions to apply the codes to the text data. The Atlas.ti files were then queried by theme and analyzed by the team.

In addition, quantitative data from every sleeping space in the sampled compounds. Sleeping space data was collected from a total of 556 sleeping spaces and were distributed in the following manner:

Table 2: Number of sleeping space questionnaires collected by region

Region	Urban	Rural	Total
Dakar	23	42	65
Fatick	43	27	70
Kolda	26	45	71
Louga	47	90	137
Kédougou	23	19	42
Saint Louis	44	33	77
Thiès	32	12	44
Ziguinchor	18	32	50
Total	256	300	556

These quantitative data were entered into a database and analyzed in STATA statistical software package.

Results

Net Use in Culture of Net Use Compounds

Results from the sleeping space questionnaires in the selected compounds indicated that the majority of the 556 total sleeping spaces had nets associated with them. Kedougou had the highest net coverage, with 95.2% of sleeping spaces with associated nets. Thiès, however, had the lowest net coverage, with only 36.4% of sleeping spaces with

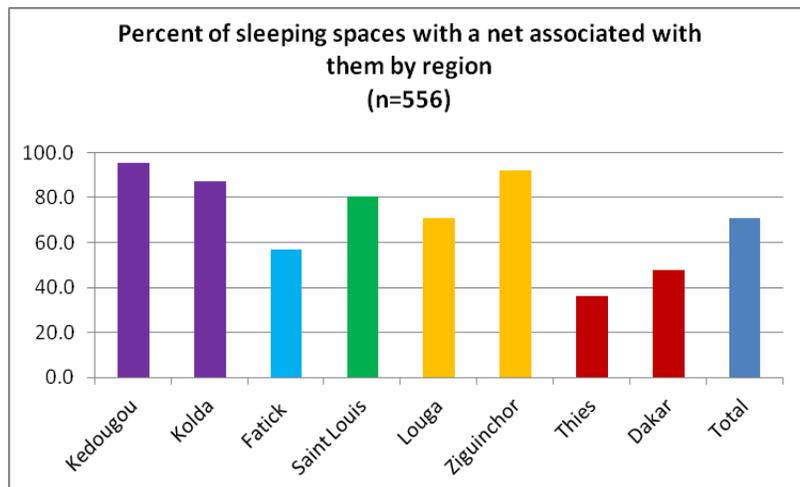


Figure 1. Regions are arranged left to right in chronological order of Universal coverage. Thiès and Dakar had not had UC.

associated nets. This is perhaps not surprising, since Thies had not yet benefitted from a universal coverage net distribution at the time of this data collection.

Data collectors were also asked to observe whether nets were hanging above the sleeping spaces at the time of the study. Of the 394 sleeping spaces with associated nets, the majority of sleeping spaces had a net hanging at the

time of the study. This was most common in Kolda, with 95.2% of sleeping spaces with an associated net having the net hanging and least common in Saint Louis, with only 38.7% of spaces with hanging nets.

In all regions except for Dakar, over 80 percent of sleeping spaces with an associated net reported that the net was used during the night before the survey. Kolda reported the highest net use during the previous night, with 95.2% of sleeping spaces with nets using

them. The sleeping space data results portray a context of relatively high net coverage and high net use among net owners.

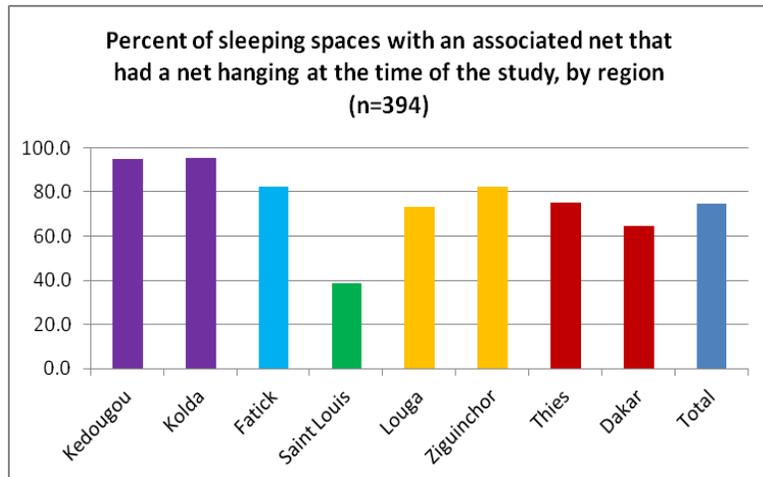


Figure 2. Regions are arranged left to right in chronological order of Universal coverage. Thies and Dakar had not had UC.

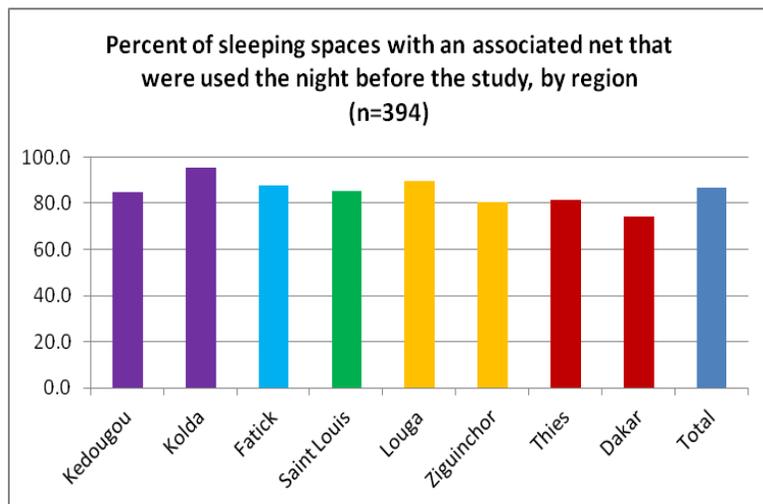


Figure 3. Regions are arranged left to right in chronological order of Universal coverage. Thies and Dakar had not had UC.

Barriers to Net Use in Senegal

While mosquito net use is quite high throughout Senegal, there are still members of the population who are hesitant to use them. Either through hearing rumors of the net's discomfort or a previous bad experience with a net, a variety of factors may create barriers to net use. They are discussed in more detail below and examples are provided of respondent's concerns around these different barriers.

Shape

While personal preference was definitely cited in terms of net shape, no respondents cited a net's shape as a barrier to using the net. Amongst the respondents preferences for either a conical or rectangular net, reasons such as ease of hanging, the amount of space the net takes up in the room, and uncertainty about the quality of their non-preferred net, arose to support their preferences.

Access

Access is the most important barrier to net use, and can include financial challenges in procuring a net, geographical challenges, problems during distributions, and stock outs. While access as a barrier to net use was not a prominent theme throughout the interviews, there was a salient difference between regions that had benefited from the mass campaign and those that had not: respondents from Saint Louis reported that there were no longer problems in accessing nets; however, residents from Thies stated that nets were inaccessible and difficult to acquire unless you were a pregnant woman attending antenatal care visits at the hospital. Thies respondents also stated that if they knew where nets were available, they would purchase them. Additionally, while financial limitations were inherent throughout the country, in both rural and urban locations, few respondents directly stated that lack of money was a reason for not owning and using a net.

Heat

Existing literature demonstrates that heat is a major barrier to net use, especially in tropical countries with already high temperatures. However, in the case of the Senegal CONU study, heat was rarely cited during interviews as a nuisance and only one respondent in Dakar stated that at times, they prefer mosquito bites to the heat caused by the mosquito nets. Another barrier potentially related to heat is the feeling of suffocation. A few respondents cited this suffocating feeling, either as something they had experienced or something they heard others talking about; only one respondent from Ziguinchor stated that no one in their compound slept with a mosquito net because of this suffocating feeling. Feelings of suffocation were also associated with the insecticide.

Insecticide

Since data collection during phase one found a high percentage of respondents citing insecticide as a barrier to use, additional questions were added to the phase two module. However, the data collected during phase two showed that insecticide was more of a nuisance than a significant barrier. There were certainly respondents who said that they refused to sleep under an impregnated net, due to the fact that they had tried and woke up in the morning either feeling suffocated or having a burning sensation and/or bumps on their skin (as a result from skin contact with the net). The most common nuisance cited was the fact that people felt suffocated when using the net, often due to the insecticide. Other issues, including heat from the insecticide and the idea that the insecticide is dangerous to one's health came up as well. As mentioned, while some respondents decided to forego sleeping under a net, others washed their net multiple times with a powder detergent (Omo) and/or bleach to help reduce or remove the insecticide before using the net again. These nuisances were found nationwide; no trends were found on a regional basis.

Other methods of malaria prevention

This research sought to understand other methods of malaria prevention and whether the use of these methods discourages people from using nets. Other methods of malaria prevention included spirals and/or sprays and traditional medicine. During the IDIs, respondents were shown an older net that had many holes and were asked what they thought about the net and what they would do if this was their net. A man from Dakar stated that instead of using this torn net, he would rather buy a new net or look for cheaper prevention methods, such as spirals and sprays. He believed that the torn net no longer served a purpose in protecting him from mosquito bites.

Respondents were also asked about their use of traditional medicine for malaria prevention. The majority of respondents stated that traditional methods were acceptable as both preventive and curative methods. However, they also stated that a net was still helpful and sometimes necessary to prevent malaria. This indicates that traditional means of malaria prevention are unlikely to be used in

place of a net. Finally, a few respondents stated that they used anti-mosquito creams, fans or had hung impregnated curtains in their homes, and therefore didn't see the need to use mosquito nets.

Other barriers to mosquito net use

Other reported barriers to net use include: seasonality, being unaccustomed to using nets and outdoor sleeping habits. While some respondents cited sleeping with their net all year round, others stated that on average, they use their nets between five and seven months of the year, surrounding the rainy season. These respondents perceived a lower mosquito density in the dry season or were also worried that the dust would dirty their nets. For these reasons, some respondents chose to store them until the following rainy season. Another possible barrier is that respondents stated that they were unaccustomed to using nets; for a variety of reasons, these respondents had never slept under a net and were not currently using them. Some respondents stated that though a net hung above their bed, they didn't pull them down at night to cover themselves. Finally, outdoor sitting/sleeping was sometimes cited as a barrier to using a net: respondents stated that they sit and/or sleep outdoors when the mosquitoes start biting and don't immediately cover themselves with a net. These other barriers were cited in less than ten percent of the interviews. Among the other barriers mentioned, seasonality of net use due to low mosquito density stood out as the most commonly mentioned barrier.

Perceptions of Insecticide

Results from the phase one data collection showed that concerns about the insecticide may serve as a barrier to net use. During phase two, the study included additional questions specifically about insecticide and trained the data collectors to probe more about perceptions of insecticide, which showed that it is more a nuisance than a barrier. Specific questions were asked about the positive and negative aspects of insecticide in treated nets.

Positive Perceptions of Insecticide:

Respondents who discussed insecticide in a positive manner all suggested that the insecticide protected them from mosquitoes and from malaria. Generally, the insecticide was thought to chase the mosquitoes away. Additionally, the insecticide killed both the mosquitoes and other insects such as fleas, cockroaches and flies, and led to a better night's sleep since the need to fan oneself or worry about these nuisances greatly decreased. While some respondents were aware that the insecticide could be toxic, they seemed to have a better understanding of the proper care methods when first receiving a net and the need to air it out in the shade for several days. The respondents who favored the use of insecticide on nets appeared to be more aware of the health and malaria prevention benefits of the product than those who perceived it negatively.

Negative Perceptions of Insecticide:

Overall, the negative perceptions of insecticide have mostly been mentioned, especially in the section above where insecticide is discussed as a barrier to net use. Suffocation/difficulties breathing and skin problems represented the majority of the complaints. However, in addition to these concerns, health consequences in general and reports of a bad odor were also major themes. Respondents in general said that they didn't know exactly what the insecticide was, but knew that it probably wasn't good for their health, despite it being an efficient mode of killing mosquitoes. Of specific concern were children, who have weaker immune systems than their adult counterparts. Additionally, one FGD in Ziguinchor included a heated discussion between one participant and the data collector about the product, causing health problems. This respondent asked: is it better to use the mosquito net even if it will give you health problems such as a cold, headaches, etc. Despite these perceptions, the data shows that most respondents are still using nets.

User-determined End of Net Life

In order to understand how respondents use and view their nets, it was essential to understand how users decided that they were no longer useful for protection against malaria. Respondents named a range of criteria to determine that a net was no longer useful to them. Several respondents said that the observed physical condition of the net was important for deciding whether it was still useful for sleeping under. Other respondents stated that a net with numerous small holes or a net with a few large holes would no longer be useful to them. Still other participants noted that the net was no longer useful when they did not sleep comfortably under it or when they sensed the presence of mosquitoes under the net with them. Less frequently mentioned was that nets need to be changed after a certain amount of time, with less emphasis on the condition or utility of the net. Participants described needing to change the net after one year, one and a half years, three years and five years, regardless of the net's physical condition or perceived protectiveness. Finally, a few respondents mentioned that net distributions provided them with the appropriate timing for replacing their nets. One respondent felt that the timing of net distributions reflected the community's need for new nets. Therefore, when there is a distribution, the respondent thought that this was the appropriate time to get rid of one's net. Some respondents indicated that they would like to receive more guidance from the net distributions on how long an LLIN should last.

In a hypothetical scenario, respondents were shown an old, very torn net and asked to reflect on the net and what they would do if it belonged to them. The majority of respondents stated that if they had the means, they would prefer to get a new net rather than continue using the old, torn net. Some participants noted that nets were now more available in the community and more affordable. Several participants reacted negatively to the torn net and some even indicated that it would be preferable to use coils or another means of malaria prevention. The minority of respondents indicated that they would continue to use the old, torn net until a new one became available. Most often, repairing the net was seen as a temporary, interim solution until another net could be accessed.

In order to understand net-related decision-making in the context of excess nets, respondents were provided with a second hypothetical scenario. They were told to imagine that they had a net that was about one year old and had only a few small holes and that they had also received a new net. They were asked about what they would do if they were in this situation. Most often, the respondents stated that they would use the new net, because the new net was more effective, and that they would save the older net until the "new" net became torn, or that they would give the older net to a neighbor or a family member to use. In Louga, however, most respondents said that they would continue to use their older nets until these nets were beyond repair. At that point, the respondents from Louga suggested that they would use the new nets.

Alternative Uses of Nets and Motivations for Repurposing Nets

Study participants were asked to describe alternative uses for nets and when alternative uses might be acceptable. Respondents reported that they had heard of the following alternative uses for mosquito nets in their communities:

- Curtains
- Covering meat at the butchery
- Protecting livestock
- Covering plants to protect them from birds, pigs, toads and rodents
- Preparing couscous

- Watching TV at night (Saint Louis)
- Filtering water or coffee
- Covering food
- Covering tombs
- Use as a bed cover for protection against fleas
- Use as a piece of cloth for washing one's body

Respondents in Dakar, Thies and Kedougou did not describe alternative uses of nets and claimed not to be aware of any. In most cases, respondents indicated that it was appropriate to repurpose old nets once they were beyond the point of repair.

Net Care & Repair

Net care motivations

Many respondents said that it is important to take care of a net because it is the net that protects them from sickness and from nuisance biting. Respondents cited health benefits, cost savings from averting illness, and sleeping well at night as benefits that resulted from a well-cared for or intact net. Protection from malaria was the most commonly cited reason for caring for one's net. A few respondents noted that while they had recently received a net in a distribution, it was unclear when they would receive nets again and therefore they had to care for the ones that they had.

Dimensions of net care

Participants were asked to describe how they took care of their nets. In addition to washing and repairing nets, respondents mentioned hanging and storing nets properly, retreating nets with insecticide, avoiding sharp objects and seasonal non-use of nets.

Net storage

Hanging and storing nets properly was the most commonly cited way to care for a net. Respondents in all regions mentioned that nets should be tied up when not in use, or even removed and stored in a bag or an armoire. Children were mentioned as a major source of net damage and storing the nets away was said to keep the children from playing with or pulling on the nets. Respondents said that nets should be put down only for sleeping and then tied up or folded immediately upon waking. Participants with conical nets often discussed tying the nets up into a knot while those with rectangular nets mentioned taking them down or leaving them hanging and folding up their corners.

Net washing

Many respondents discussed washing their nets but ideas of "proper" washing varied greatly. Most respondents mentioned that net should be washed "when they become dirty." The dirt was often said to be a result of dust and was even thought by some to be unsafe for their families. Some respondents said that having a dirty net could transmit disease itself. Others mentioned that dirt could make the nets fragile. These respondents therefore felt that nets should be washed very frequently. However, other respondents expressed concern for the well being of the net due to repeated washings. These respondents indicated that nets should not be washed frequently in order to preserve the insecticide and/or the physical integrity of the net. Most respondents mentioned net washing frequencies in between these two extremes. Many respondents mentioned that they washed their nets with Omo, a detergent, and fewer mentioned the use of soap and bleach.

In the sleeping space questionnaire, respondents were asked to report on how frequently they washed the net associated with the sleeping space. One third of respondents (35.9%) mentioned that they never washed their nets. The majority of nets in Ziguinchor (73.9%), Louga (67.0%) and Dakar (58.1%) were reported to have never been washed.

However, many respondents also stated that they washed their nets weekly, monthly, or five to six times per year. All of these responses are in excess of the recommended 3-4 washes per year¹. Nets appeared to be most frequently washed in Saint Louis, with 41.9% of respondents indicating that they washed their nets weekly and 38.7% of respondents reporting that they did so monthly. Nets were also washed frequently in Kedougou and Kolda.

Table 3: Frequency of net washing by region

	Dakar	Fatick	Kolda	Louga	Kédougou	Saint Louis	Thiès	Ziguinchor	Total
Never	58.1	12.5	16.4	67.0	7.5	3.2	25.0	73.9	35.9
Once per week	0.0	0.0	16.4	2.1	25.0	41.9	6.3	2.2	12.7
Once per month	0.0	17.5	19.7	11.3	22.5	38.7	25.0	4.4	17.6
1-2 times per year	9.7	32.5	23.0	6.2	20.0	1.6	0.0	13.0	13.0
3-4 times per year	9.7	10.0	6.6	0.0	15.0	1.6	37.5	2.2	6.4
5-6 times per year	0.0	10.0	14.8	2.1	2.5	4.8	0.0	2.2	5.1
Other	22.6	17.5	3.3	11.3	7.5	8.1	6.3	2.2	9.4
N=	31	40	61	97	40	62	16	46	393

In terms of drying practices, many respondents said that they normally dry their nets in the sun. Some even mentioned that by drying nets in the sun, they could eliminate any insects that were living in them. However, other respondents were adamant that nets should be dried in the shade and that this was important for their effectiveness.

Results from the sleeping space questionnaires complemented the qualitative findings. According to the questionnaires, of those nets that had ever been washed (n=252), the majority (70.2%) were dried in the sun. In Saint Louis and Thies, nets were nearly always dried in the sun. The results also show some people in the regions studied were drying nets in the shade. Drying nets in the shade was common in Dakar and Kolda.

¹ WHO does not recommend any number of washes per year, but if nets are expected to last for 20 washes, and up to five years, 3-4 washes per year is a rough recommendation used by program planners for BCC activities.

Table 4: Net drying habits by region

	Dakar	Fatick	Kolda	Louga	Kédougou	Saint Louis	Thiès	Ziguinchor	Total
In the sun	46.2	62.9	41.2	59.4	81.1	96.7	100.0	75.0	70.2
In the shade	53.9	37.1	58.8	28.1	16.2	1.7	0.0	25.0	27.4
Inside the room	0.0	0.0	0.0	6.3	2.7	0.0	0.0	0.0	1.2
Other	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.8
Don't know	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.4
N=	13	35	51	32	37	60	12	12	252

Net retreatment

A minority of participants mentioned net retreatment as a critical component of net care. Respondents mentioned that they could take the net to the “service d’hygiene” or health facility for re-impregnation. Some reported that they no longer could find supplies for retreatment themselves.

Avoidance of sharp objects

Many people in the sample discussed the importance of careful handling and hanging of nets and the importance of avoiding sharp objects. Nails and bamboo beds were the primary objects that were said to damage nets.

Seasonal nonuse of nets

Some respondents mentioned that in order to take good care of their nets, they used them only in the rainy season when mosquito presence was high. In doing so, they felt that they were preserving their nets for when they were needed most. Some of the respondents described putting nets away into bags to save them for the rainy season. In this case, perceived net care was, in fact, a barrier to consistent, year-round net use.

Person responsible for net care

The two most common responses for who cared for nets in a given family or compound were either the wife or that everyone cared for their own nets. Women were typically tasked with washing nets while each family member tended to be responsible for handling and storing their own nets. Respondents distinguished between having adults and children care for nets and indicated that it was most appropriate for adults to do so since children might tear the nets when acting in haste.

Perceptions of those who do not care for nets

Respondents were asked why some people might not care for their nets and typically attributed this to negligence, laziness or ignorance. They felt that these people did not value nets and were therefore putting themselves and their families at risk.

Net Repair

Many respondents reported that they preferred to get new nets instead of repairing their existing nets. Net repair was often seen as a component of net care rather than a separate activity. Qualitative results showed that repairs were made by sewing holes shut with a needle and thread; some respondents mentioned tying knots to close holes. The overall crude repair rate for all nets according to sleeping

space questionnaire data, irrespective of presence of holes, was 26.3%. Of the 100 nets with evidence of repair, 62% were repaired by tying knots, 36% were repaired by a needle and thread and two percent were repaired by other means. These results show that while respondents thought about repair in terms of needle and thread, it was more often done by tying knots.

Net transformation

This study was also designed to collect information on adaptive behaviors, or alterations to nets. These transformations were most often changing net shape but also included the addition of borders, attachment of poles, and other modifications. Changing shape from rectangular to conical, either with the addition of a metal circular object or by tying a knot was most common, followed by the transformation of a conical net to a rectangular one. Net transformation and adaptation

behaviors were variable by region. In most regions, the majority of nets were not modified. However in certain regions, transformation was more common. In Fatick, for example, 51.3% of nets were transformed or modified. In Thies, net transformation was also rather common, with 37.5% of nets having been altered.

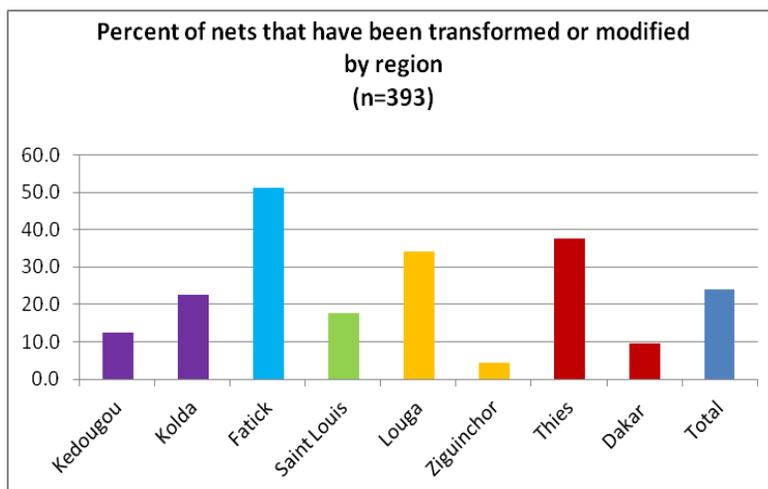


Figure 4. Regions are arranged left to right in chronological order of universal coverage. Thies and Dakar had not yet received the net distribution.

Discussion

Communication implications

While the NMCP, in coordination with NetWorks and other organizations, is already creating and airing behavior change communication messaging around correct and consistent net use, the CONU study goes further to investigate the culture of net use in Senegal and can add more details to these messages. The key messages that should be included in the larger messaging strategy are:

- Improved care and repair practices:
 - Over-washing was common among respondents. Messages should remind people that the more nets are washed, the less powerful the insecticide is and therefore the less protected they are, and that nets will wear out more quickly each time they are washed. Additionally, messages should remind people to wash only with bar soap, not with detergent or bleach.
 - Net retreatment: mosquito nets recently distributed in the mass campaign, and those now available at health facilities, are long lasting and do not need to be retreated.
- Effective life of an LLIN: since respondents gave a variety of answers on how long nets lasted, and also asked for more guidance on their lifespan, messages should provide guidance on this and promote net care and repair to make nets last as long as possible.
- Removal of barriers to net use:

- Transformation of nets: if campaign nets are not the preferred shape for some compounds, increase the existing messaging about net transformation and how to transform a rectangular net into a conical one, or make them longer.
- LLIN as the most effective prevention method: while other methods, including coils and sprays, were mentioned as other prevention methods, the message that LLINs are the most effective and long lasting method should be reinforced.
- Insecticide:
 - Special attention needs to be made to reinforce airing out one's net immediately upon receiving it. The majority of concerns and complaints about the insecticide focused on the feeling of suffocation and/or skin irritations and burns. The proper removal of the LLIN from its packaging and airing for three days can greatly reduce these complaints and encourage more people to use nets every night.

Study limitations

The Culture of Net Use study is a qualitative study and therefore does not have the power of a large sample size to make causal inferences. Instead, the study provides insights into the perceptions and behaviors of individuals in compounds in eight regions of Senegal and includes quantitative data on sleeping spaces within the compound. While the regions and compounds were sampled purposively to maximize the diversity of the sample and gain insight into many views and behaviors, it is unlikely that the perspectives captured will encompass all ideas of net use. Those sampled may also not be representative of others like them in the same regions. However, the results presented in this topline report are the real perspectives of those who own nets in Senegal and should be understood as such.

Conclusion

Phase two results from the Senegal Culture of Net Use study showed high levels of net coverage and net use in the selected compounds. This can be attributed, in part, to the success of the mass net distribution campaigns led by the NMCP in partnership with USAID and the NetWorks project. Respondents themselves demonstrated their dedication to using the nets, and the development of a true culture of net use. It is this culture that will encourage the sustained use of nets and even encourage people to seek out or purchase nets following the era of mass campaigns.

Of those who reported not using nets, the most common reasons were lack of access to nets, side effects of the insecticide, such as skin irritation, and a general feeling of suffocation. Some respondents cited this suffocation as a result of the insecticide; others mentioned it in reference to the heat inside a mosquito net. Increased attention, either through communication channels and/or through the healthcare providers who are distributing the nets, regarding the best practice for care of and airing out of a new mosquito net can help to eliminate the barriers caused by the insecticide and hopefully the suffocating feeling. Additionally, since LLINs should be available at all health facilities throughout Senegal, and potentially through other channels such as community-based distribution, access issues will likely decrease.

Respondents generally indicated that they took care of their nets, but also provided conflicting understandings of what that meant. While some said that nets should be washed often to keep dirt from degrading them, others indicated that the nets should never be washed in order to preserve insecticide. Since people are interested in caring for nets but seem unsure of how best to do this, basic information on care and repair of nets should be provided during the distributions.

Finally, this study provided insights into user-determined end of net life and net repurposing decisions. Respondents reflected theoretically on when a net would no longer be useful and on when it might be appropriate to repurpose a net. However, it would also be useful for future studies to observe these behaviors and decisions prospectively over time. Findings from this report should be used to address on-the-ground challenges and strengthen malaria programming in Senegal.