



# **Guidelines on the Distribution and Utilization of Long-Lasting Insecticide-Treated Nets (ITNs) for Malaria Prevention**

**2022–2024**

**NATIONAL MALARIA ELIMINATION PROGRAMME**

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## Foreword

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The Zambia National Malaria Elimination Programme (NMEP) relies on the widespread distribution and utilization of long-lasting insecticide-treated nets (LLINs) as part of an integrated vector control approach which also includes indoor residual spraying (IRS), larval source management (LSM), and entomologic surveillance. In an effort to increase vector control access and deploy limited resources more strategically to increase impact, the National Malaria Elimination Strategic Plan (NMESP 2022–2026) designates LLINs as the primary vector control intervention. For this reason, these guidelines are dedicated to LLINs in line with the national strategy.

The advantages of LLINs include improved personal protection because mosquitoes are repelled or killed by the insecticide before they can access the person sleeping under the LLINs. This reduces the risk of malaria and community exposure to mosquitoes where whole communities are using treated nets, as the number of mosquitoes and the proportion infected with malaria parasites are reduced (mass effect). In this situation, even people sleeping without an LLIN are less likely to get malaria because there are fewer malaria-transmitting mosquitoes in the area.

The purpose of these guidelines is to provide a coordinated, quality-assured, and standardized mode of implementing the LLIN programme. These guidelines serve as a framework for managing implementation of LLINs for malaria elimination in Zambia through a broad range of partnerships, in line with the vision of equity of access to quality-assured, cost-effective, and sustainable malaria prevention and control services as close to the family as possible.

The insecticides for use on all LLINs shall be WHO-approved in line with guidance from *WHO-Prequalification of Medical Products (2022)*. Currently, the pyrethroid class of insecticides with piperonyl butoxide (PBO) synergist is recommended. However, other types of nets, including the dual nets, shall be considered as and when they become available and are recommended by *WHO-Prequalification of Medical Products (2022)*.

The distribution of LLINs in Zambia shall be through multiple channels, including:

- Periodic mass distribution campaigns targeting all individuals in targeted areas
- Routine distribution channels, including antenatal care (ANC) and Expanded Programme for Immunization (EPI) distribution targeting pregnant women and infants under 1 year old
- School-based distributions targeting primary school children
- Community-based distributions by community health workers targeting all community members
- Equitable distribution of LLINs to vulnerable groups, which include people living with HIV/AIDS, the chronically ill, refugees, etc.
- Commercial markets for LLINs, which should continue to be developed to provide wider access for consumers who wish to protect themselves



Health promotion will be integrated in LLINs distribution in order to promote advocacy and social and behaviour change (SBC) to increase access, correct use, care, and repair of LLINs. Advocacy activities shall be conducted at all levels of implementation before, during, and after LLINs distribution and will include the following:

- Engaging policy and decision-makers to lobby/mobilize resources for LLINs procurement
- Engaging policy-makers and influential leaders to solicit their support towards increased utilization of LLINs
- Halting misuse and reinforcing regulations
- Conducting media launches of mass LLINs distribution at various levels by senior government officials
- Engaging public and private sector (retailers, wholesalers, transporters) and other institutions to increase their knowledge and adherence to national guidelines
- Engaging the private sector, hospitality industry, and other institutions to procure LLINs according to national guidelines for use by their clients.

To ensure compliance to distribution guidelines, monitoring of activities shall be undertaken at central, provincial, and district levels. This will help the programme ensure that implementation of LLINs is on track while providing a platform to validate the data reported in the routine systems (HMIS) and Malaria Rapid Reporting System (MRRS).

Zambia can expand LLIN access along with utilization through strong partnerships with the public and private sector, civil society organizations, and most importantly, the community.

To support this combined effort, the revisions made in the ***guidelines on the distribution and use of LLINs for malaria prevention in Zambia*** reflect the policy direction which will facilitate a more effective and efficient national partnership to bring this life-saving and cost-effective intervention to more families throughout Zambia.

A handwritten signature in black ink, appearing to read 'Lackson Kasonka'.

Professor Lackson Kasonka  
Permanent Secretary-Technical Services  
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## Acknowledgements

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Finally, I would like to thank the editing team.

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## Acronyms

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|        |   |
|--------|---|
| AI     | Active Ingredient   |
| ANC    | Antenatal Care  |
| CBV    | Community-Based Volunteer                                 |
| CD     | Continuous Distribution                                   |
| CHAZ   | Churches Health Association of Zambia                     |
| CHW    | Community Health Workers                                  |
| DHIO   | District Health Information Officer                       |
| DHO    | District Health Office                                    |
| ZDHS   | Zambia Demographic and Health Survey                      |
| EHT    | Environmental Health Technologist                         |
| EMIS   | Education Management Information System                   |
| EMLIP  | Essential Medicines and Medical Supplies Logistics System |
| EPI    | Expanded Programme for Immunization                       |
| GFATM  | Global Fund to Fight AIDS, Tuberculosis and Malaria       |
| HF     | Health Facilities   |
| HFCA   | Health Facility Catchment Area                            |
| HH     | Household   |
| HMIS   | Health Management Information System                      |
| IEC    | Information, Education, and Communication                 |
| IRS    | Indoor Residual Spraying                                  |
| ITN    | Insecticide-Treated Nets                                  |
| KPI    | Key Performance Indicators                                |
| LLIN   | Long-Lasting Insecticide-Treated Nets                     |
| LSM    | Larval Source Management                                  |
| MACEPA | Malaria Control and Elimination Partnership in Africa     |
| MIS    | Malaria Indicator Survey                                  |
| MRRS   | Malaria Rapid Reporting System                            |
| NCH    | Net Coupon Holder   |
| NGOs   | Non-Governmental Organizations                            |





|        |  |
|--------|--|
| NHC    | Net Coupon Holder                                  |
| NMEC   | National Malaria Elimination Centre                |
| NMEP   | National Malaria Elimination Programme             |
| PAMO   | Programme for the Advancement of Malaria Outcomes  |
| PBO    | Piperonyl Butoxide                                 |
| PHD    | Provincial Health Director                         |
| PHO    | Provincial Health Office                           |
| PMI    | President's Malaria Initiative                     |
| SBC    | Social and Behaviour Change                        |
| SBD    | School-Based Distribution                          |
| SHN    | School Health and Nutrition                        |
| SNDP   | Sixth National Development Plan                    |
| TCLs   | Trusted Community Leaders                          |
| TWG    | Technical Working Group                            |
| UNICEF | United Nations Children Fund                       |
| USAID  | United States Agency for International Development |
| VAT    | Value-Added Tax                                    |
| WHO    | World Health Organization                          |
| ZAMMSA | Zambia Medicines and Medical Supplies Agency       |
| ZAMRA  | Zambia Medicines Regulatory Authority              |
| ZEMA   | Zambia Environmental Management Agency             |
| ZPPA   | Zambia Public Procurement Authority                |



## Glossary

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The definitions given in this section have been derived from the *World Health Organization (WHO) Guidelines for Malaria (WHO 2021)*.

|                            |   |
|----------------------------|---|
| <b>Active ingredient</b>   | The toxic or poisonous part of the insecticide. It is the most important part of a formulation as it determines the other ingredients. Relevant properties of active ingredients include its melting or boiling point, water solubility, and stability.   |
| <b>Advocacy for health</b> | A combination of individual and social actions designed to gain political commitment, policy support, social acceptance, and systems support for a particular health goal or programme.   |
| <b>Behaviour change</b>    | This refers to efforts put in place to change people's personal habits and attitudes to prevent disease or calamities. The five stages of change are pre-contemplation, contemplation, preparation, action, and maintenance.  |
| <b>Community</b>           | A specific group of people, often living in a defined geographical area, who share a common culture, values, and norms, are arranged in a social structure according to relationships which the community has developed over a period of time. Members of a community gain their personal and social identity by sharing common beliefs, values, and norms, which have been developed by the community in the past and may be modified in future. They exhibit some awareness of their identity as a group and share common needs and a commitment to meeting them. |
| <b>Coverage</b>            | A general term referring to the fraction of the population of a specific area that receives a particular intervention.  |
| <b>Coverage, optimal</b>   | Optimal coverage is the outcome of an explicit prioritization process guiding resource allocation decisions. The process combines the analysis of impact and value for money with extensive stakeholder engagement and discussion that explicitly outlines the trade-offs involved in the selection of interventions and combining them in an intervention package. The process should consider a country's programmatic goals and context-specific factors and should consider equity implications of the resource allocation decisions.                           |
| <b>Coverage, universal</b> | Access to and use of appropriate interventions by the entire population at risk of malaria.   |
| <b>Disease prevention</b>  | Disease prevention covers measures not only to prevent the occurrence of disease, such as a risk factor reduction, but also to arrest its progress and reduce its consequences once established (WHO).  |



|                                      |   |
|--------------------------------------|---|
| <b>Evaluation</b>                    | A systematic method for collecting, analysing, and using data to examine the effectiveness and efficiency of programmes and, as importantly, to contribute to continuous programme improvement.   |
| <b>Health promotion</b>              | Health promotion is the process of enabling people to increase control over and to improve their health. Other descriptions include health education, health communication, and social mobilization.  |
| <b>Household</b>                     | The ecosystem, including people and animals occupying the same house and the accompanying vectors.  |
| <b>Indoor residual spraying</b>      | Operational procedure and strategy for malaria vector control involving spraying interior surfaces of dwellings with a residual insecticide to kill or repel endophilic mosquitoes.   |
| <b>Insecticide</b>                   | Chemical product (natural or synthetic) that kills insects. Ovicides kill eggs; larvicides kill larvae; pupacides kill pupae; adulticides kill adult mosquitoes. Residual insecticides remain active for an extended period.  |
| <b>Insecticide resistance</b>        | Property of mosquitoes to survive exposure to a standard dose of insecticide; may be the result of physiological or behavioural adaptation.   |
| <b>Integrated vector management</b>  | Rational decision-making for optimal use of resources for vector control.   |
| <b>Long-lasting insecticidal net</b> | A factory-treated mosquito net made of material into which insecticide is incorporated or bound around the fibres. The net must retain its effective biological activity for at least 20 WHO standard washes under laboratory conditions and 3 years of recommended use under field conditions. |
| <b>Malaria elimination</b>           | Interruption of local transmission (reduction to zero incidence of indigenous cases) of a specified malaria parasite in a defined geographical area as a result of deliberate activities. Continued measures to prevent re-establishment of transmission are required.                          |
| <b>Monitoring</b>                    | Means collecting, tracking and analysing data to determine what is happening, where, and to whom.   |
| <b>Prequalification</b>              | Process to ensure that health products are safe, appropriate, and meet stringent quality standards for international procurement.   |
| <b>Risk behaviour</b>                | Specific forms of behaviour which are proven to be associated with increased susceptibility to a specific disease or ill health.  |
| <b>Synergist</b>                     | A substance that does not itself have insecticidal properties but that, when mixed and applied with insecticides of a particular class, considerably enhances their potency by inhibiting an enzyme that normally acts to detoxify the insecticide in the insect system.                        |
| <b>Vector control</b>                | Measures of any kind against malaria-transmitting mosquitoes; intended to limit their ability to transmit the disease.  |



## 1.0. Introduction

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The Zambia National Malaria Elimination Programme (NMEP) relies on the widespread distribution and utilization of long-lasting insecticide-treated nets (LLINs) as a core vector control intervention. LLINs offer barrier protection and kill the common *Anopheles* vectors that transmit malaria. LLINs have been the backbone of malaria prevention in Zambia for several decades. In an effort to increase vector control access and deploy limited resources more strategically to increase impact, the National Malaria Elimination Strategic Plan (NMESP 2022–2026) designates LLINs as the primary vector control intervention. This will be complemented by the other strategic interventions under vector control, namely: indoor residual spraying (IRS), larval source management (LSM), and entomologic surveillance.

The World Health Organization (WHO) has defined the key elements of malaria control as:

1. Early diagnosis and treatment
2. Prevention through vector control
3. Early detection, containment, and prevention of epidemics
4. Strengthening national capacity for malaria research, monitoring, and evaluation
5. Social and behaviour change (SBC)

LLINs are a cost-effective vector control intervention. However, like any other intervention, LLINs need to be part of a broader malaria control and elimination strategy. LLINs have greater advantages over untreated mosquito nets due to the repellent effect of the insecticide. For this reason, these guidelines are dedicated to the deployment of LLINs in line with the national strategy. The advantages of LLINs include:

- Improved personal protection because mosquitoes are repelled or killed by the insecticide before they can have access to the person sleeping under the LLINs. This reduces the risk of malaria transmission.
- Reduced community exposure to mosquitoes when all households and household members have access to and are using treated nets, as the number of mosquitoes and the proportion infected with malaria parasites are reduced (mass effect). In this situation, even people sleeping without an LLIN are less likely to be infected with malaria, thereby reducing the risk of malaria because there are fewer malaria-transmitting mosquitoes in the area.

Zambia uses a mix of LLIN delivery mechanisms to target different geographic, economic, and biologically vulnerable segments of our society. The WHO recommends that countries strive for universal coverage using a combination of mass distribution complemented by continuous distribution channels, including:

- Routine health services for immunization and antenatal care (ANC) that target the most biologically vulnerable groups: children under 5 and pregnant women



- Schools targeting attending children
- Community-based structures and community health workers (CHW) targeting all households or only specific households with a primary target group (e.g., children 5–15 years of age)
- Other channels such as social marketing, private sector sales, etc.

WHO recommends that having multiple delivery channels can aid in sustaining high LLIN coverage, ensuring people at risk have access to nets when and where they need them, particularly in periods between mass distributions where these are the primary channel for scaling up LLIN access. Both mass and continuous distributions of LLINs at no cost to recipient households improve access in communities. In addition, the commercial sector complements public sector distribution channels in conformity with national guidelines on distribution of LLINs.

Expansion of continuous distribution channels for LLIN has been severely hampered by supply chain management problems, from the initial procurement to the final point of distribution. These systems need to be strengthened to make the most timely and efficient use of resources and ensure the channels achieve the goal of sustained LLIN access. Additionally, the country has recently experienced widespread pyrethroid resistance, and to address this challenge, new vector control innovations, such as the use of pyrethroid plus synergist piperonyl butoxide (PBO) LLINs, have been adopted. The addition of PBO is intended to enhance the killing effect of pyrethroids, particularly in mosquito populations that exhibit metabolic resistance. Other dual active ingredient nets to combat resistance (which are already being evaluated globally) may also be introduced as part of the national strategy in the future based on the insecticide resistance profile in the different provinces.

Segmenting the market and making LLINs available on an equitable and sustainable basis depends on close collaboration among all partners, which in turn is based upon a strong coordination structure, strategy, and monitoring and information management system. Balancing the targeting of different distribution channels and strategies requires a framework and guidelines for planning, implementation, and monitoring to ensure partners align their efforts in support of the NMEP's National Strategic Plan and vector control priorities.

## **1.1. Purpose of the Guidelines**

These guidelines aim to:

1. Provide a coordinated, quality-assured, and standardized mode of implementing the LLIN distribution programme through all channels.
2. Promote correct and consistent use, care, and maintenance of LLINs in the country.
3. Provide a framework for LLINs programming and implementation.
4. Articulate issues related to LLIN specifications, quantification, procurement and logistics, taxes and tariffs, distribution channels, health promotion, and monitoring and evaluation.



## **1.2. Target Audience**

The target audience includes implementers of the malaria programme at all levels of service delivery (central, provincial, district, health facility, and community), partners, decision-makers and policy-makers.

## **1.3. Review of the Guidelines**

The guidelines are reviewed periodically at least every 3 years to incorporate innovations, new technology, additional evidence on insecticide resistance, and best practices reported at local, national, and global levels.

# **2.0. Goal and Objectives**

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## **2.1. Goal**

To provide a framework for managing quantification, planning, implementation, monitoring and evaluation, and reporting of LLIN distribution through all channels for malaria elimination in Zambia, in line with the vision of equity of access to quality-assured, cost-effective, and sustainable malaria prevention and control services as close to the family as possible.

## **2.2. Specific Objectives**

1. Ensure 100% coverage in targeted households, with at least 80% utilization.
2. To provide a framework for LLIN distribution partnerships by clarifying the complementary roles of stakeholders to ensure household access to LLINs in communities, especially for vulnerable groups, through a sustainable and equitable LLIN implementation programme.

# **3.0. Specifications and Procurement**

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## **3.1. Specifications for LLINs**

1. Only nets and insecticides that meet WHO prequalification standards shall be used in NMEP activities, including nets accessed via commercial channels, to protect consumers against the use of substandard LLINs that might be imported into the country.
2. The LLINs yarns shall be of denier (fibre strength) 75 to 100 and above mesh size 25 cm<sup>2</sup>.
3. The choice or preference of LLINs in terms of sizes, shapes, and colour will be based on local evidence from field evaluations.
4. All LLINs to be supplied in Zambia are duty-free and shall be made of either polyethylene, polyester, or polypropylene.
5. All suppliers of LLINs shall provide accessories such as strings and hooks for each LLIN supplied



6. Each non-commercial LLIN to be supplied in Zambia shall be labelled as “**Property of Ministry of Health - ZAMBIA, NOT FOR SALE**” on the bale, individual packaging, and tag.



The table below shows the technical specification for the LLINs recommended by the NMEP.

**Table 1 Technical Specification for LLINs**

| Specification             | Net Shape  |   |
|---------------------------|--|---|
|                           | Rectangular  | Conical   |
| <b>Material:</b>          | Polyethylene, Polyester, Polypropylene   | Polyethylene, Polyester, Polypropylene  |
| <b>Active Ingredients</b> | Pyrethroid plus synergist Piperonyl Butoxide Permethrin, Deltamethrin or Alpha-Cypermethrin  | Pyrethroid plus synergist Piperonyl Butoxide Permethrin, Deltamethrin or Alpha-Cypermethrin   |
|                           | Dual Active Ingredient<br>Pyrethroid plus Chlorfenapyr or Pyriproxyfen Alpha-cypermethrin and Chlorfenapyr, Deltamethrin and Chlorfenapyr, Alpha-cypermethrin and Pyriproxyfen | Dual Active Ingredient<br>Pyrethroid plus Chlorfenapyr or Pyriproxyfen Alpha-cypermethrin and Chlorfenapyr, Deltamethrin and Chlorfenapyr, Alpha-cypermethrin and Pyriproxyfens |
| <b>Dimension</b>          | W160cm x L180cm x H150cm   | 850cm x 56cm x 220cm  |
| <b>Denier</b>             | Minimum 75–100 +/-5%   | Minimum 75–100 +/-5%  |
| <b>Bursting strength:</b> | Minimum 250 Kpa  | Minimum 250 Kpa   |
| <b>Seam strength</b>      | 250 Kpa  | 250 Kpa   |
| <b>Colour</b>             | White*   | White*  |
| <b>Effective life</b>     | ≥ 3 years  | ≥ 3 years   |
| <b>Ministry logo</b>      | Ministry of Health Logo on each net  | Ministry of Health Logo on each net   |
| <b>Packaging</b>          | Individually packed in a plastic bag with six hooks and strings for hanging.   | Individually packed in a plastic bag with two hooks and strings for hanging.  |
| <b>Bales size</b>         | Shipped in bales containing 50, 40 or 100 pieces protected by a polyethylene bag   | Shipped in bales containing 50 or 100 pieces protected by a polyethylene bag  |
| <b>Labelling</b>          | Each net to be labelled with indelible ink with manufacturers name; date of production; lot number; size in cm (width, length, height); washing and drying instruction         |   |

Preferably in a biodegradable or Oxo-biodegradable bag

Note:

1. Pyrethroid-PBO nets combine pyrethroids and a synergist, which acts by inhibiting certain metabolic enzymes within the mosquito before they can have a toxic effect. Therefore, compared to a pyrethroid-only net, a pyrethroid-PBO net should have an increased killing effect on malaria vectors that express such resistance mechanisms.
2. The dual AI nets combine two or more insecticides with different modes of action in one LLIN. This way a mosquito is likely to be killed by contact with the second insecticide in the event it survives contact with the first insecticide.

In case of dual AI LLINs, the Bidder must provide the following evidence; (a) Increased efficiency of the LLIN offered with a minimum of published studies/village scale field trials for Sub-Saharan Africa. (b) Past performance of at least three projects where dual AI have been





### 3.1.1. Insecticides for Use on LLINs

- All LLINs shall be treated with WHO-approved insecticides in line with guidance from *WHO-Prequalification of Medical Products (2022)*.
- The pyrethroid class of insecticides with PBO synergist is recommended. However, other types of nets, including the dual AI nets, shall be considered as and when they become available and recommended by *WHO-Prequalification of Medical Products (2022)*.
- All insecticides for use shall be registered and approved by relevant national regulatory authorities in Zambia, such as Zambia Environmental Management Agency (ZEMA) and Zambia Medicines Regulatory Authority (ZAMRA).

## 3.2. Procurement Procedures and Logistics

National tendering procurement procedures will be as follows:

1. The NMEC will provide specifications to the national tendering committee and will be part of the evaluation committee for the tenders.
2. All partners, including the private sector participating in the procurement of LLINs, shall follow the specifications provided by the NMEC.
3. All LLINs procured in Zambia must be registered with ZEMA for insecticide compliance on the LLINs.
4. The procurement will consider WHO recommended technical specifications, quality of the LLINs and other international procedures/good practices.
5. Procurement will follow national guidelines and regulations as prescribed by Zambia Public Procurement Authority (ZPPA) and ZAMRA.

### 3.2.1. Taxes and Pricing

#### 3.2.1.1. Taxes and Tariffs

Currently, all LLINs are duty-free, and no value-added tax (VAT) shall be charged as per Statutory Instrument (SI) 15 of 6<sup>th</sup> February 2004 of the Customs and Exercise Act related on the Customs and Exercise (Suspension) (Amendment) Regulation, 2004. The recommended nets to be used in Zambia are LLINs.

#### 3.2.1.2. Pricing for Private Sector LLIN

Note that direct price controls in the private sector are not currently feasible but could be achieved through competition and advertising. All LLINs to be imported into the country shall conform to the WHO specifications.

## 4.0. Distribution Channels

To achieve and maintain optimal LLIN coverage, WHO recommends a combination of mass LLIN distribution through campaigns and continuous distribution through multiple channels such



as routine LLIN distribution through ANC and the Expanded Programme on Immunization (EPI), school and community-based distribution, and private sector sales.

Due to population growth and net attrition, access will drop after a mass campaign unless new nets are introduced. To achieve and maintain optimal LLIN coverage, WHO recommends a combination of mass LLIN distribution and continuous distribution (CD) through multiple channels. The routine and CD channels stated herein below should result in sustaining LLIN coverage over the long term. Routine distribution and CD will be used to complement mass distribution efforts. The key benefit of the CD channels is to have uninterrupted access to nets over the long term.

The CD system should be tailored for each province. Each province should use a consultative and data-driven process to determine the mix of channels that will be used in the province. Data from provinces and districts should be entered into the NetCalc or other applicable tool along with a discussion of the strengths and weakness of each distribution channel within the specific districts where it may be implemented. For example, community-based distribution may be recommended for rural districts because urban districts are less likely to have strong community outreach structures; on the other hand, urban districts may be more likely to use school distribution due to higher school gross attendance rates and lower cumulative drop-out rates.

Careful attention will need to be paid to ensure that there are not too many channels which can be burdensome and expensive to implement and create an overlap in terms of reaching the population.

Once the channels have been selected, strong systems are needed to make CD successful. These include a solid supply chain system supported by accurate data collection and reporting, effective training, coordination, and supervision and a well-designed and implemented SBC strategy.

These guidelines explain the procedures for each component. They have been developed to help implementers carry out mass LLIN campaigns and CD activities in line with national policy.

Specific distribution channels are described in detail below:

1. Periodic mass distribution campaigns targeting all individuals in targeted areas.
2. Routine distribution channels, including ANC and EPI targeting pregnant women and infants under 1 year old.
3. School-based distributions targeting primary school children.
4. Community-based distributions by CHWs targeting all community members.
5. Equitable distribution of LLINs to vulnerable groups which include people living with HIV/AIDS and the chronically ill.
6. Commercial markets for LLINs, which should continue to be developed to provide wider access for consumers who wish to protect themselves.

Each of the distribution channels is described in more detail below.



## **4.1. Mass Distribution**

Mass distribution aims at increasing access to LLINs to rapidly scale up coverage. All LLINs being distributed through this channel shall be accessed free of charge to households. Mass campaigns should distribute one LLIN for every two persons at risk of malaria. However, for procurement purposes, the calculation to determine the number of LLINs required needs to be adjusted at the population level since many households have an odd number of members.

Therefore, a ratio of one LLIN for every 1.8 persons in the target population should be used to estimate LLIN requirements, unless data to inform a different quantification ratio are available.

Macro and micro planning for LLIN distribution shall be facilitated at central level in collaboration with provincial health offices (PHOs), district health offices (DHOs), and health facilities. Refer to Annex 1 for detailed guidelines on the distribution processes.

## **4.2. Antenatal Care and Expanded Programme for Immunization**

Pregnant women and children under 5 are the most biologically vulnerable to malaria. In addition, malaria in pregnancy can cause low birth weight and other complications in the newborn. Pregnant women who visit health facilities for their routine ANC will receive a free LLIN during the first antenatal visit. Health care providers will provide information on the importance of sleeping under an LLIN every night all year round and the benefits of malaria prevention during pregnancy. Provision of these LLINs will be documented both on ANC cards and in safe motherhood registers.

Children receiving the first dose of measles vaccination as part of their routine immunization visit at health facilities shall receive an LLIN. Providing an LLIN during immunizations will contribute to increased LLIN access and encourage guardians/caregivers to have their children vaccinated and to sleep under LLINs every night of the year. These LLINs issued will be documented in both the Children's Clinic Card and in the Under 5 Register.

Quantification for routine ANC and EPI is based on proportions of expected pregnancies and expected births, respectively, prevailing in that particular year. Routine distribution through ANC and EPI channels should remain functional before, during, and after school and mass distribution campaigns.

## **4.3. School-Based Distribution**

School-based distribution (SBD) is a CD channel aimed at sustaining high LLIN coverage at household level. Data shows that in Zambia, the lower primary grades gross attendance ratio is higher, and therefore distribution through lower primary grades can contribute to improving and sustaining LLIN coverage. Modelling tools such as NetCalc shall be used for quantification. If appropriate, all learners in the lower primary from early childhood education to grade 4 will be targeted to receive an LLIN.



1. SBD shall be conducted during the School Health and Nutrition Month (July) in accordance with the Ministry of Education calendar. During the SBD exercise, education about malaria shall be conducted in primary schools that are targeted to implement SBD.
2. One week will be designated for LLIN distribution in all eligible schools.
3. One LLIN will be given to each child in the eligible grade during the designated week, except in campaign years when SBD will not occur.
4. Supervision of LLIN distribution will be conducted by personnel from the Ministries of Health and Education at district, provincial, and national levels. Refer to Annex 1.C for detailed guidelines for the SBD processes.

#### **4.4. Community-Based Distribution**

This is one of the CD channels that enable the community to have access to an LLIN. Households that may not be able to access an LLIN through ANC, EPI, or school channels will be able to obtain an LLIN by contacting a net coupon holder (NCH).

The list below summarizes some of the criteria for LLIN issuance through the community-based channel:

1. Did not receive any net during the mass campaign
2. Household has a pregnant woman or a child under 5 but was not able to obtain a net from ANC or measles 1 vaccination visit
3. Uncovered sleeping space
4. Torn or destroyed net(s)

Each community will select a trusted individual (NCH) to dispense coupons based on agreed-upon criteria. NCHs are volunteers who are part of the neighbourhood health committees and are based or live in the community. NCHs will assess households' eligibility based on guidelines outlined above for an LLIN and issue eligible households with coupon(s). Household members who are issued coupons can then redeem these coupons for an LLIN at the nearest health facility.

For communities that are more than 5 kilometres radius from a health facility, trusted community leaders will be identified to store the LLIN in their homes (community LLIN hubs) in the communities. Each identified community hub will serve communities within a 5 kilometres radius. For communities that are further than 5 kilometres from the nearest community hub within the same health facility catchment area, another community hub will be created to serve these communities. Community leaders whose houses may be used as hubs may include village headmen, religious leaders, neighbourhood health committee members, and other trusted opinion leaders. These persons must have secure and appropriate space in their household for LLIN storage. Refer to Annex 1.D for detailed guidelines on community distribution processes.



## **4.5. Commercial Distribution**

Commercial distribution of LLINs will continue to be encouraged to ensure wider long-term access and replacement of old LLINs among consumers with access and the means to afford commercially available LLINs. The private sector entities distributing commercial LLINs shall work in line with the NMEC distribution guidelines and ensure that the LLINs conform to the national specifications.

## **4.6. Special Populations**

This is a channel that helps to cater to groups or individuals that other channels of LLIN distribution may not cover. The NMEP recognizes the groups of people most vulnerable to malaria because of compromised immunities or exposure to the malaria parasite. Among these groups are people living with HIV and AIDS and the chronically ill.

These special populations shall have increased access to LLINs through this special programme, which is being coordinated by the NMEP. However, it should be noted that these groups shall not be supported as individuals but through their support groups, which are advised to send proposals and letters to request LLINs from the NMEP, which will provide them, depending on availability. Quarterly reports will be submitted to the NMEC by any group receiving LLINs. The distribution and utilization of these LLINs shall be followed up by NMEP.

## **5.0. Management of Old LLINs**

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When LLINs and their packaging (bags and baling materials) are retained from nets distributed through schools, campaigns, continuous or routine distribution, WHO recommends disposal at high-temperature incineration. LLINs should not be burned in the open air. In the absence of appropriate facilities, LLINs should be buried away from water sources and preferably in non-permeable soil. Recipients of LLINs should be advised (through appropriate communication strategies) not to dispose of their nets in any water body, as the residual insecticide on the net can be toxic to aquatic organisms (especially fish) (WHO/UCN/GMP/2021.01).

## **6.0. Social and Behaviour Change**

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The purpose of SBC in LLIN distribution is to influence behaviours and to promote correct and consistent use, care, and maintenance of LLINs. SBC also aims to sustain enabling behaviours to halt malaria transmission in the general population and the most vulnerable groups. SBC materials and job aids for implementers will be developed and provided in line with the National Malaria Communication Strategy. The behavioural objectives in LLIN distribution through all channels are:

1. To increase the number of people who sleep under LLINs every night throughout the year.



2. To stop the misuse of LLINs.
3. To ensure care, maintenance, and repair of the LLINs to extend their lifespan.

To achieve these objectives, the following communication channels shall be used across all distribution channels:

1. National and/or local media to create awareness and increase knowledge about benefit of LLINs
2. Community engagement activities targeting traditional, religious, and political leaders and community-based volunteers (CBVs) to educate households on the importance of regular LLIN use, care, and repair
3. Drama performances, meetings, health talks, and group discussions to mobilize communities to promote LLIN utilization, halt misuse, and encourage LLIN care
4. Stakeholder engagement to provide guidance to learners in schools, during SBD on the importance of sleeping under an LLIN all year round

Advocacy activities shall be conducted at all levels of implementation before, during, and after LLINs distribution and will include the following:

1. Engaging policy and decision-makers to lobby/mobilize resources for LLINs procurement
2. Engaging policy-makers and influential leaders to solicit their support towards increased utilization of LLINs, halting misuse, and reinforcing regulations
3. Conducting media launches of mass LLINs distribution at various levels by senior government officials
4. Engaging public and private sector (retailers, wholesalers, transporters) and other institutions to increase their knowledge and adherence to national guidelines
5. Engaging the private sector, hospitality industry, and other institutions to procure LLINs according to national guidelines for use by their clients

## **7.0. Monitoring, Evaluation, and Supervision**

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Monitoring, Evaluation, and Supervision seeks to track progress on implementation and evaluate the outcome of the activity.

### **7.1. Monitoring**

Monitoring shall be undertaken by central, provincial, and district levels bi-annually, quarterly and monthly, respectively.

The objectives of monitoring shall be to:

- Ensure that implementation of LLINs is on track for all distribution channels



- Validate the data reported in the routine systems (HMIS) and Malaria Rapid Reporting System (MRRS), as described below
- Identify gaps/ challenges in the distribution of LLINs to beneficiaries
- Conduct audits to review routine data using standardized tools
- Assess the capacity of people trained in LLIN distribution

Household and health facility-based registers shall be used to monitor the LLINs across distribution channels described in Section 4.0. Community registers shall be used to maintain information on households, LLIN availability, needs, and gaps. Additional data shall be collected using Malaria Indicator Survey (MIS) and DHS to provide information on coverage, access, and utilization during national household surveys.

Using the eLMIS, the central level will track the LLINs distribution up to district level, while at service delivery points, the registers shall be used to track the beneficiaries. The HMIS shall be used to capture all LLINs distributed using the HIA2 form on a monthly basis.

The MRRS shall be used to collect information on LLINs mass campaigns and SBD. Household surveys will provide additional sources of data on the coverage of LLINs. The data on LLINs shall be assessed regularly for quality and completeness by all levels.

Table 2 below shows the different data collection and reporting tools for continuous and mass LLIN distribution.

**Table 2. Shows the different data Collection and Reporting Tools for Continuous and Mass Distribution of LLINs (Additional data collection tools are available in MIS)**

| Channel                   | Tools   |
|---------------------------|---|
| Mass Distribution         | <ul style="list-style-type: none"> <li>• Form A: Household LLIN Data Collection Register</li> <li>• Form B: Health Centre Aggregation Report</li> <li>• Form C: District Data Aggregation Report</li> <li>• Form D: Provincial Data Aggregation Report</li> <li>• Form E: Community Daily Activity Form</li> <li>• Checklist for monitoring mass distribution campaign</li> </ul> |
| Routine Distribution      | <ul style="list-style-type: none"> <li>• Under 5 Clinic Register</li> <li>• Safe Motherhood Register</li> <li>• Facility Monthly Summary Form</li> <li>• District Monthly Summary Form</li> <li>• Provincial Monthly Summary Form</li> <li>• Checklist for monitoring routine distribution campaign</li> </ul>  |
| School-Based Distribution | <ul style="list-style-type: none"> <li>• Class LLIN Distribution Form</li> <li>• District LLIN School Summary Form</li> <li>• Provincial LLIN School Summary Form</li> <li>• Checklist for Monitoring of LLIN Distribution in Schools</li> </ul>  |
| Community                 | <ul style="list-style-type: none"> <li>• Community Distribution Coupon</li> <li>• Community LLIN Distribution Register</li> <li>• Checklist for Monitoring of Community LLIN Distribution</li> </ul>  |



## **7.2. Supervision**

Supervision shall be undertaken to ensure that LLINs distribution is conducted according to the national LLIN distribution guidelines.

The aim of the supervision shall be to:

- Review the data reported in the routine system
- Verify physical stocks and adequacy of storage facilities for LLINs
- Check availability of documentation for stock management and reporting
- Identify and address challenges in the distribution of LLINs to beneficiaries
- Provide on-site technical support to staff and CBVs involved LLIN distribution

## **7.3. Evaluation**

An evaluation shall be conducted to collect and analyse information on LLINs to determine whether the purposes of LLIN distribution were achieved.

Some of the approaches that could be used to conduct an evaluation include:

- Spots checks
- Quarterly data reviews of the routine issuing data
- Post-mass distribution review meetings
- Post-mass LLIN campaign distribution surveys
- Malaria surveys
- Special studies to obtain additional information such as LLIN use/misuse, durability, etc.

## **8.0. Roles and Responsibilities for National and Subnational Levels**

The roles and responsibilities of the various key actors are as follows:

### **National Malaria Elimination Centre (NMEC)**

- Coordinate national LLIN programmes.
- Provide policy and other strategic information on LLINs.
- Promote public/private partnerships in the LLINs programme at all levels.
- Plan, quantify, procure and supply LLINs to the districts.
- Mobilize resources for the LLINs programme.
- Develop, review, update and distribute SBC materials to all districts.
- Monitor and evaluate the LLINs programme.
- Collaborate with WHO and other relevant bodies on technical issues.
- Identify needs for and undertake operational research, surveys, and special studies on LLINs.
- Monitor the quality and efficacy of LLINs distributed in the country.
- Participate in external platforms to highlight the work in the country.





### Provincial Health Offices (PHOs)

- Provide technical support to the districts in the preparation of the annual Malaria Action Plans and budgets.
- Conduct performance assessments and audits for the LLINs programme.
- Monitor the LLIN distribution and utilization at the district level.
- Orient stakeholders on the LLINs guidelines; disseminate guidelines.
- Resource mobilization for the LLIN programme.
- Collate provincial LLIN needs.
- Provide quarterly reports to the NMEC on the LLINs programme linked to key performance indicators (KPI), malaria incidence, and mortality.
- Coordinate local partnerships.

### District Health Offices (DHOs)

- Provide technical support to health facilities (HF) in the preparation of the annual Malaria Action Plans and budgets.
- Conduct performance assessments and audits for the LLINs programme.
- Monitor the LLIN distribution and utilization at HF level.
- Orient stakeholders at HF on the LLINs guidelines; disseminate guidelines.
- Provide monthly reports to the district on the LLINs programme linked to KPI, malaria incidence, and mortality.
- Resource mobilization for the LLIN programme.
- Collate LLINs district needs.
- Coordinate local partnerships.

### Health Facilities (HFs)

- Support quantification of LLINs based on their catchment areas.
- Support preparation of the annual Malaria Action Plans and budgets.
- Receive, store and issue LLINs.
- Orient the CBVs on malaria prevention and the best practices of LLINs distribution and utilization.
- Supervise the CBVs in the catchment areas.
- Collect and report data using standardized data collection tools.
- Collaborate with traditional, civic, and religious leaders for effective LLIN use within the communities.
- Report monthly to the DHO on all LLINs activities.

### Community-Based Volunteers (CBVs)

- Support advocacy and promote use of LLINs.
- Support HFs to manage LLINs distributions within the community.
- Help identify vulnerable and other groups (fishermen, migrant workers, internally displaced people, refugees etc.).
- Support HFs to collaborate with traditional, civic, and religious leaders for effective LLIN use within the communities.
- Report monthly to the HFs on all LLINs activities.



## 9.0. References

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1. RBM Consensus Statement. LLIN repurposing recommendations. October 2018.
2. Population Services International, The PMI VectorLink Project. School-based LLIN distribution step-by-step exemplar. Washington, DC, November 2020.
3. World Health Organization (WHO). Pesticide evaluation scheme. <http://www.who.int/whopes/en/>, <http://www.who.int/whopes/recommendations/wgm/en/>.
4. WHO. Guidelines for malaria. 16 February 2021.
5. WHO-Prequalification of Medical Products (2022) WHO/UCN/GMP/2021.01
6. Guidelines on the distribution and utilization of Long-Lasting Insecticide Treated nets for malaria prevention, 2017 edition.



## **Annex 1. Distribution Channels**

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### **1.A Mass Distribution**

Mass distribution aims at increasing nationwide access to LLINs to rapidly scale up coverage. In line with the NMESP (2022–2026), the objective will be to ensure universal coverage (100%) and at least 80% utilization of LLINs in all eligible areas. All LLINs being distributed through this programme shall be accessed without cost to households.

During mass campaigns, one LLIN for every two persons at risk of malaria is distributed. However, for procurement purposes, the calculation to determine the number of LLINs required needs to be adjusted at the population level, since many households have an odd number of members. Therefore, a ratio of 1 LLIN for every 1.8 persons in the target population is used to estimate LLIN requirements in accordance with WHO guidelines (WHO/UCN/GMP/2021.01).

To date, Zambia has been using two distribution methods: door-to-door and fixed-point distribution. Door-to-door distribution strategy involves transportation of LLINs from a health facility to individual households, while the fixed-point distribution strategy involves transportation of LLINs from a health facility on a specific day and time to predetermined existing points, such as outreach posts, churches, or schools in the community. Other distribution methods shall be considered as and when need arises.

#### **1. Fixed-Point Distribution**

Under this method:

- LLINs will be distributed to registered households by CBVs at a fixed distribution point.
- The CBVs will demonstrate how to aerate and hang LLINs over each sleeping space at the distribution site.
- CBVs will follow up households within one week after the distribution and ensure that all LLINs are hanging and in use.

#### **2. Door-to-Door Distribution**

Under this method:

- LLINs will be distributed to registered households by CBVs at their homes.
- CBVs will show households how to aerate and hang an LLIN over a sleeping space on the distribution day.
- CBVs will also make follow-ups on households within one week after the distribution and ensure that all LLINs are still hanging and in use.

#### **3. Planning and Coordination of Mass Distribution**

The planning and coordination of LLIN distribution shall be done at all levels (national, provincial, and districts) by existing structures such as Vector Control Technical Working Groups and



Provincial and District Malaria Task Forces. To allow procurement of LLINs, macro quantification will be done at the national level based on headcount population.

#### **4. Implementation of Mass Campaigns**

Effective implementation of mass distribution campaigns requires adequate preparation involving multiple stages. The different stages of the mass campaign, i.e., preparation, registration, and distribution shall be supported by SBC and monitoring and evaluation activities.

##### **Preparation stage**

Training and orientation shall be conducted at all levels to ensure a common understanding of the mass campaign process. The national trainers will conduct training of trainers for provinces who will cascade it to districts. The districts will then train facility staff who in turn will orient CBVs. Training/orientations shall provide information on:

- a. Timelines and modalities of implementing the mass campaign
- b. Data collection and distribution tools, roles and responsibilities, and messages related to LLINs use and care
- c. Monitoring the mass distribution process at all levels

##### **Household registration**

Household registration using Form A (Annex 5) will facilitate the collection of information on demographics of household owners, number of persons in the household, and any relevant data for planning and quantification. The data shall be summarized by the health centre using the Health Centre Aggregation Form B (Annex 6) and submitted to districts for aggregation and transmission to central level.

This stage aims at ensuring that LLINs are made available to the beneficiaries through door-to-door or fixed-point distribution.



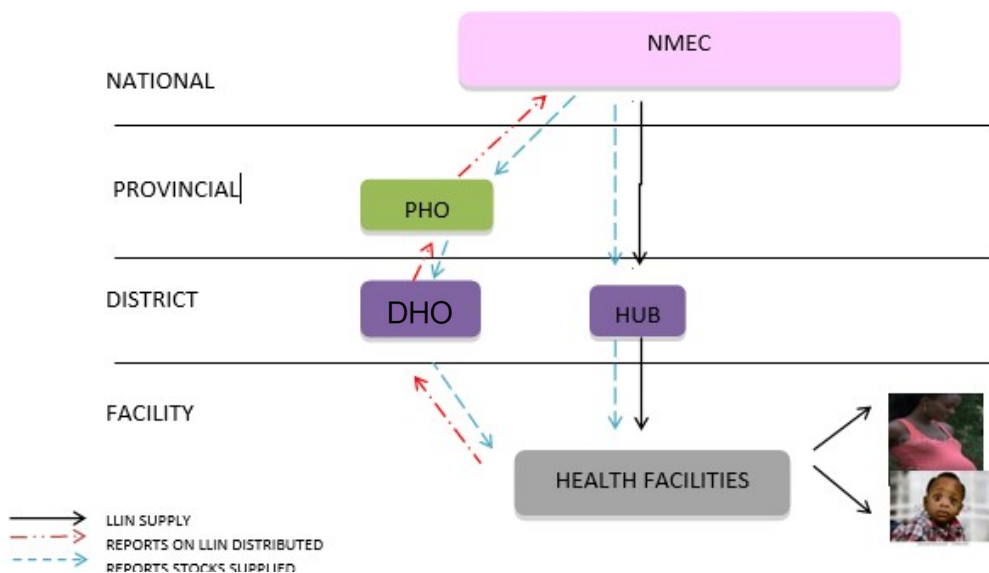
## 1.B Antenatal Care and Expanded Programme for Immunization

Pregnant women and children under 5 are the most biologically vulnerable to malaria. In addition, malaria in pregnancy can cause low birth weight and other complications in the newborn. Pregnant women who visit the ANC for the first time for each pregnancy will receive an LLIN after ANC services are provided to protect this vulnerable group and sustain high coverage on the number of LLINs available in their households. Similarly, each child will receive an LLIN when receiving measles 1 vaccination at the routine immunization clinic.

The LLINs issued to children and pregnant women will be entered in the following registers, as appropriate:

- Under 5 Register
- Child's immunization card
- Safe motherhood register
- Pregnant woman's ANC card
- Routine distribution ANC and EPI registers (Annex 5)
- The processes for quantification and supply, training, supervision, and reporting for LLIN ANC and EPI channels are as follows:

Figure 1-1. ANC-EPI LLIN Distribution Flow Chart





## 1. Quantification

For procurement purposes, the central level will quantify using the proportion of expected births and expected pregnancies. A 3-month LLIN stock will be maintained and stored at each health facility. A re-supply of LLINs at facility level will be done using the Essential Medicines and Medical Supplies Logistics System (EMLIP) from DHO using stock on hand, receipts, issues, losses, and adjustments each month.

The initial LLIN supply required per health facility, district, and province will consider the following:

- Average monthly first ANC attendance
- Measles 1 vaccination records over the past 2 years
- Monthly LLIN stock for each health facility
- Stock adjustments that include losses at the facility due to damage or issued outside the prescribed channels etc.

Based on the above criteria, each district will aggregate and submit to PHO the quantities required at the health facility.

## 2. Orientation

For an effective facility-based routine distribution, it is important that health facility storekeepers and health workers in-charge of ANC and EPI clinics are trained in supply chain management (stock control cards and processes for request and re-supply) in accordance with the EMLIP. Only standard training materials will be used for the orientations.

To ensure a well-coordinated orientation process, cascade orientation shall be conducted to provide information on distribution, logistics, reporting, roles, supervision, and malaria messaging at national, provincial, district and health facility levels.

Upon completion of the orientation, mentorship at all levels of implementation shall be conducted annually.

## 3. Steps in the Issuance of LLINs During ANC and EPI

During a pregnant woman's first visit to the ANC, the following steps should be used by the health worker:

1. Book/record the clients details using the ANC register.
2. Educate the pregnant woman on the causes of malaria, malaria prevention, and the proper use and care of LLIN.
3. Issue an LLIN to the pregnant woman and mark a Y for YES in the "LLIN issued" column in the ANC register and on the antenatal card.
4. Stamp the antenatal card with an existing authentic stamp. Record in the LLIN distribution register and request the beneficiary to sign.

*Note: A pregnant woman who does not receive an LLIN on her first ANC visit due to commodity stock out shall be eligible to receive a net on her subsequent visit.*



When a caregiver/guardian brings her child to the routine immunization clinic for measles 1, the following steps should be used by the health worker:

1. Book/record all the required information in the Under 5 Register.
2. Educate the caregiver/guardian on the causes of malaria, malaria prevention, and the proper use and care of LLIN.
3. Issue LLIN for the caregiver/guardian and record the LLIN given in the Under 5 Register appropriately.
4. Stamp the child's clinic card/book with an existing authentic stamp.
5. Record in the LLIN distribution register and request the beneficiary to sign.

#### 4. Reporting

At the end of each month, the total number of LLINs issued in the ANC and EPI clinics (both static and outreach) should be correctly reported on the **Health Facility (HF) Monthly LLIN Summary Form** and **HIA-2**, which will be submitted to the DHO by the 7<sup>th</sup> day of each month and entered into HMIS.

#### 5. Monitoring and Supervision

Routine monitoring and supervision shall be conducted to ensure that the correct processes for distribution, record-keeping, and on-site mentorship on ANC and EPI are in place.

#### 6. Roles and Responsibilities

| Person                      |                   | Roles and Responsibilities  |
|-----------------------------|-------------------|---|
| <b>National Level</b>       |                   |   |
| National Elimination (NMEP) | Malaria Programme | <ul style="list-style-type: none"> <li>• Plan, quantify, and procure LLINs.</li> <li>• Coordinate overall CD activities at national level.</li> <li>• Convene the national CD Task Team for regular meetings to review routine and community data for example.</li> <li>• Facilitate the training of trainers at provincial level.</li> <li>• Monitor the implementation of CD activities nationwide.</li> <li>• Review and approve initial requests and restocking of LLINs to districts.</li> <li>• Develop, review, and communicate the CD strategy to all provinces and districts.</li> <li>• Hold annual review meetings.</li> </ul> |



|  |  |
|--|--|
| Zambia Medicines and Medical Supplies Agency (ZAMMSA)  | <ul style="list-style-type: none"> <li>• Provide storage at central and Provincial level</li> <li>• Distribution of LLINs to districts and health facilities</li> </ul>  |
| <b>Provincial Level</b>  |  |
| Provincial Health Office   | <ul style="list-style-type: none"> <li>• Communicate the CD strategy to all districts</li> <li>• Coordinate and quantify the province's LLIN needs and advise on procurement planning</li> <li>• Integrate CD activities in mentorship programmes, e.g., On-site Technical Support Supervision (OTSS)</li> <li>• Hold quarterly review meetings (PIMS)</li> </ul>  |
| <b>District Level</b>  |  |
| District Health Office (District Health Director) Officer, MCH Coordinator,  | <ul style="list-style-type: none"> <li>• Coordinate CD activities at district level.</li> <li>• Communicate the CD strategy to all health facilities.</li> <li>• Ensure that CD is a standing agenda item on the Malaria Task Force meetings district level.</li> </ul>  |
| Environmental Health Technician/Malaria Focal Person, Health Information Officer; District Health Promotions Committee or Officer) | <ul style="list-style-type: none"> <li>• Support training of health workers at health facility level.</li> <li>• Monitor, supervise, and provide technical support implementation of CD activities in the district.</li> <li>• Ensure that appropriate and secure storage spaces are available at district and health facility stores for LLIN.</li> <li>• Ensure that periodic data review and data audits are conducted.</li> <li>• Ensure timely restocking of LLIN to health facilities.</li> <li>• Hold quarterly review meetings (District Integrated Meetings).</li> </ul>  |
| District Health Information Officer (DHIO)   | <ul style="list-style-type: none"> <li>• Receive, review, and validate LLIN distribution data from health facilities.</li> <li>• Ensure reporting in HMIS by facilities are submitted.</li> </ul>  |
| <b>Facility Level</b>  |  |
| Health Facility In-charge, EHT   | <ul style="list-style-type: none"> <li>• Supervise LLIN CD implementation at ANC and EPI clinic.</li> <li>• Enter validated LLIN distribution data into the monthly LLIN distribution summary form for submission to district.</li> <li>• Register pregnant woman on first visit and properly document LLIN (net) given (register &amp; card).</li> <li>• Properly document LLIN given to child at measles 1 immunization.</li> <li>• Sensitize recipients about CD and net use through health talks.</li> <li>• Receive, monitor, and manage LLIN stocks for health facility.</li> <li>• Report issues, receipts, stock on hand, and losses and adjustments data to the In-charge and District Medical Officer every month.</li> <li>• Maintain stock control cards.</li> <li>• Hold monthly review meetings with health facility and community staff.</li> </ul> |

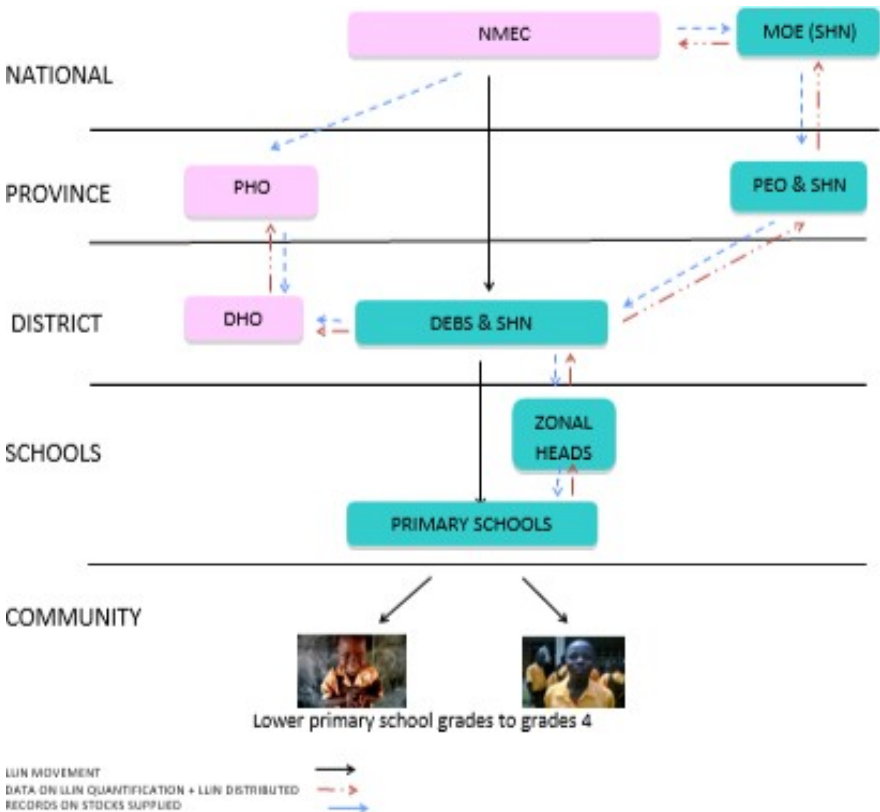




1.C School-Based Distribution

SBD is one of the distribution channels for improving LLIN household coverage in Zambia. The SBD shall be conducted once a year (except in a mass campaign year) during the School Health and Nutrition Week, which is in July. During this week, based on quantifications for coverage, and if appropriate, all children in early childhood education and lower primary grades (adding additional classes if needed to sustain coverage in a given area) will receive one LLIN each. Existing school systems that have been used for the implementation of health interventions or distribution of health and other commodities will be used. Supervision of the LLIN distribution will be conducted by Ministries of Health and Education personnel at district, provincial, and national levels.

Figure 1-2. Flow Diagram of School-Based





According to the school-based distribution step-by-step exemplar based on experiences from various countries, the following steps are advised to conduct the SBD programme:<sup>1</sup>

- Step 1 :** Convene coordination meeting
- Step 2 :** Develop timelines with tasks, targets and responsible persons
- Step 3 :** Develop budgets
- Step 4 :** Quantify LLIN needs (macro plan)
- Step 5 :** Create logistics supply chain plan
- Step 6 :** Develop accountability plan and tools
- Step 7 :** Develop the SBC plan
- Step 8 :** Develop Monitoring and Evaluation plan and tools
- Step 9 :** Develop orientation plan and tools
- Step 10:** Transport LLIN to distribution sites
- Step 11:** Distribute LLINs to the eligible pupils
- Step 12:** Analyse data (successes, gaps, etc.) and adjust future plans

The following processes were based on steps 1 to 12.

### 1. Quantification, Logistics, and Supply Chain

- The Ministry of Education will provide the number of children enrolled in the selected grades as documented in the Education Management Information System (EMIS) to NMEC for quantification and procurement of LLINs.
- The school head teacher will submit copies of class registers for selected grades within a week to the zonal heads, who will tally the number of children in their zone that are earmarked to receive LLIN and then submit within a week the tally to the district school health and nutrition (SHN) focal person (refer to **Figure 1-2**).
- District SHN focal person will validate the tallies received from each zonal head and select schools with more than 3 percent variance between class register data submitted and the EMIS data and follow up to confirm.
- The district SHN focal person will add up the district's total number of children enrolled and submit within 3 weeks to the provincial SHN focal person.
- The provincial SHN focal person will then validate all data received from district level within a week and forward the provincial data to the national SHN coordinator and the NMEC for further validation.
- NMEC will facilitate the transportation LLINs to schools based on the validated data.

<sup>1</sup>The PMI VectorLink Project. November 2020. School-based ITN Distribution Step-by-Step Exemplar. Washington, DC. Population Services International.



***Note: No LLINs shall be transported to the schools without a complete validation process.***

## 2. Training/Orientation

A two-day orientation will be conducted for the EHTs, school head teachers, class teachers, and SHN focal persons in SBD processes. Trainers from the national level, who will include personnel from Ministry of Health and Ministry of Education, will train provincial and district health and education authorities. Trainees at provincial level will comprise the provincial and district SHN coordinators, malaria elimination officers, and planners.

These persons should be trained in:

- SBD process and rationale
- LLIN quantification for each level
- Issuing stocks of LLINs for each level and the use of stock cards and other tools such as validation tool
- Documentation of LLIN distributed to schools
- Education of children and teachers on causes of malaria, malaria prevention, and proper net use, care, and repair
- Monitoring of the SBD activities

The provincial trainers will then conduct orientation for school head teachers, class teachers, and SHN focal persons in schools as well as the EHTs in health centres where schools are located.

These persons should be trained in:

- Overview of the school channel and rationale
- Documentation and submission of class registers for LLIN quantification
- Storage, documentation, and distribution of LLINs to designated school children
- Education of children and teachers on causes of malaria, malaria prevention, and proper net use, care and repair
- Use of the job aids for education of children on malaria and net use
- Reporting and supervision

## 3. Distribution and Documentation

LLINs received from NMEC will be distributed to eligible children in all designated schools during the distribution period. All LLINs given to children will be documented on the **Class LLIN Distribution Form** (Annex 3) that will be provided to all schools. Children will be required to write their own names on the distribution form after receiving an LLIN under the supervision of their class teachers, while those who are unable to write shall be required to use a thumbprint and their names shall be written by their class teachers.

## 4. Reporting

- Class teachers will submit their class distribution forms to the school head teacher and SHN focal person for verification.



- Each school will compile and submit their distribution forms and any remaining LLINs to the zonal head teacher, who will consolidate all distribution data for their zone and submit them to the district SHN coordinator.
- Distribution forms and the remaining LLINs must be handed over to the district SHN coordinator within 7 days after distribution. The remaining LLINs will be reallocated as needs arise.
- The district SHN coordinator will compile a report using a **District LLIN Distribution Form for Schools (Annex 3C)** and submit it to the provincial SHN coordinator and district health director within 7 days after receipt from the zonal head.
- The provincial SHN coordinator will compile and share the provincial report with the Provincial Health Director (PHD).
- The PHD will submit the report to the NMEC through the DHIS2 system.
- The NMEC will review the reports and share the results with stakeholders.

## 5. Supervision

A supervision team will comprise personnel from both the education and health sectors at provincial and district levels. This team will ensure that all distribution activities at school level are conducted as expected during the LLIN distribution period.

Supervisors will verify that LLINs have been delivered and children in designated grades are receiving the LLINs. They will also check if the distribution forms are being completed correctly and address any challenges encountered.

For SBC on SBD, refer to Annex 5 excerpt.

### 1.D Community Distribution

Households who may not be able to access an LLIN through ANC, EPI, or school channels will be able to obtain an LLIN by contacting an NCH. Each community will select a trusted NCH to dispense coupons based on agreed-upon criteria. NCHs are volunteers who are part of the neighbourhood health committees and are based or live in the community. NCHs will assess household's eligibility for an LLIN and issue eligible households with coupon(s). Household members who are issued coupons can then redeem these coupons for an LLIN at the nearest health facility.

The list below summarizes some of the criteria for LLIN issuance through the community-based channel:

- Did not receive any net during the mass campaign
- Household has a pregnant woman or a child under 5 but was not able to obtain a net from ANC or measles 1 visit
- Uncovered sleeping space
- Torn or destroyed net(s)

For communities that are more than 5 kilometres radius from a health facility, trusted community leaders will be identified to store the LLIN in their homes (community LLIN hubs) in the



communities. Each identified community hub will serve communities within a 5 kilometres radius. For communities that are further than 5 kilometres from the nearest community hub within the same health facility catchment area, another community hub will be created to serve these communities. Community leaders whose houses may be used as hubs may include village headmen, religious leaders, neighbourhood health committee members, and other trusted opinion leaders. These persons must have secure and appropriate space in their household for LLIN storage.

The process of LLIN logistics and supply chain, orientation, documentation, and supervision and monitoring for LLIN community-based channel is described below.

## 1. Logistics and Supply Chain

LLINs for community-based distribution will be stored at health facilities and identified community hubs, and coupons for redemption will be issued by designated NCHs. Initial LLINs and coupon supply required per health facility for the communities they serve will be quantified as follows:

- All HF's will submit information on the health facility catchment area (HFCA) population to the DHO.
- The DHO will consolidate and quantify the annual LLIN need for HF's considering the criteria and status of the LLINs (torn) constituting about 5% of the HFCA population data submitted by HF's.
- The district's total LLIN quantification will be aggregated and submitted to the PHO for validation.
- All district summaries for the province will be compiled and submitted to the NMEC.
- 50% of the district's total LLIN needs will be supplied as the initial LLIN stock to district stores. The same amount of LLIN coupons (Annex 3E) as the quantified number of LLIN will also be calculated for each district. When these nets have been given out, the remaining half of the nets will be supplied.
- Records of LLINs and coupons issued to each district will also be made available to the provincial level authorities accordingly.
- Each HF will be provided with an initial LLIN stock and coupons based on the need.
- An initial LLIN stock and coupons shall be supplied to community hubs by the Health Facility In-charge. Community members will redeem the LLINs from the community hub using coupons from the NCH as needed.
- Stocks of LLIN and coupons for community distribution will be monitored at HF/community level using inventory control cards.
- NMEC will supply LLINs to the districts every 6 months.
- NMEC will replenish the HF's with LLINs and coupon stock based on distribution data. This will be done along with replenishing for ANC and EPI clinic distribution.
- HF's to ensure monthly tallying of LLINs distributed and data entered into the Community LLIN Distribution Register (Annex 3F).
- Coupons redeemed for LLIN will be kept at the health facility for future verification.



- The HFs shall aggregate, report, and submit the monthly LLIN distribution data using the Summary Form to DHOs for review and onward submission to PHO.
- Summary data on LLIN distributed at health facilities (which will include LLIN distributed through the community channel) will be monitored at district level by the district stores officer.
- NCHs and the community hub keeper will submit their coupon booklets and Community LLIN Distribution Register to the HF In-charge for verification.

## 2. Training/Orientation

Every year, health facility in-charges, EHTs, and other health facility personnel shall be trained on their roles and responsibilities and as trainers for NCHs and Community Storage Hub keepers. The training will be facilitated by the district health personnel.

Supervisors will be trained in the following:

- Community-based distribution process, rationale, and criteria for beneficiary identification for an LLIN
- Monitoring the issuance of coupons, community hub LLIN distribution and use of stock sheets before providing required restock
- Data capture into the LLIN register
- Review and validation of community LLIN registers and coupons issued
- Monitoring of NCH's and Community Storage Hub keeper's activities.

Supervisors will then cascade the training to the NCHs and community storage hub keepers in the following:

- Process, rationale, and criteria for a beneficiary to qualify for an LLIN
- Assessing household LLIN needs
- Correctly filling in and issuing the LLIN coupon for prospective community LLIN beneficiaries
- Entering information from coupons submitted by beneficiaries into the LLIN register
- Educating community beneficiaries on the causes of malaria, prevention and how to properly use and care for LLIN
- Two days training should cover the processes and use of tools above

## 3. Distribution, Documentation, and Reporting

If a community member requires an LLIN for their household, they will approach an identified NCH in their community to request for a coupon to be redeemed for an LLIN at the closest health facility or at a Community Storage Hub. The NCH will be required to do the following:

- NCHs will visit the requester's household to assess household LLIN needs
- Based on the household assessment done, the required number of LLIN coupon(s) needed will be provided to the requester by the NCH, and requester will be directed to the nearest Community Storage Hub or health facility to redeem the coupon for an LLIN
- NCH will fill the LLIN coupon with the following:



- NCH name
- Name of household head requesting
- Date of issuance
- Village name
- Name of NCH/Zone
- Name of supervising health facility
- Reason for requesting
- NCHs will give a copy of the coupon to the requester and retain one copy.
- NCH will educate requester and their household on the causes and prevention of malaria and proper use and care for an LLIN.
- The requester will then take the LLIN coupon(s) to the nearest Community Storage Hub or HF to redeem the coupon(s).

The Community Storage Hub keeper or health worker and the requester will do the following:

- Review information recorded on the coupon(s) by the NCH and enter this information into the LLIN register.
- The requester submits the coupon to the storage hub keeper and collects the LLIN.
- Educate requester on the causes and prevention and how to use and care for the LLIN.
- At the end of each month, all NCHs and Community Storage Hub keepers will meet their supervisors (health facility in-charges) to report on the community distribution process, and challenges being faced.

Health facility in-charges will do the following:

- Review and validate data, report and document coupons issued and redeemed, LLIN distributed, and stock on hand.
- Replenish LLIN and coupon stock for each Community Storage Hub keeper and NCH.

#### 4. Reporting

- The total LLINs distributed through community distribution in the month in the health facility's catchment area will be entered and documented on the Health Facility Monthly LLIN Summary Form. The form will be sent to the DHO where the data will be entered in the central database.)

#### 5. Supervision

In the first three months after the training for Community Storage Hub keepers, NCHs, HF in-charges, EHTs, and NHC members will conduct monitoring visits to all communities to ensure that:

- All Community Storage Hub keepers and NCHs are conducting LLIN distribution in communities as expected and educating beneficiaries on malaria prevention, net use, and care.
- Community Storage Hub keepers are filling LLIN registers, filing LLIN coupons redeemed, documenting LLIN stocks, and recording stock on hand on stock sheets.



- NCHs are assessing household LLIN needs and filling LLIN coupons.
- Supervisors will provide on-the-job training for Community Storage Hub keepers and NCHs that are not conducting distribution processes and the accompanying documentation/reporting as expected.

Beyond the first three months of intensive supervision, the HF in-charges, EHT, and NHC members will incorporate the supervision of community-based LLIN CD activities into their biannual performance assessment of districts to health facilities. The Community Supervision Checklist (Annex 3) will be used to assess LLIN storage, documentation, and reporting of LLINs distributed in the communities. This checklist will be used in addition to other tools during the quarterly technical assessment visits.

## 6. Roles and Responsibilities

| Person   | Roles and Responsibilities   |
|--|--|
| <b>National Level</b>  |  |
| National Malaria Elimination Centre                              | <ul style="list-style-type: none"> <li>• Coordinate overall community-based CD activities at national level.</li> <li>• Monitor and supervise implementation of community-based CD activities nationwide.</li> <li>• Review and approve monthly distribution of nets to provinces.</li> <li>• Communicate the comprehensive CD strategy to all provinces.</li> <li>• Review data quarterly and compile annual report.</li> </ul> |
| Zambia Medicines and Medical Supplies Agency – Central Warehouse | <ul style="list-style-type: none"> <li>• Work in close coordination with the NMEC to accurately package all LLIN and coupon orders.</li> <li>• Ensure timely and secure distribution to district hubs.</li> <li>• Ensure the safe storage of nets at national and district levels.</li> </ul>  |
| Ministry of Health   | <ul style="list-style-type: none"> <li>• Ensure inclusion of the comprehensive CD strategy in the national malaria strategic plan and vector control policy.</li> <li>• Coordinate and supervise operations research on the community-based CD strategy.</li> <li>•</li> </ul>   |
| <b>Provincial Level</b>  |  |
| Provincial Health Office   | <ul style="list-style-type: none"> <li>• Communicate the community-based CD strategy to all provinces and district authorities.</li> <li>• Monitor and supervise community-based LLIN CD activities province-wide.</li> </ul>  |
| Provincial ZAMMSA Hub Storekeeper                                | <ul style="list-style-type: none"> <li>• Review LLIN quantification received from districts for community-based distribution.</li> <li>• Ensure timely initial supply and restocking of LLIN to districts for community-based distribution.</li> </ul>   |
| <b>District Level</b>  |  |

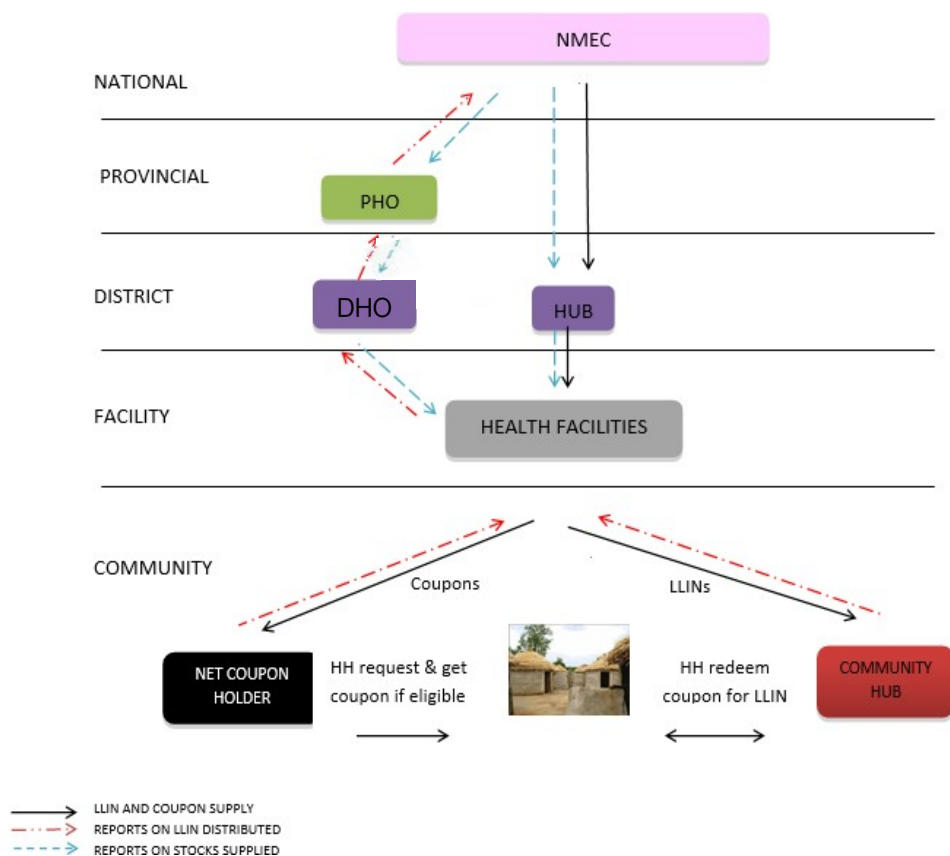




|                                      |  |
|--------------------------------------|--|
| District Health Office               | <ul style="list-style-type: none"> <li>• Coordinate community-based CD activities in district.</li> <li>• Communicate the community-based CD strategy to all relevant authorities in all districts.</li> <li>• Validate population data received from all health facilities in the district.</li> <li>• Monitor and supervise implementation of all CD activities in district.</li> </ul>  |
| <b>Facility Level</b>                |  |
| Community Storage Hub                | <ul style="list-style-type: none"> <li>• Host monthly meetings with NCHs and Community Storage Hub keepers.</li> <li>• Review Community Storage Hub keeper's register for LLIN distributed and validate with LLIN coupons received.</li> <li>• Review Community Storage Hub keeper's LLIN inventory control card for stocks documentation and provide LLIN replenishment.</li> <li>• Review and validate NCH's coupons issued.</li> <li>• Replenish coupon stocks for NCHs.</li> </ul> |
|                                      | <ul style="list-style-type: none"> <li>• Facilitate discussions on best practices and issues so as to foster learning among NCHs and Community Storage Hub keepers.</li> <li>• Collect records of coupons and nets from NCHs and Community Storage Hub keepers and submit them to the district.</li> </ul>   |
| <b>Community Level</b>               |  |
| Neighbourhood Health Committee Chair | <ul style="list-style-type: none"> <li>• Supervise implementation at community level.</li> <li>• Support HF's with providing technical assistance to NCHs and Community Storage Hub keepers.</li> <li>• Monitor activities of NCHs and trusted community leaders within their communities.</li> <li>• Assist Neighbourhood Health Committee members with sensitizing communities about LLIN CD and net use.</li> </ul>   |
| Net Coupon Holder                    | <ul style="list-style-type: none"> <li>• Sensitize community members about LLIN CD.</li> <li>• Assess households for eligibility for a coupon(s).</li> <li>• Properly fill and issue LLIN coupon.</li> <li>• Sensitize recipients on malaria prevention, net use, and care.</li> </ul>   |
| Trusted Community Leader             | <ul style="list-style-type: none"> <li>• Store LLIN securely.</li> <li>• Properly document and distribute LLIN.</li> <li>• Sensitize LLIN recipients on malaria prevention, net use, and care.</li> <li>• Submit data on LLIN distribution to in-charges at monthly meetings and receive LLIN resupplies.</li> </ul>   |



Figure 1-3. Flow Diagram of Community-Based Distribution of LLINs





Guidelines on the Distribution and Utilization of Long-Lasting Insecticide-Treated Nets for Malaria Prevention

## Annex 2. Mass Campaign Tools

### 2.A Form A: Mass Distribution Household Data Collection/LLIN Distribution Form

LLIN Mass Distribution

Ministry of Health – National Malaria Elimination Centre

Form A: Household Data Collection/LLIN Distribution Register

Province:

District:

Health Centre:

NHC/Zone:

Community/Village:

Name of Data  
Collector:

NRC No.

Mobile No.

| Form A: Household Data Collection/ LLIN Distribution Register  |                               |                            |         |   |  |               |                    |                      |                                     |
|--|-------------------------------|----------------------------|---------|---|--|---------------|--------------------|----------------------|-------------------------------------|
| Household = A person or a group of people living in the same compound, answerable to the same household head and sharing a common source of food and/or income |                               |                            |         |   |  |               |                    |                      |                                     |
| Quantification for Odd numbered household = (B+1)/2; Quantification for Even numbered household = B/2  |                               |                            |         |   |  |               |                    |                      |                                     |
| Data collection/HH registration  |                               |                            |         | LLIN Distribution (Not to be filled during HH registration) |  |               |                    |                      |                                     |
| No.  | Name of Head of Household (A) | No. of People in Household |         | Bed Spaces (C)  | No. of LLINs Required (D) = B/2 or (D) = (B+1)/2 | Date of Issue | No of LLINs Issued | NRC no. of Recipient | Signature of Recipient /Fingerprint |
|  |                               | Total (B)                  | Females | Males   |  |               |                    |                      |                                     |
| 1  |                               |                            |         |   |  |               |                    |                      |                                     |
| 2  |                               |                            |         |   |  |               |                    |                      |                                     |
| 3  |                               |                            |         |   |  |               |                    |                      |                                     |
| 4  |                               |                            |         |   |  |               |                    |                      |                                     |
| 5  |                               |                            |         |   |  |               |                    |                      |                                     |
| 6  |                               |                            |         |   |  |               |                    |                      |                                     |
| 7  |                               |                            |         |   |  |               |                    |                      |                                     |
| 8  |                               |                            |         |   |  |               |                    |                      |                                     |
| 9  |                               |                            |         |   |  |               |                    |                      |                                     |
| 10   |                               |                            |         |   |  |               |                    |                      |                                     |
| Total of LLINs   |                               |                            |         |   |  |               |                    |                      |                                     |
| Verified by: _____   |                               |                            |         |   |  |               |                    |                      |                                     |
| Designation: _____   |                               |                            |         |   |  |               |                    |                      |                                     |
| Date: _____  |                               |                            |         |   |  |               |                    |                      |                                     |



2.B Form B: Mass Distribution Health Centre Aggregation Form

LLIN Mass Distribution  
Ministry of Health – National Malaria Elimination Centre  
Form B: Health Centre Data Aggregation Report

Province: \_\_\_\_\_ District: \_\_\_\_\_  
Health Centre: \_\_\_\_\_

| No.   | Name of neighbourhood health committee or zone | Name of community or village | Total number of HH in community or village | Total No. People in community or village | No of bed spaces in community or village | No. of LLINs required in community or village | No. of LLINs supplied to community or village | No. of LLINs Issued at community or village |
|-------|--|------------------------------|--|--|--|---|---|---|
| 1.    |  |                              |  |  |  |   |   |   |
| 2.    |  |                              |  |  |  |   |   |   |
| 3.    |  |                              |  |  |  |   |   |   |
| 4.    |  |                              |  |  |  |   |   |   |
| 5.    |  |                              |  |  |  |   |   |   |
| 6.    |  |                              |  |  |  |   |   |   |
| 7.    |  |                              |  |  |  |   |   |   |
| 8.    |  |                              |  |  |  |   |   |   |
| 9.    |  |                              |  |  |  |   |   |   |
| 10.   |  |                              |  |  |  |   |   |   |
| Total |  |                              |  |  |  |   |   |   |

Compiled By: \_\_\_\_\_ Mobile Number: \_\_\_\_\_  
Designation: \_\_\_\_\_ Date of Compilation \_\_\_\_\_



**2.C Form C: Mass Distribution District Data Aggregation Form**

**LLIN Mass Distribution**  
**Ministry of Health – National Malaria Elimination Centre**  
**Form C: District Data Aggregation Report**

Province: \_\_\_\_\_ District: \_\_\_\_\_

|       | No. Name of Health Centre | No. NHCs/<br>Zones | No. of<br>Communitie<br>s or Villages<br>in Health<br>Centre<br>Catchment<br>Area | No. of HH in<br>Health<br>Centre<br>Catchment<br>Area | Total No.<br>People in<br>Health<br>Centre<br>Catchment<br>Area | No. of Bed<br>Spaces in<br>Health<br>Centre<br>Catchment<br>Area | No. of<br>LLINs<br>Required for<br>Health<br>Centre<br>Catchment<br>Area | No. Of<br>LLINs<br>Supplied to<br>Health<br>Centre<br>Catchment<br>Area | No. of<br>LLINs<br>Issued in<br>Health<br>Centre<br>Catchment<br>Area |
|-------|---------------------------|--------------------|---|---|---|--|--|---|---|
| 1.    |                           |                    |   |   |   |  |  |   |   |
| 2.    |                           |                    |   |   |   |  |  |   |   |
| 3.    |                           |                    |   |   |   |  |  |   |   |
| 4.    |                           |                    |   |   |   |  |  |   |   |
| 5.    |                           |                    |   |   |   |  |  |   |   |
| 6.    |                           |                    |   |   |   |  |  |   |   |
| 7.    |                           |                    |   |   |   |  |  |   |   |
| 8.    |                           |                    |   |   |   |  |  |   |   |
| 9.    |                           |                    |   |   |   |  |  |   |   |
| 10.   |                           |                    |   |   |   |  |  |   |   |
| Total |                           |                    |   |   |   |  |  |   |   |

Compiled By: \_\_\_\_\_ Mobile Number: \_\_\_\_\_  
Designation: \_\_\_\_\_ Date of Compilation \_\_\_\_\_



2.D Form D: Mass Distribution Provincial Data Aggregation Form

LLIN Mass Distribution  
Ministry of Health – National Malaria Elimination Centre  
Form D: Provincial Data Aggregation Report

Province: \_\_\_\_\_

| No.   | Name of District | No. of Health Centres | No. of LLINs Required | No. of LLINs Supplied | No. of LLINs Issued |
|-------|------------------|-----------------------|-----------------------|-----------------------|---------------------|
| 1.    |                  |                       |                       |                       |                     |
| 2.    |                  |                       |                       |                       |                     |
| 3.    |                  |                       |                       |                       |                     |
| 4.    |                  |                       |                       |                       |                     |
| 5.    |                  |                       |                       |                       |                     |
| 6.    |                  |                       |                       |                       |                     |
| 7.    |                  |                       |                       |                       |                     |
| 8.    |                  |                       |                       |                       |                     |
| 9.    |                  |                       |                       |                       |                     |
| 10.   |                  |                       |                       |                       |                     |
| Total |                  |                       |                       |                       |                     |

Compiled By: \_\_\_\_\_

Designation: \_\_\_\_\_

Mobile Number: \_\_\_\_\_

Date of Completion \_\_\_\_\_



## 2.E Checklist for Monitoring Mass Distribution Campaigns

Ministry of Health – National Malaria Elimination Centre

ITN Mass Distribution Campaign

Mass Distribution – Monitoring/ Supervision Checklist

Province: \_\_\_\_\_ District: \_\_\_\_\_  
 Health Centre: \_\_\_\_\_ NHC/Zone: \_\_\_\_\_  
 Distribution Point: \_\_\_\_\_ Name of Monitor: \_\_\_\_\_  
 Designation: \_\_\_\_\_ Date: \_\_\_\_\_

| No. | Observations/ Questions  | Yes | No | Comment |
|-----|--|-----|----|---------|
|     | <b>During Mass Distribution</b>  |     |    |         |
| 1   | Are the COVID-19 guidelines being observed? <ul style="list-style-type: none"> <li>• Masking up</li> <li>• Social distancing</li> </ul>                        |     |    |         |
| 2   | Do the CBVs have adequate ITNs for distribution a daily basis?   |     |    |         |
| 3   | Was the number of ITNs allocated for each distribution zone accordingly?   |     |    |         |
| 4   | Did the beneficiaries of ITNs sign in the distribution registers?  |     |    |         |
| 5   | Are the ITNs distribution registers being properly completed?  |     |    |         |
| 6   | Do the teams give the ITN beneficiaries the necessary information regarding the intervention (advantages of ITN use, how to use the ITN, how to care for ITN)? |     |    |         |
| 7   | Are CBVs providing the number of ITNs as registered?   |     |    |         |
| 8   | Are CBVs sticking household distribution stickers?   |     |    |         |
| 9   | Were the CBVs visited at least once a day by the health centre supervisor?   |     |    |         |
| 10  | Were the teams visited at least once by a supervisor (district or central)?  |     |    |         |
| 11  | Did the supervisors leave corrections/guidance?  |     |    |         |
| 12  | Are there any social mobilization activities taking place?   |     |    |         |
| 13  | What problems were observed at the site:   |     |    |         |
| 14  | List any three key observations/lessons learned:   |     |    |         |



## Annex 3. Continuous Distribution Tools

### 3.A School-Based Distribution Class LLIN Distribution Register

**School-Based Distribution Class LLIN Distribution Form**  
**Ministry of Health – National Malaria Elimination Centre**  
**Long-Lasting Insecticide-Treated Nets (LLINs) Distribution Register - Schools Programme**

**Province:** \_\_\_\_\_ **District:** \_\_\_\_\_  
**Name of School:** \_\_\_\_\_ **Name of Head Teacher:** \_\_\_\_\_  
**Name of Class Teacher:** \_\_\_\_\_ **Grade/Class:** \_\_\_\_\_

| No. | Name of Pupil | Sex (M/F) | Signature/ Thumbprint |
|-----|---------------|-----------|-----------------------|
|     |               |           |                       |
|     |               |           |                       |
|     |               |           |                       |
|     |               |           |                       |
|     |               |           |                       |
|     |               |           |                       |
|     |               |           |                       |
|     |               |           |                       |
|     |               |           |                       |

**TOTAL NUMBER OF LLIN DISTRIBUTED IN GRADE/ CLASS**

**NUMBER OF LLIN RETURNED TO HEAD TEACHER**

|   |  |
|---|--|
| — |  |
| — |  |

**Signature of Head Teacher:** \_\_\_\_\_

**Date:** \_\_\_\_\_



|   |  |
|---|--|
| — |  |
| — |  |





### 3.D Community Level – Daily Distribution Activity Form

**LLIN Continuous Distribution**

**Ministry of Health – National Malaria Elimination Centre**

**Community Level - Daily Distribution Activity Form**

*(This form should be used at distribution point for LLIN distribution)*

**Province:** \_\_\_\_\_ **District:** \_\_\_\_\_

**HNC/Zone**

**Health Centre:** \_\_\_\_\_ **Community:** \_\_\_\_\_

| No.          | Date | Name of Beneficiary | No. of LLINs Issued to Beneficiaries | Balance of LLINs On hand |
|--------------|------|---------------------|--------------------------------------|--------------------------|
| 1.           |      |                     |                                      |                          |
| 2.           |      |                     |                                      |                          |
| 3.           |      |                     |                                      |                          |
| 4.           |      |                     |                                      |                          |
| 5.           |      |                     |                                      |                          |
| 6.           |      |                     |                                      |                          |
| 7.           |      |                     |                                      |                          |
| <b>Total</b> |      |                     |                                      |                          |

**Name of CHW/CBV:** \_\_\_\_\_

**Date:** \_\_\_\_\_



### 3.E Community Distribution Coupon

**COMMUNITY CONTINUOUS DISTRIBUTION**  
**Ministry of Health – National Malaria Elimination Centre**

#### LLIN Coupon template

|   |                          |                                       |                          |                               |
|---|--------------------------|---------------------------------------|--------------------------|-------------------------------|
| <b>Coupon no:</b> <u>SERIAL NUMBERED</u>          |                          |                                       |                          |                               |
| <b>Province:</b>                                  |                          |                                       |                          |                               |
| <b>District:</b>                                  |                          |                                       |                          |                               |
| <b>Community/village:</b>                         |                          |                                       |                          |                               |
| <b>Name of recipient:</b>                         |                          |                                       |                          |                               |
| <b>Name of head of household:</b>                 |                          |                                       |                          |                               |
| <b>Recipient's relation to head of household:</b> | <input type="checkbox"/> | Head of household                     | <input type="checkbox"/> | Spouse/partner                |
|   | <input type="checkbox"/> | Daughter/son/child under guardianship | <input type="checkbox"/> | Other member of the household |
| <b>Eligibility:</b>                               | <input type="checkbox"/> | Uncovered sleeping space              | <input type="checkbox"/> | New in the community/ village |
|   | <input type="checkbox"/> | Big holes in the mosquito net         | <input type="checkbox"/> |                               |

**Date** \_\_\_\_\_

**Name of Coupon Holder** \_\_\_\_\_

**Signature of Coupon Holder** \_\_\_\_\_



3.F Community LLIN Redemption Register

Community LLIN Distribution Register  
Ministry of Health – National Malaria Elimination Centre  
Register for Community LLIN Redemption at Health Facility

Province: \_\_\_\_\_ District: \_\_\_\_\_ Community: \_\_\_\_\_

Health Facility: \_\_\_\_\_ Date: \_\_\_\_\_ Month: \_\_\_\_\_

| No | Date | Name of Community | Name of person collecting LLIN | Thumb print | Relation to head of household |                |                          |                           | Eligibility              |                  |                 |       | Advice checklist  |                            |                           |                          |                       |       |
|----|------|-------------------|--------------------------------|-------------|-------------------------------|----------------|--------------------------|---------------------------|--------------------------|------------------|-----------------|-------|-------------------|----------------------------|---------------------------|--------------------------|-----------------------|-------|
|    |      |                   |                                |             | Head of household             | Spouse/Partner | Child Under Guardianship | Other member of household | Uncovered sleeping space | New to community | Unrepaired Hole | Other | Malaria education | Other ways to obtain LLINs | How to air and hang LLINs | How to sleep under LLINs | How to care for LLINs | Other |
| 1  |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |
| 2  |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |
| 3  |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |
| 4  |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |
| 5  |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |
| 6  |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |
| 7  |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |
| 8  |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |
| 9  |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |
| 10 |      |                   |                                |             |                               |                |                          |                           |                          |                  |                 |       |                   |                            |                           |                          |                       |       |



### 3.G Supervision Checklists for Community-Based LLIN CD

#### Checklist for Monitoring of Community LLIN Continuous Distribution

Province: \_\_\_\_\_ District: \_\_\_\_\_

Community: \_\_\_\_\_ Name of Affiliated Health Facility: \_\_\_\_\_

Unit (please tick) \_\_\_\_\_

NHC ☐ EHT ☐ HF I/C ☐ HFW ☐ Date: \_\_\_\_\_

Na me of HF I/C (Supervisor) \_\_\_\_\_ Phone No: \_\_\_\_\_

Na me of NHC/ EHT / HFW \_\_\_\_\_ Phone No: \_\_\_\_\_

#### Service Data

Check, record, and discuss data on LLIN distributed for the LAST 3 months.

| Month                              | Reason LLIN slip was issued (total all slips) |                            |                | Number of LLIN slips issued in month<br>(use only for interview with NHCs) | Number of LLIN slips redeemed in month<br>(use only for interview with NHCs) | Does LLINs issued to beneficiaries correspond with redeemed LLIN slips, based on HF's register?<br>(Yes/No) | Have you experienced stock out?<br>(Yes/No) | Balance stock<br>Number |
|------------------------------------|---|----------------------------|----------------|--|--|---|---|-------------------------|
|                                    | Big hole(s) in net                            | No net over sleeping space | New to village |  |  |   |   |                         |
|                                    |   |                            |                |  |  |   |   |                         |
|                                    |   |                            |                |  |  |   |   |                         |
| General Observations and Comments: |   |                            |                |  |  |   |   |                         |



|  |     |    |
|--|-----|----|
| 1. Is there an Inventory control card available for tracking LLIN stocks?                            | YES | NO |
| 2. What is the physical count of LLIN in stock at storage site as of today?                          |     |    |
| 3. What is the quantity on hand of LLIN recorded on the inventory control card as of today?          |     |    |
| 4. Is the inventory control card for LLIN updated as of today?                                       | YES | NO |
| 5. Is storage site keeping to the threshold for minimum stock levels?                                | YES | NO |
| 6. Where will this storage site receive its next supply of LLIN?                                     |     |    |
| 7. Are LLIN Slips received from beneficiaries properly stored for reconciliation?                    | YES | NO |
| 8. Are LLIN issued to beneficiaries documented in the health facility's register? (Inspect register) | YES | NO |

**Use questions 9 to 11 for NHCs only.**

|   |        |           |    |
|---|--------|-----------|----|
| 9. Are NHCs assessing household LLIN need as per design before issuing slip to beneficiaries? | ALWAYS | SOMETIMES | NO |
| 10. Inspect NHCs coupon stubs and record number of households assessed to date:               |        |           |    |
| 11. Are coupons issued to beneficiaries well filled by the NHCs? (Inspect coupon copies)      | ALWAYS | SOMETIMES | NO |

**NHC/ EHT/ HFW Education on Malaria and LLIN Use**

|  |                  |                   |      |
|--|------------------|-------------------|------|
| 1. Are target beneficiaries given education on malaria, LLIN use and care before LLINs and/or coupons are given out? | ALWAYS           | SOMETIMES         | NO   |
| 2. How are beneficiaries educated?   | TALK             | 1-on-1 COUNSELING | BOTH |
|  | OTHER (specify): |                   |      |
| 3. Do NHCs, EHTs & HFWs have job aids to facilitate education on malaria, LLIN use & care?                           | ALWAYS           | SOMETIMES         | NO   |
| 4. If Yes, specify the job aids available:   |                  |                   |      |

**Any Other Comments:**



## Routine Distribution- Antenatal Clinic

Ministry of Health – National Malaria Elimination Centre

## Long-Lasting Insecticide-Treated Nets (LLINs) Distribution Register

4-1





**4.A Under 5 LLIN Distribution Register**

**Routine Distribution- Under 5 Clinic**  
**Ministry of Health – National Malaria Elimination Centre**  
**Long-Lasting Insecticide-Treated Nets (LLINs) Distribution Register**

|                  |                         |             |                |                       |                  |             |
|------------------|-------------------------|-------------|----------------|-----------------------|------------------|-------------|
| <b>Province:</b> |                         |             |                |                       |                  |             |
| <b>District:</b> |                         |             |                |                       |                  |             |
| <b>Facility:</b> |                         |             |                |                       |                  |             |
| <b>S/N</b>       | <b>Under 5 Card No.</b> | <b>Name</b> | <b>Address</b> | <b>No. LLIN Given</b> | <b>Signature</b> | <b>Date</b> |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
|                  |                         |             |                |                       |                  |             |
| <b>Total</b>     |                         |             |                |                       |                  |             |



## 4.B Health Facility LLIN Monthly Summary Form

Ministry of Health – National Malaria Elimination Centre

Province: \_\_\_\_\_ District: \_\_\_\_\_

Name of DHO: \_\_\_\_\_ Month-Year: \_\_\_\_\_

| No. | Name of NHC Zone | No. of LLINs Distributed at Community | Total No. of LLIN Distributed |
|-----|------------------|---------------------------------------|-------------------------------|
|     |                  |                                       |                               |
|     |                  |                                       |                               |
|     |                  |                                       |                               |
|     |                  |                                       |                               |
|     |                  |                                       |                               |
|     |                  |                                       |                               |
|     |                  |                                       |                               |
|     |                  |                                       |                               |
|     |                  |                                       |                               |
|     |                  |                                       |                               |
|     |                  |                                       |                               |

TOTAL NUMBER OF LLIN RECEIVED BY  
TOTAL NUMBER OF LLIN DISTRIBUTED BY  
TOTAL NUMBER OF LLIN STOCK ON HAND

|  |  |  |  |  |  |  |          |
|--|--|--|--|--|--|--|----------|
|  |  |  |  |  |  |  | DISTRICT |
|  |  |  |  |  |  |  | DISTRICT |
|  |  |  |  |  |  |  | DISTRICT |

Signature of DHIO: \_\_\_\_\_

Date: \_\_\_\_\_



## 4.C District LLIN Monthly Summary Form

District LLIN Monthly Summary Form  
Ministry of Health – National Malaria Elimination Centre

Province: \_\_\_\_\_ District: \_\_\_\_\_

Name of DHO: \_\_\_\_\_ Month-Year: \_\_\_\_\_

| No.          | Name of Health Facility | No. of LLINs Distributed at ANC | No. of LLINs Distributed at EPI | No. of LLINs Distributed at Community | Total No. of LLIN Distributed |
|--------------|-------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
|              |                         |                                 |                                 |                                       |                               |
| <b>TOTAL</b> |                         |                                 |                                 |                                       |                               |

TOTAL NUMBER OF LLIN RECEIVED BY  
TOTAL NUMBER OF LLIN DISTRIBUTED BY  
TOTAL NUMBER OF LLIN STOCK ON HAND

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

DISTRICT  
DISTRICT  
DISTRICT

Signature of DHIO: \_\_\_\_\_

Date: \_\_\_\_\_



## 4.D Provincial LLIN Monthly Summary Form

**Provincial LLIN Monthly Summary Form**  
**Ministry of Health – National Malaria Elimination Centre**  
**Provincial LLIN Monthly Summary Form**

**Province:** \_\_\_\_\_

**Name of PHIO:** \_\_\_\_\_

| No. | Name of District | No. of LLINs Distributed at ANC | No. of LLINs Distributed at EPI | No. of LLINs Distributed at Community | Total No. of LLIN Distributed |
|-----|------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |
|     |                  |                                 |                                 |                                       |                               |

**TOTAL NUMBER OF LLIN RECEIVED BY DISTRICT**

**TOTAL NUMBER OF LLIN DISTRIBUTED BY DISTRICT**

**TOTAL NUMBER OF LLIN STOCK ON HAND BY PROVINCE**

**Signature of PHIO:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Month/Year:** \_\_\_\_\_



## 4.E Health Facility Supervision Checklists for LLIN CD

### Checklist for Monitoring of LLIN Continuous Distribution in ANC/EPI Clinic

Province: \_\_\_\_\_ District: \_\_\_\_\_

Name of Affiliated Health Facility: \_\_\_\_\_ Outreach: \_\_\_\_\_

Unit (please tick)      ANC ☐      EPI Clinic ☐      Date: \_\_\_\_\_

ANC in Charge      Contact No: \_\_\_\_\_      Present: \_\_\_\_\_      Yes/No \_\_\_\_\_

EPI in Charge      Contact No: \_\_\_\_\_      Present: \_\_\_\_\_      Yes/No \_\_\_\_\_

Other Persons Met (ANC)      Contact No: \_\_\_\_\_      \_\_\_\_\_

Other Persons Met (EPI)      Contact No: \_\_\_\_\_      \_\_\_\_\_

#### 1. Service Data

Check, record, and discuss data on LLIN Distributed for the LAST 3 months:

| Month | Target Group |     | Number of LLINs issued in this Facility |     | Number of LLINs Issued as Reported in the HMIS Software |     | Does LLINs issued to beneficiaries correspond with available records on target beneficiary? Indicate Yes or No |     |
|-------|--------------|-----|---|-----|---|-----|--|-----|
|       | ANC          | EPI | ANC                                     | EPI | ANC   | EPI | ANC  | EPI |
|       |              |     |   |     |   |     |  |     |
|       |              |     |   |     |   |     |  |     |
|       |              |     |   |     |   |     |  |     |

|   |        |  |           |    |
|---|--------|--|-----------|----|
| 1. Are LLIN issued to beneficiaries documented in the ANC/EPI register? (Inspect ANC/EPI register)?                                       | ALWAYS |  | SOMETIMES | NO |
| 2. Are LLIN issued to beneficiaries indicated in the ANC Card/Road to Health Card (Inspect available maternal/child health record books)? |        |  |           |    |
| 3. Are LLIN issued to beneficiaries documented using the Monthly LLIN Distribution Summary Forms? (Inspect summary forms?)                | ALWAYS |  | SOMETIMES | NO |

General Observations and Comments:



### Logistics Management (To be completed for health facility store)

|   |          |                |
|---|----------|----------------|
| 1. Is there an Inventory control card available for tracking LLIN stocks?                   | YES      | NO             |
| 2. What is the physical count of LLIN in stock at storage site as of today?                 |          |                |
| 3. What is the quantity on hand of LLIN recorded on the inventory control card as of today? |          |                |
| 4. Is the inventory control card for LLIN updated as of today?                              | YES      | NO             |
| 5. Are facilities keeping to the threshold for minimum stock levels?                        | YES      | NO             |
| 6. Where will this facility receive its next supply of LLIN?                                | FACILITY | DISTRICT STORE |
| Other (Specify):  |          |                |

**General Observations and Comments:**

### ANC/EPI Education on Malaria and LLINs

|   |                  |           |      |
|---|------------------|-----------|------|
| 1. Are target beneficiaries given education on malaria, LLIN use and care before LLINs are given out? | ALWAYS           | SOMETIMES | NO   |
| 2. How are beneficiaries educated?  | TALK             | 1-on-1    | BOTH |
|   | OTHER (specify): |           |      |
| 3. Are there job aids to facilitate education on malaria, LLIN use & care?                            | YES              |           | NO   |
| 4. If Yes, specify the job aids available:  |                  |           |      |
| 5. Was there a demonstration on how to hang the net before LLIN is given out?                         | YES              | SOMETIMES | NO   |
| 6. Was the demonstration done accurately?   | YES              | SOMETIMES | N/A  |

**General Observations and Comments:**



## Annex 5. Key Messages

| Tasks |                          | Key Messages   |
|-------|--------------------------|--|
| 1.    | <b>General messaging</b> | <ul style="list-style-type: none"> <li>• LLINs are one of the most effective ways to prevent malaria.</li> <li>• The mosquitoes that transmit malaria can bite anytime, but usually at night when people are sleeping.</li> <li>• An LLIN is only effective if you sleep under it every night all year round.</li> <li>• An LLIN acts as a physical barrier between the person sleeping under it and the mosquito.</li> <li>• The chemical on the LLIN kills mosquitoes.</li> <li>• Sleeping under LLINs protects you and your family from mosquito bites that cause malaria.</li> </ul> |
| 2.    | <b>Net use</b>           | <ul style="list-style-type: none"> <li>• An LLIN is comfortable to use. It does not cause suffocation. It allows easy breathing while sleeping.</li> <li>• An LLIN is safe to use. The chemical on it is not harmful to children or adults.</li> <li>• Before using an LLIN, hang it in the shade for 24 hours to air it.</li> <li>• Hang the LLIN over the sleeping space correctly by tucking completely.</li> <li>• Everybody should sleep under an LLIN consistently.</li> </ul>   |
| 3.    | <b>Misuse of LLINs</b>   | <ul style="list-style-type: none"> <li>• LLINs should not be used for any other purpose (e.g., fishing) other than for malaria prevention.</li> <li>• Community leaders should take the lead and enforce the correct use of LLINs.</li> <li>• Every community member has a role to play in ensuring that there is no misuse.</li> </ul>  |
| 4.    | <b>Net care</b>          | <ul style="list-style-type: none"> <li>• Tie up the LLIN every morning to protect it from damage.</li> <li>• New LLINs should not be washed before use.</li> <li>• LLINs should not be washed frequently. At most, once in three months or when it becomes dusty or dirty.</li> <li>• Gently wash an LLIN in a basin or bucket and safely dispose of the wastewater.</li> <li>• Wash an LLIN with mild soap and clean water.</li> <li>• Hang an LLIN under the shade only and not in direct sunlight to dry.</li> </ul>  |



|    |   |   |
|----|---|---|
| 5. | <b>Net repair</b>   | <ul style="list-style-type: none"> <li>Inspect an LLIN regularly for any damage, e.g., holes and repair immediately.</li> <li>An LLIN with minor damages should be repaired by sewing with needle and thread.</li> <li>Keep away an LLIN from lit candles and kerosene (paraffin) lamps.</li> </ul>   |
| 5. | <b>Mobile and migrant populations</b>   | <ul style="list-style-type: none"> <li>Encourage tourists, truck drivers, and traders to carry and sleep under an LLIN when travelling to prevent malaria.</li> <li>Encourage everyone travelling to malaria-prone areas to carry and sleep under a LLIN to prevent malaria (local and international).</li> <li>Encourage people to buy from commercial outlets where free LLINs are not available.</li> </ul>  |
| 6. | <b>Hospitality industry and other employers</b>   | <ul style="list-style-type: none"> <li>Hotels, hostels, rest houses, and lodge owners should provide and ensure LLINs are hung in all rooms and on every bed space to protect clients from malaria.</li> <li>Employers should procure/purchase LLINs for their employees (officers on peacekeeping missions, construction workers) to protect them from malaria while on duty.</li> <li>Hotel, lodge owners, and employers should procure LLINs according to national LLIN guidelines.</li> </ul> |
| 7. | <b>Private sector</b>   | <ul style="list-style-type: none"> <li>Retailers and wholesalers should procure LLINs according to national guidelines.</li> </ul>  |
| 8. | <b>Institutions (Ministry of Education, refugee camps, road construction companies, health facilities, and other organizations)</b> | <ul style="list-style-type: none"> <li>The Ministry of Education should include an LLIN as one of the requirements for pupils in boarding schools.</li> <li>Institutions of higher learning (universities and colleges) should encourage students to purchase and sleep under LLINs every night to prevent malaria.</li> <li>Health facilities should ensure that all patients' beds have an LLIN and encourage admitted patients to sleep under LLINs.</li> </ul>                                |
| 10 | <b>Risk mitigation</b>  | <ul style="list-style-type: none"> <li>Follow prescribed national guidelines to mitigate health emergencies</li> </ul>  |











Republic of Zambia

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