



GOVERNMENT OF UGANDA
Ministry of Health

**CONTINUOUS LONG LASTING
INSECTICIDAL NETS (LLIN) ACCESS AND
USE GUIDELINES**



“Sleep under a mosquito net every night”



**World Health
Organization**
Uganda



UKaid
from the Department for
International Development

MAY 2019

TABLE OF CONTENTS

Foreword	iv
Acknowledgements	v
Glossary and commonly used words	vi
Acronyms	vii
1.0 Introduction	1
1.1 Malaria in Uganda.....	1
1.2 Malaria Control with Insecticide Treated Nets in Uganda.....	1
1.3 Rationale for strengthening routine LLIN distribution	2
2.0 Purpose and objective of routine LLIN distribution guidelines	3
2.1 Purpose of the guidelines	3
2.2 Specific objectives.....	3
3.0 Routine LLIN coordination and planning	11
4.0 Mechanisms for Routine LLIN distribution	11
4.1 Distribution mechanisms.....	11
4.2 Choosing the best mix	14
5.0 Determining routine LLIN needs	17
6.0 LLIN logistics	17
6.1 LLIN procurement and forecasting	17
6.2 Warehousing and LLIN storage	18
6.3 National and peripheral levels.....	19
6.3.1 National level	19
6.3.2 Peripheral level.....	19
6.3.3 Health facility level	19
6.4 Warehousing	19
6.4.1 Assessing warehouse capacity and quality	19
6.4.2 Storage conditions	20
6.4.3 LLIN Insurance	20
6.4.4 Warehouse security.....	20
6.5 Warehouse management and inventory controls	20
6.6 Inventory controls	20
6.7 LLIN transport	21
6.7.1 Transport planning.....	21
6.8 Ensuring continuous and sufficient supply	21
6.9 National advocacy and decision-making	21
6.10 Stock management procedures	22
6.10.1 Periodic resupply and security stocks	22
6.10.2 Monitoring stock levels.....	22
6.10.3 Threshold for ordering new nets	22
6.11 Procedures for requisitioning LLIN stocks and handling stock-outs	22


7.0 Social Behavior Change Communication (SBC)	22
7.1 Communication channels and activities.....	22
7.2 Communication planning.....	23
7.3 Production and dissemination of materials.....	24
8.0 Training	25
8.1 Developing training plans	25
8.1.1 Integrated training.....	25
8.1.2 Stand alone training.....	25
8.2 Identifying trainers.....	26
8.3 Identifying who should be trained and how.....	26
8.4 Training organization.....	26
8.5 Developing training materials.....	27
8.5.1 Training manual.....	27
8.5.2 Training curricula.....	27
8.5.3 Training materials.....	27
8.6 Training oversight	27
9.0 Managing the distribution	28
9.1 During distribution activities.....	28
9.2 Data management.....	35
9.3 Post distribution activities.....	35
9.4 Issues of overlap, oversupply and other implications.....	35
10. Supervision	35
10.1 Coordination.....	35
10.2 Planning.....	35
10.3 Tools.....	36
10.4 Follow-up.....	36
11. Monitoring and Evaluation	36
11.1 Monitoring.....	37
11.1.1 Indicators.....	37
11.1.2 Activities.....	37
11.2 Evaluation.....	38
11.2.1 Indicators.....	38
11.3 Quality assurance and risk management.....	39
12. Identifying Research and support needs	39
References	40

FOREWORD

The National Malaria Control Division (NMCD), in line with the WHO, adopted universal LLIN coverage of populations at risk, defined as one net for every two people to achieve community benefits. According to the 2014 – 2020 Uganda Malaria Reduction Strategic Plan (UMRSP), the NMCD seeks to achieve and sustain universal coverage of LLINs to at least 85% of the population at risk. The most cost-effective way of rapidly achieving LLIN universal coverage is through mass distribution campaigns, aiming for high and equitable coverage.

However, LLIN ownership and access levels are known to start falling almost immediately after a mass campaign with ‘loss’ of LLINs through various causes, starting gradually and then increasing over the next few years. To sustain the achievements of the mass campaign, there should be robust routine distribution mechanisms such as through channels such as the Expanded Program on Immunization (EPI) and Ante-natal Clinics (ANC), schools and community groups and, where appropriate, subsidized sales and through the private sector. However, the most recent Mid-Term Review report shows that routine LLIN distribution has remained limited and fragmented. The most common routine LLIN distribution channel is through the ANC to pregnant women and EPI to children under 5 years, with a few stakeholders’ led efforts such as the distribution of LLINs in HIV and TB programs and most recently, refugee distributions led by UNHCR and school campaigns led by the USAID/PMI through Malaria Action Plan for Districts (MAPD). These distribution channels are not sufficient to ensure universal coverage because they only cater for just a proportion of the population and yet the sustainability of universal coverage should not only target the most at risk populations but aim to cover the whole population.

The main challenges to implementation of a successful routine distribution include weak coordination between the NMCD, stakeholders and partners that has been compounded with the lack of a full list/mapping of all stakeholders involved in this activity. Other notable issues include poor routine data management, monitoring and evaluation and supervision. The main goal of this guideline is to address these issues with the main purpose of providing a common framework for all stakeholders involved in routine LLIN distribution nationwide. It also provides information and guidance to malaria stakeholders on the planning, implementation, monitoring and evaluation of routine LLIN distribution enabling the NMCD harmonize stakeholder actions and improve efficiency in use of resources.



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ACKNOWLEDGEMENTS

The development of these guidelines has been a concerted effort by several players including the NMCD, development partners, NGOs and CSOs. We would wish to acknowledge the WHO Uganda office for providing funding for this guideline development including technical and administrative support provided by; Dr Fatumbi Bayo Segun, Dr Katureebe Charles, and Ms. Christine Karamagi.

Special appreciation goes to the National Malaria Control Division (NMCD), led by the Program Manager, Dr Opigo Jimmy together with Dr Catherine Maiteki -Sebuguzi, Mr Rukaari Medard, Mr Charles Ntege, Mr Joel Miti - Tutu, Ms. Rukia Nakamatte , Ms Mariam Nabukenya, Dr Damian Rutaazaana, Dr Denis Rubahika, Dr Jane Nabakooza, Dr Myers Lugemwa, Mr Peter Mbabazi and Dr Daniel kyabayinze.

We appreciate the WHO supported Consultant, Dr. Wanzira Humphrey who led the process of developing these guidelines with the backing of the WHO and NMCD team members.



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GLOSSARY AND COMMONLY USED WORDS

Channel	The route through which the LLINs (or vouchers or coupons) flow to the end-user. Considering the final point at which the user will receive a LLIN is a good way to get a clear idea of the channel.
Commercial/private LLIN sector	The independent for-profit retail market for LLINs, with independent import, distribution systems, and sales points; includes formal and informal outlets.
LLIN access	Access to a LLIN is when a LLIN is available for an individual to sleep under every night. Whether or not the person does sleep under the LLIN is an issue of use, not an issue of access.
LLIN ownership	Having possession of a LLIN, whether or not it is used
LLIN strategy	An overall plan for reaching and maintaining LLIN coverage and utilization targets in the country, which outlines, among other issues, all the mechanisms that will combine to achieve this.
LLIN use	Individuals sleeping under a LLIN every night.
LLINs Distribution	Distribution is the process of movement of LLINs from the source through a distribution channel to the actual handing-over of LLINs to the beneficiaries
Long-lasting insecticidal net(LLIN)	A factory-treated mosquito net with insecticide incorporated into or bound around the fibres, or a mosquito net treated with a long-lasting insecticidal treatment kit, that retains its biological activity for at least 20 WHO standard washes under laboratory conditions and 3 years of recommended use under field conditions without re-treatment.
Mechanism	The whole delivery system that results in a household getting a net, a channel is part of the mechanism but the whole mechanism includes other aspects such as decisions on pricing, type of LLIN, and procurement.
Public sector	Government sector (e.g. Ministry of Health or Ministry of Education, often with support from international and bi-lateral donors, contractors, and NGOs).
Targeted	Intended for a specific group, with LLIN distribution designed only to address this group. The targeted group may be a specific biologically vulnerable group such as pregnant women, children under 5 years, school children, other groups that need particular attention to maintain ownership (e.g. the poor), or specific geographical areas (e.g. the most remote).
Universal Coverage	Defined as one LLIN for every two people

ACRONYMS

ACTs	Artemisinin-based Combination Therapy
ANC	Ante-natal Clinics
CSO	Civil Society Organizations
DEO	District Health office
DHIS2	District Health Information System ²
DPT	Diphtheria, Pertussis and Tetanus vaccine
EIR	Entomological Inoculation Rate
EPI	Expanded Program on Immunization
HIV	Human Immune-deficiency Virus
HMIS	Health Management and Information System
HSD	Health Sub-District
IMCI	Integrated Management of Childhood Illnesses
IPC	Interpersonal communication
IRS	Indoor Residual Spraying of insecticide
IVM-TWG	Integrated Vector Management Technical Working Group
Km	Kilo meter
LLIN	Long Lasting Insecticidal Nets
MCH	Maternal and Child Health
MiP	Malaria in Pregnancy
MIS	Malaria Indicator Survey
MoH	Ministry of Health
MTR	Mid-Term Review
NCC	National Coordination Committee
NetCALC	Net Calculator
NMCD	National Malaria Control Department
QA/QC	Quality Assurance/Quality Control
RH	Reproductive Health
SBC	Social Behavioral Change
UMRSP	Uganda Malaria Reduction Strategic Plan
WHO	World Health Organization
WHOPES	World Health Organization Pesticide Evaluation Scheme

1.0 INTRODUCTION

1.1 Malaria in Uganda

Malaria is endemic in approximately 95% of the country, affecting over 90% of the population. It still remains as one of the leading cause of morbidity and mortality in Uganda affecting mostly children under 5 years and pregnant women. According to the National Malaria Control Division (NMCD), malaria accounts for 30-50% of outpatient visits at health facilities, 15-20% of all hospital admissions, and up to 20% of all hospital deaths[1]. The 2014/15 Malaria Indicator Survey (MIS) report indicated prevalence of malaria parasites in children <5 years of age ranging from <1% in Kampala to 37% in East central region, with a national average of 19%[2]. Furthermore, the climate in Uganda is favorable for stable, year round malaria transmission with relatively little seasonal variability in almost all areas. The NCMD estimates that the entomological inoculation rate (EIR) varies from >100 in 70%, 10-100 in 20%, and <10 in 10% of the country.

In an effort to reduce this malaria burden, the NMCD is implementing the Uganda Malaria Reduction Strategic Plan (UMRSP) 2014-2020 which spells out a number of key malaria control interventions such as increasing coverage of long-lasting insecticidal nets (LLINs), indoor residual spraying of insecticide (IRS), treatment of malaria cases with artemisinin-based combination therapy (ACTs); in addition to strengthening NMCD human resource capacity, malaria surveillance, monitoring and evaluation, social mobilization and behavior change communication (SBCC)[1].

1.2 Malaria Control with Insecticide Treated Nets in Uganda

The use of LLINs is the primary strategy employed for the prevention of malaria in Uganda. LLINs are defined as treated nets which retain insecticidal activity for at least 3 years under field conditions. They have played an important role in the remarkable success in reducing malaria burden over the past decade and therefore a core prevention tool, and widely used by people at risk of malaria[3, 4]. Historically, LLIN distribution was aimed at pregnant women and children under 5 years. These groups are severely impacted by malaria; however, they do not represent the major population groups harboring the asymptomatic parasite pool[5].

The World Health Organization (WHO) recommends universal coverage of populations at risk, defined as one net for every two people to achieve community benefits[6]. The most cost-effective way of rapidly achieving LLIN universal coverage is through mass distribution campaigns, aiming for high and equitable coverage and thereafter this should be sustained through continuous distribution through channels such as the Expanded Program on Immunization (EPI) and Ante-natal Clinics (ANC), schools and community groups and, where appropriate, subsidized sales and through the private sector[6–8].

In 2009, Uganda adopted universal LLIN coverage and there have been several approaches the country has used to rapidly achieve this target, including a targeted distribution of over 7.2 million LLINs in 2010 to children under 5 years and pregnant women and later graduating to

mass distribution campaigns, aiming for high and equitable coverage. The first mass LLIN distribution campaign was conducted in 2013, where over 20 million nets were distributed to over 41 million individuals and the second mass campaign of 2017 was completed in March 2018, with over 24 million LLINs estimated to have been distributed. These LLIN distribution campaigns have resulted into a gradual increase in trends in the ownership of LLINs. For instance, several surveys (UDHS and UMIS conducted between 2006 and 2014) report that the percentage of households with at least one ITN has increased from 16% in 2006 to 47% in 2009 to 60% in 2011 and to 90% by 2014 [2]. Some efforts have also been made to sustain universal LLIN coverage after the mass distribution campaigns mainly through distribution to pregnant mothers during the ante natal visits (ANC), through the EPI and the provision of subsidized LLINs through the private sector.

1.3 Rationale for strengthening routine LLIN distribution

The 2014 – 2020 Uganda Malaria Reduction Strategic Plan (UMRSP), under strategy 2 of objective 1 specifies that the NMCD seeks to achieve and sustain universal coverage of LLINs to at least 85% of the population at risk[1]. According to this strategy, the NMCD and partners would support the procurement and distribution of the LLINs through mass campaigns and routine distribution through ANC, EPI, schools, refugee settlements, private providers and commercial outlets.

LLIN ownership and access levels are known to start falling almost immediately after a mass campaign with ‘loss’ of LLINs through various causes, starting gradually and then increasing over the next few years. There is evidence that household ownership of an insecticide-treated net drops by approximately a 20-point percentage within the first one a half years following a mass LLIN campaign, justifying the need for a continuous mechanism [9]. Evidence suggests three main reasons for the rapid decline of coverage; 1) LLIN wear and tear, 2) population increase, and 3) non-achievement of universal coverage in the first place. Other distributions are therefore needed to replenish old LLINs/top up to target LLIN coverage levels and then maintain these levels over the medium to long term.

From the results, as already reported, there has been success in the two mass campaigns as shown by the number of LLINs distributed, however routine LLIN distribution has remained limited and fragmented. The most common routine LLIN distribution channel is through the ANC to pregnant women and EPI to children under 5, with a few stakeholders’ led efforts such as the distribution of LLINs in HIV and TB programs and most recently, refugee distributions led by UNHCR and school campaigns led by the USAID/PMI through Malaria Action Plan for Districts (MAPD). However, these efforts have been hindered by challenges such as weak coordination between the NMCD, stakeholders and partners that has been compounded with the lack of a full list/mapping of all stakeholders involved in this activity. There have also been instances where routine LLINs are used as an incentive for uptake of other program activities such as ANC/EPI attendance rather than the primary objective of prevention of malaria transmission. Other notable issues include poor routine data management, monitoring and evaluation and supervision. Additionally,

these distribution channels are not sufficient to ensure universal coverage because they only cater for just a proportion of the population and yet the sustainability of universal coverage should not only target the most at risk populations but aim to cover the whole population. For this reason, routine delivery of LLINs via other channels should be systematically introduced while strengthening the already existing mechanisms. Better still a combination of different mechanisms is desirable and a range of contextual issues drive the choice of the most appropriate mix for the different areas in the country. This is in line with one of the recommendations from the Malaria Mid-Term Review (MTR), specific for LLINs distribution which emphasized the need for the MOH/NMCD and partners to maintain and sustain the gains of the mass LLIN campaigns by exploring the feasibility and utilization of additional channels such as routine distribution of LLINs in day-schools, community distributions in special or humanitarian circumstances like in Refugees settlements and host communities among others.

2.0 Purpose and objective of routine LLIN distribution guidelines

2.1 Purpose of the guidelines

The main goal of this guideline is to complement the LLIN mass distribution campaigns to achieve and sustain LLIN coverage and use for at least 85% of the population. Its purpose is to provide a common framework for all stakeholders involved in routine LLIN distribution nationwide including the NMCD, donors, development partners, the private sector, CSOs, and institutions. It provides specifies standards and norms to be used so as to maintain high access, ownership and use of LLINs in Uganda using routine distribution channels as a component of a broader national LLIN strategy. It also provides information and guidance to malaria stakeholders on the planning, implementation, monitoring and evaluation of routine LLIN distribution enabling the NMCD harmonize stakeholder actions and improve efficiency in use of resources. This guideline can also be used as a tool for resource mobilization by the NMCD among potential donors/funders.

2.2 Specific objectives

The specific objectives of this guideline include:

1. Act as a standard reference for routine LLIN distribution in Uganda
2. State the coordination structure, relevant stakeholders and their roles and responsibilities
3. Specify the different mechanisms/channels for routine LLIN distribution
4. Describe the process for routine LLIN implementation such as planning, logistics, communication, training, distribution, supervision and data management.
5. The guidelines can be used for advocacy and resource mobilization by the NMCD

3.0 Routine LLIN coordination and planning

Routine LLIN delivery services is an on-going process rather than a time-limited delivery campaign, which requires proper coordination and planning. The National Coordination Committee (NCC) is the overall coordinating and oversight committee for both the mass LLIN Campaigns and Routine Llin Distribution.

National Coordination Committee (NCC)

The NCC, headed by the Permanent Secretary (PS) of Health Services and supported by the NMCD Assistant Commissioner as secretariat, will provide leadership and direction, and is responsible to oversee and communicate on all aspects of the routine LLIN distribution process. The membership of the NCC shall be drawn from representation of the Health Development Partners (HDPs), key government line ministries and agencies, MoH management, implementing partners, and other entity deemed necessary from time to time. The NCC will play a critical role on resolving bottlenecks throughout the planning and implementation of the campaign and will ensure advocacy at all levels to ensure engagement and support for the routine distribution exercise.

Roles of the National Coordination committee

Review and validate all routine LLIN documents related to strategy and implementation, including the implementation guidelines, timeline and budget for the Distribution

6. Set and disseminate specifications for LLINs;
7. Ensure engagement of national, district and sub-district (sub county, parish, village) authorities and stakeholders through open and transparent communication;
8. Support the establishment and functioning of district, sub county, parish and community coordination structures;
9. Consolidate district budgets into a national budget and identify any gaps requiring national or international resource mobilization;
10. Monitor LLIN procurement and delivery dates;
11. Track performance of districts and provide overall guidance on planning and implementation;
12. Monitor and resolve bottlenecks at central and decentralized levels;
13. Advocate at all levels for engagement and support (international, national and lower levels);
14. Supervise and monitor routine LLIN implementation;

The NMCD, as part of the Integrated Vector Management Thematic Working Group (IVM-TWG), will lead the implementation of routine LLIN distribution activities and will appoint an LLIN coordinator (from among its members) to be the focal point person on routine LLIN related activities.

Roles of the IVM-TWG include:

1. Lead the routine LLIN implementation activities
2. Lead the review and implementation of policy, strategies and guidelines on routine LLIN distribution process.

3. Routine LLIN distribution partner mapping.
4. Coordinate routine LLIN distribution activities with all relevant stakeholders (both national and sub-national) and implementing partners.
5. Ensure that relevant evidence/information needs are available to support the routine LLIN distribution process including: the availability and use of insecticide treated nets; temporal and spatial data on insecticide resistance for different insecticides; durability of insecticide-treated nets and their impact on the biting patterns etc
6. Supervise and conducts regularly, operational research with respect to LLIN coverage, use and insecticide resistance among others.
7. Provide technical assistance on LLINs to both national and sub-national stakeholders
8. Supervise and monitor routine LLIN distribution activities
9. Manage the LLIN data and related databases including data presentation and reporting
10. Coordinate the conduct of market research and social marketing for LLINs.

The IVM-TWG will work closely with other NMCD thematic working groups including; the Surveillance, Monitoring and Evaluation and Operation Research (SMEOR); Social Behavior Change Communication (SBCC); and the procurement and logistics team.

Roles of the SMEOR - TWG

1. Develop training materials and all tools needed for routine implementation (data collection tools; monitoring and supervision supports; protocols and questionnaires for evaluation of LLIN distributions; etc.)
2. Together with the IVM, procurement and logistics team, undertake macro quantification of LLIN.
3. Participate in micro-planning training and support districts and sub-counties with filling in the data collection forms;
4. Work with the district and DHIS2 data management team to compile, clean and validate routine LLIN data
5. Assist with the evaluation of trainees following training sessions to better target supportive supervision during implementation of activities;
6. Identify and resolve bottlenecks in implementation of activities;
7. Carry out post-distribution data quality assurance in consultation with the IVM and DHIS2 team.

Roles of the SBC - TWG

1. Design the routine LLIN communication plan, advocacy plan and talking points
2. Develop a plan for mobilizing existing malaria champions in its advocacy and SBC initiatives
3. Develop a plan to engage the private sector, including the production of an advocacy toolkit that will explain how malaria control is in business's interest and what types of acknowledgements the business will receive for their in-kind and financial contributions.
4. Review the micro-planning tools to assure that key communication inputs from major stakeholders, such local drama troops, health CBOs and other influential actors, are included.
5. Design a training package to input SBC training content and methodology in the

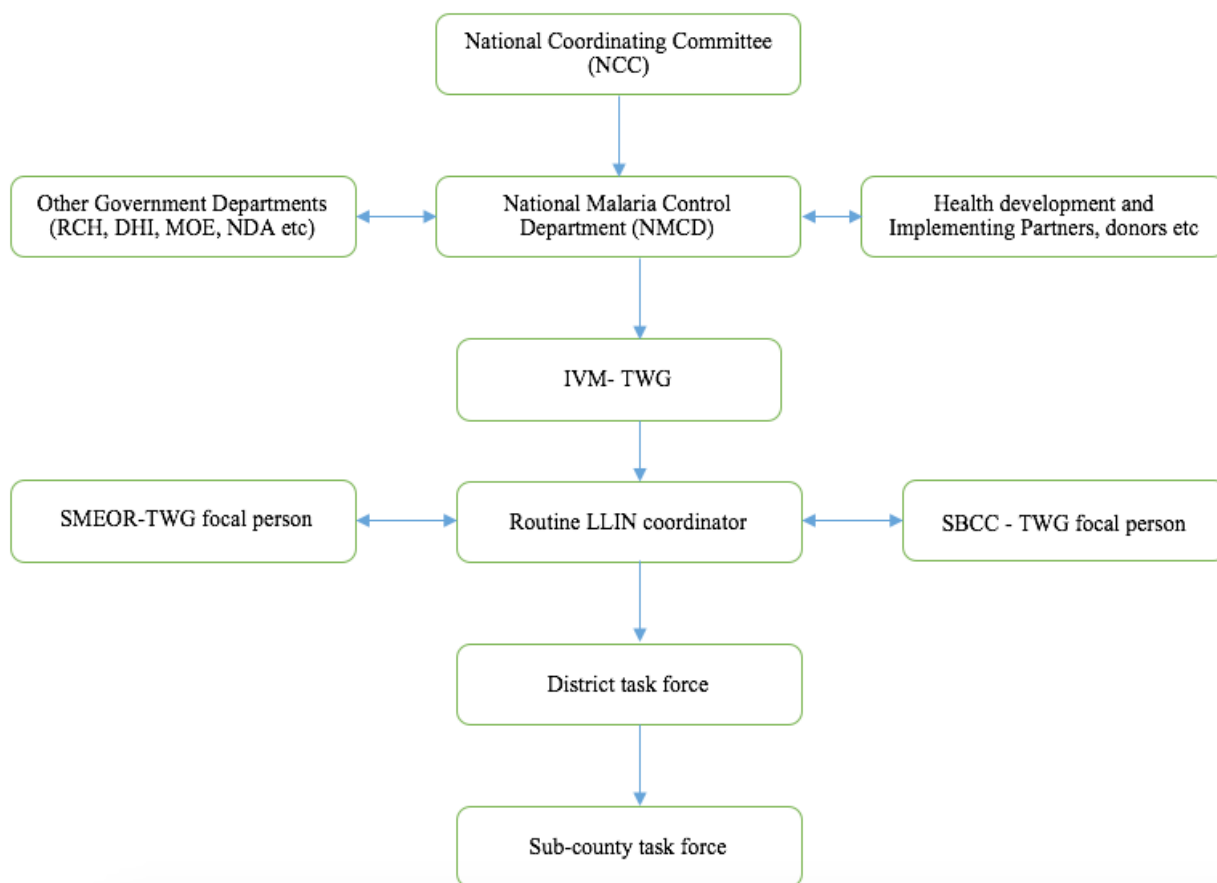
- curriculum for the Trainer of Trainers orientations. Support development of advocacy and social mobilization elements of training materials that will be used at all levels for all actors to ensure consistency in transmission of messages;
6. Determine the key channels and messages to be disseminated through each channel. Develop tools, supports and key messages for mass and interpersonal communication and ensure that these are pre-tested, reproduced and delivered to implementing districts on time;
 7. Ensure that sufficient number of visibility materials such as aprons, t-shirts and/or caps for registrars and distribution site personnel are ordered and distributed, as well as banners for use at distribution sites and community meetings.
 8. Participate in training (or supervise training) of actors at all levels;
 9. Prepare documents and messages for any negative communication or rumors arising, as well as identify the spokespersons who can address these issues;
 10. Carry out supportive supervision and monitoring of activities

Roles of the procurement and logistics team

1. Continuously monitor and report on the status of LLIN procurement and pipeline monitoring
2. Provide support to districts and sub counties, in the form of technical assistance and training for procurement and logistics management
3. Develop LLIN positioning plan, including storage space requirements, for central warehouses in Kampala, sub counties and ensure that a warehouse assessment and verification is undertaken prior to LLIN arrival;
4. Work with National Medical Stores (NMS) and the Joint Medical Stores (JMS) on a continuous and sustainable LLIN movement strategy.
5. Train all people involved in the supply chain in use of tracking tools such as waybills, stock-sheets and tally-sheets;
6. Identify and resolve in-country supply chain bottlenecks;
7. Provide guidance on the management and reporting of variance in quantities of LLINs;
8. Ensure successful implementation of a comprehensive waste management plan;

Figure 1 is an organogram summarizing the coordination structure of the routine LLIN distribution.

Figure 1: Routine LLIN distribution organogram



The NMCD considers partnership with other institutions, ministries, civil society organizations (CSOs) and the private sector as a cornerstone to increase access and use of LLINs in all its undertakings through coordinated, strategic planning and financing. The table 1 below is a detailed mapping of stakeholders involved with LLIN distribution and their roles and responsibilities.

Table 1: Roles and responsibilities of the routine LLIN distribution stakeholder

Level	Stakeholder	Roles and responsibilities
National level	National Malaria Control Division	<ul style="list-style-type: none"> • Policy formulation, oversight, co-ordination, strategic planning, advocacy, procurement, oversee LLIN distribution, data collection and collation, and quality control.
	Ministry of Health (MoH) Departments <ul style="list-style-type: none"> • Reproductive and Child Health • Health Promotion and Communications • Division of health information 	<ul style="list-style-type: none"> • Development of standardized guidelines and tools • Advocacy for funding support • Train central pool of trainers and oversee training cascade to lower levels (NMCD and supporting partners) • Supervision and quality control including external audit visits to districts and health sub-district (HSDs) (NMCD and supporting partners) • Reviewing mechanisms performance and lessons learnt to feed into appropriate modifications. • Support and implement LLIN communication activities • Collate, clean and review LLIN component of HSD iMOSH MIS data and provide regular reports on LLIN distribution
	<ul style="list-style-type: none"> • Donors • Health development and Implementing partners such as WHO, GF, PMI, TASO, MAPD, UHMG, PACE, DFID, AMF 	<ul style="list-style-type: none"> • Support the development of standardized tools • Support overall co-ordination of LLIN activities in the country including logistics, communication, training, implementation and post distribution activities. • Support procurement of commodities • Support delivery of LLINs • Support distribution of LLINs
	<ul style="list-style-type: none"> • National Drug authority • Uganda National Bureau of Standards • National Medical Store/ Joint Medical Stores 	<ul style="list-style-type: none"> • Development of standard specifications for LLIN and quality assurance • Procurement, storage and distribution of LLINs
	Ministry of Water and Environment	<ul style="list-style-type: none"> • Guide LLIN waste disposal
	Ministry of Education and sports	<ul style="list-style-type: none"> • Review and provide input on implementation guidelines, training materials and data tools • Advocacy and resource mobilization • Participate in the planning and coordination of LLIN distribution activities including; programming, training, and procurement • Sensitization and engagement of schools and surrounding communities • Provide technical oversight for Social behavior Change interventions • Participate in monitoring and evaluation and quality assurance of the entire distribution process

District	<ul style="list-style-type: none"> • District health team 	<ul style="list-style-type: none"> • Participate in district level quantification, and planning for the routine distribution • Endorse LLIN stock received at the district • Monitor and supervise LLIN distribution in the district • Jointly review and endorse LLIN distribution data before forwarding to MoH • Training and supervision
	District education team	<ul style="list-style-type: none"> • Participate in district level planning for school based LLIN distribution • Provide data for quantification of LLINs • Monitor and supervise net distribution in the district • Jointly review and endorse school distribution data before forwarding to MoH • Training and supervision
	District store keeper	<ul style="list-style-type: none"> • Support the identification of LLIN storage at lower levels • Responsible for storage and security of the LLINs at the district • Oversee logistics and transportation of LLINs at the district level • Oversee disposal of LLIN related wastes • Maintain accurate and provide update to date records of LLINs in the store to the district
Health sub-district	LC 3 chairman, Sub-county chief Health sub-district in-charge	<ul style="list-style-type: none"> • Coordinate LLIN related activities at the HSD including planning, LLIN storage, registration and distribution • Act as trainers during health facility personnel training • Support the identification of distribution points/sites • Ensure quality of distribution, conduct integrated Supportive Supervision to HFs, feedback and respond to findings. • Collate and review LLIN data and send to district
Health Facility	Health facility in-charge	<ul style="list-style-type: none"> • Distribute LLINs to beneficiaries according to guidelines • Provide health education to beneficiaries • Record LLINs distributed on beneficiary's card and register • Submit monthly and quarterly summaries in Health Management and Information System (HMIS) • Manage the LLIN stock and report any actual or impending stock out • Plan outreach to cover remote areas
Community	Political leaders Community civil societies Community members	<ul style="list-style-type: none"> • Spread awareness of LLIN distributions • Encourage community attendance and LLIN uptake • Encourage LLIN use, good care and condemn miss use.
Household level	Head of household	<ul style="list-style-type: none"> • Participate in LLIN distribution activities, collecting the nets, promoting use, care, repair, disposal or re-purposing and condemn miss use

School level	School Management committee	<ul style="list-style-type: none"> • Advocacy and resource mobilization • Foster local ownership of the LLIN distribution at the schools • Participate in sensitization and engagement of the local community
	Head teachers	<ul style="list-style-type: none"> • Quantify and register school based LLIN target beneficiaries. • Orient relevant staff in the school that will be engaged in issuing LLINs to school pupils. • Identify storage space for LLINs in the school that is clean, secure, out of direct sunlight or water. • Plan and execute health education on malaria control, net use, net repair. • Coordinate issuing LLINs to school pupils in respective schools.
	Class teachers	<ul style="list-style-type: none"> • Provide health education to school pupils on malaria and how to use LLINs • Register recipients and collect other relevant data during the distribution • Distribute the nets to the school children • Reconcile LLIN balances post distribution with LLINs received at the schools and those distributed to eligible pupils. • Handover LLIN balances to school LLIN supervisors • Prepare and authenticate distribution report
	Parents	<ul style="list-style-type: none"> • Where possible accompany pupils to school on the day of LLIN distribution. • Re-enforce Social Behavioral Change Communication (SBCC) messages, and encourage proper use and care of LLINs at the household
Research institutions	<ul style="list-style-type: none"> • Ministry of Health • Malaria Research Center • Research and Academia • NGOs and private entities 	<ul style="list-style-type: none"> • Conduct research around areas of routine distribution to inform practice for improvement.

Even though, the NMCD has made great gains of inclusion of relevant stakeholders, there is still minimal engagement of the private sector and corporate companies in malaria prevention and control. For instance, the private sector is estimated to cater for up to 60 percent of the population and therefore an important partner whose contribution (through partnership meetings, financing and corporate social responsibility) is vital. Therefore, active involvement of such stakeholders can result in an excellent return on investment, with significant improvement in coverage of routine LLIN distribution.

4.0 Mechanisms for Routine LLIN distribution

4.1 Distribution mechanisms

The mechanisms for routine LLIN distribution have various components for which there are different options that may be chosen given the needs and context of specific settings. **Overall, routine distribution can be delivered through the following broad mechanisms;**

1. The public sector (distribution through antenatal clinics, immunization clinics, schools, health facility services, etc.)
2. Faith and community-based organizations (distribution as part of ongoing health promotion activities)
3. Private sector (commercial sector networks)
4. Combination (public subsidies for private distribution)

Details of the specific proposed mechanisms and channels are summarized in table 2 below. Designing any one complete delivery mechanism, as part of an overall strategy, requires choosing an option for each of these components.

Table 2: Mechanisms for Routine LLIN distribution

Distribution Mechanism	Description	Channel	Criteria for success	Frequency
Routine health facility system	The continuous delivery of LLINs through health facilities is a cost-efficient, relatively straightforward method of targeting the highest risk population groups, that is children under the age of five years and pregnant women, by using existing infrastructure.	Ante Natal Clinic (ANC) The LLINs are given to pregnant women at their first ANC visit, with counseling and advice on LLIN use as part of the ANC session.	Functioning health facility network offering ANC. Good distribution system and supply chain management to avoid stock-outs. High levels of ANC attendance. Good awareness of LLIN availability and belief in their benefits among pregnant women.	Continuous
		Expanded Program for Immunization (EPI) LLINs are given to each child at the earliest opportunity preferably at 6 weeks or when they present for their first immunization.	Functioning health facility network offering EPI. Good distribution system and supply chain management to avoid stock-outs. High levels of EPI participation. Good public awareness of LLIN availability and belief in their benefits among caregivers.	Continuous

		<p>Other health services include through:</p> <ol style="list-style-type: none"> 1. HIV counseling and testing services 2. Services for refugees or other vulnerable populations 3. IMCI, nutrition, or MCH clinics that reach children under five or other targeted beneficiaries 4. Distribution linked to case management, for example, to patients with a confirmed case of malaria. 5. Outreach activities of health services such as mobile clinics, health brigades etc 	<p>Good distribution system and supply chain management to avoid stock- outs.</p> <p>Good public awareness of LLIN availability and belief in their benefits</p>	Continuous
School based distribution of LLINs	The use of schools as a channel for delivery of long-lasting insecticidal nets (LLINs)	Primary pupils from public primary day schools registered with the District Education office (DEO) shall be the beneficiaries. This will target children in Primary one and Primary four.	<p>Good school enrolment. Ability to ensure supply to the schools, if LLINs are given directly. Ability to have a functional data reporting system on LLINs distributed.</p> <p>More feasible in contexts with a well-functioning and supportive education sector at national and subnational levels.</p>	Continuous or Intermittent
Community/ Faith based groups/ Community Social Responsibility (CSR)	This is a very flexible distribution mechanism, which can be further defined and designed in many ways. The benefit of using community groups is to have a channel for access to LLINs in communities where other channels may not be present.	Established community groups are used to distribute LLINs based on such criteria as ‘any family expressing a need’, ‘any family with a pregnant woman or new baby’ etc	<p>Ability to distribute allocations of LLINs down to community groups.</p> <p>Understanding in the community groups of their role and the conditions for distribution.</p> <p>Acceptance within the community of the distribution criteria agreed by the community group.</p>	Intermittent

Commercial/ private sector	This is mainly the distribution of LLINs through the private sector with beneficiaries required to pay a fee to receive an LLIN	Options for this include: <ul style="list-style-type: none"> • Government not providing support to the sector and therefore beneficiaries pay the full commercial cost of the LLIN • Government providing non financial support to the sector such as technical support, assisting with sourcing LLINs and logistics • Price subsidies offered to the commercial entity and therefore the beneficiary pays for the LLIN at the reduced cost 	Good/strong existing LLIN commercial sector. Reasonably functional distribution network (road system) within the country/area to allow expansion. Spending power in the target population. Awareness of LLINs and belief in their desirability or benefits among the target population. Low or no taxes and tariffs on LLIN imports.	Continuous
Social Marketing	The NMCD encourages a strong independent commercial LLIN sector to foster the growth of the marketing approach. Approved brands of LLIN will be supported by the program, or even sold at a subsidized rate and distributed through the existing commercial sector, sometime supported with an independent supply chain.	This network may use existing outlets, such as health facilities or shops, or have its own mobile sellers, but the supply chain, financing, and planning for the product is not integrated into the activities of those outlets.	Ability to set up and manage a system for supply and reporting on sales of the brand. Reasonably functional distribution network (road system) within the country/area to allow expansion. Spending power in the target population. Awareness of LLINs and belief in their desirability or benefits among the target population. Low or no taxes and tariffs on LLIN imports.	Continuous
Use of Vouchers	Voucher systems provide paper vouchers to intended LLIN beneficiaries through one channel (often at ANC, although could be at EPI, in schools, or by other channels).	Vouchers can be redeemed for a free or reduced-price LLIN at another location. Normally, voucher systems are seen as a way to support the LLIN commercial sector while improving equity and access for specific groups and increasing users' choice of LLIN type. The places where vouchers are redeemed are usually commercial outlets. Commercial sellers can then redeem the vouchers for reimbursement from the project, entailing associated management tasks and costs.	Functional channels for distributing vouchers and a functional commercial sector that will ensure voucher recipients can easily redeem vouchers for LLINs. Sufficient funding to cover the fairly high management costs.	Continuous

4.2 CHOOSING THE BEST MIX

The different districts of Uganda are heterogeneous with varying characteristics related to demography, socio-economic status, LLIN situation (coverage, access and use), operating environment and the varying criteria for success for the different channels. This makes it apparent that one or a specific combination of channels is not appropriate for all districts in the country. The best mix of distribution mechanisms depends on the priority objectives in the NMCD and the specific area context based on the judgment from the criteria of success of the different channels. Whilst meeting and maintaining ownership targets is key, there are other important objectives, to consider which may include one or more of those listed below:

1. High turnover to close the gap between campaign achievements and target ownership
2. Low cost
3. Cost-effectiveness
4. Potential for cost-sharing
5. Potential for public/civil/commercial-sector partnerships.

The following steps can be considered in the decision making process.

Step 1

Listing the important population sub-groups or areas that may need particular consideration.

Step 2

Identifying distribution channels and other mechanism criteria (channel, cost, targeting, etc.) that are appropriate for context, taking into account the possible need for different mechanisms in different parts of the country or to reach different sub-groups.

Table 3 below gives a summary guidance on how to arrive at the most feasible mechanisms.

Table 3: Question table to guide choice of distribution option

Number	Distribution channel question	Answer	Guidance
1	Is health facility access fair to good in some or most areas of the country?	Yes	Consider including a health facility-based channel in the strategy. <ul style="list-style-type: none"> • Go to Question 2
		No	Consider omitting health facility- based distribution from the strategy. <ul style="list-style-type: none"> • Go to Question 4
2	Is ANC uptake fair or good in some areas of the country? Or, if not, might uptake increase with the availability of free LLINs?	Yes	Consider including to the distribution strategy. <ul style="list-style-type: none"> • Go to Question 3
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> • Go to Question 3
3	Is EPI uptake fair or good in some areas of the country? Or, if not, might uptake increase with the availability of free LLINs?	Yes	Consider including to the distribution strategy <ul style="list-style-type: none"> • Go to Question 4
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> • Go to Question 5
4	Would it be practical for health facilities or community groups to conduct LLIN distribution as outreach activities?	Yes	Consider including to the distribution strategy. <ul style="list-style-type: none"> • Go to Question 5

		No	Consider omitting from the strategy. <ul style="list-style-type: none"> Go to Question 5
5	Is primary school attendance fair to good in some areas of the country?	Yes	Consider including to the distribution strategy. <ul style="list-style-type: none"> Go to Question 7
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> Go to Question 6
6	Even if attendance is not high, is primary school enrolment fair to good in some areas of the country? Even if attendance is poor, the attraction of LLINs may increase attendance, and the enrolment suggests that access to schools is still reasonably good.	Yes	Consider including to the distribution strategy. <ul style="list-style-type: none"> Go to Question 7
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> Go to Question 7
7	In the opinion of the stakeholder group, will some of the population be willing and able to pay for LLINs? Consider subsidized sales or support to full-price sales.	Yes	Consider including to the distribution strategy. <ul style="list-style-type: none"> Go to Question 8
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> Go to Question 12
8	Is there an existing retail net market that could be supported to expand and sell good quality LLINs?	Yes	Consider including commercial sector to the distribution strategy. <ul style="list-style-type: none"> Go to Question 10
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> Go to Question 9
9	Is there an existing retail market for other goods that has potential to be supported and primed to distribute LLINs?	Yes	Consider including commercial sector to the distribution strategy. <ul style="list-style-type: none"> Go to Question 10
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> Go to Question 10
10	Is social marketing of products (i.e. outside standard commercial channels) known in the country?	Yes	Consider including to the distribution strategy. <ul style="list-style-type: none"> Go to Question 12
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> Go to Question 11
11	Would it be possible to fund setting up and sustaining (for at least the medium term) a stand-alone social marketing distribution network, atleast to specific areas?	Yes	Consider including to the distribution strategy. <ul style="list-style-type: none"> Go to Question 12
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> Go to Question 12
12	Are there any functioning community-based networks that could be modified to oversee LLIN distribution	Yes	Consider including to the distribution strategy. <ul style="list-style-type: none"> Go to Question 13
		No	Consider omitting from the strategy. <ul style="list-style-type: none"> Go to Question 13

13	Can you say yes to all three of the following questions? Do you want to provide intensive support to the commercial sector? (i) Can you ensure good availability of LLINs in the retail sector at least in some areas? and (ii) Is access to retail outlets good in these areas? and (iii) Will people be able and willing to pay at least something for an LLIN?	Yes	Consider including voucher system to the distribution strategy. • Go to Question 14
		No	Consider omitting from the strategy. • Go to Question 14
14	Do you have serious concerns about the feasibility or cost of ensuring a supply chain through any of the specific channels?	Yes	Consider including to the distribution strategy. Use a coupon approach for these channels, but this would be useful only if there is a good supply chain of coupons and there are other channels you plan to use in the same area that would have a good LLIN supply chain. • Go to Question 15
		No	Consider omitting from the strategy. • Go to Question 15
15	As well as working towards Universal Coverage, do you want to maintain a focus on key vulnerable groups, e.g. the poor?	Yes	Consider including a targeted channel to the distribution strategy. • Go to Question 16
		No	Consider omitting from the strategy. • Go to Question 16
16	Do you need to increase current ownership levels (as opposed to maintaining current levels)?	Yes	Consider including a school based and health facility channels to the distribution strategy. • Go to Question 17
		No	Consider omitting from the strategy. • Go to Question 17
17	Are funding constraints (immediately or in the medium term) a concern?	Yes	Consider including a school based and health facility channels to the distribution strategy. • End: Move to step 3
		No	Consider omitting from the strategy. • End: Move to step 3

Step 3

Determining which of the distribution channels will best combine to meet total LLIN needs to maintain target ownership levels, without letting levels drop too low and yet without oversupplying LLINs. Also, determining whether the distributions should be continuous or intermittent.

Step 4

Review stage. Considering whether the chosen mix will allow reasonably equitable access across all geographical, economic, and other population sub-groups.

NOTE:

The NMCD and malaria partners should strive to provide LLINs either for free or highly subsidized to beneficiaries in order to reduce the important barrier that cost can pose to LLIN ownership and use.

5.0 Determining routine LLIN needs

Determining LLIN needs for routine distribution takes into consideration a range of information such as demographic information, current LLIN situation and channel information among others.

For example, data on the proportion of the population that is pregnant at any one time will help determine how many LLINs may be turned over through an ANC-based distribution mechanism. The Roll Back Malaria recommends the use of an excel based tool called the NetCALC tool to calculate annual LLIN needs to reach and then maintain stated LLIN ownership targets (attached as supplement material 1. Also available online:<https://www.vector-works.org/resources/netcalc-planning-tool/>). The tool is designed to model several scenarios of continuous distribution approaches based on country-specific data, and provides estimations of the ability of varied channels to achieve and Maintain overall universal coverage. These channels include ANC, EPI, school-based distribution, curative care, community-level distribution, and retail. Information regarding the targets and current status against each indicator channel is entered so as to estimate the LLIN needs for the respective channels. As well as calculating how many LLINs are required to move from current levels to target levels, NetCALC calculates the number of LLINs needed annually to maintain LLIN ownership targets. It does this using a mathematical formula based on a model (tested against an increasing amount of real-life data) on the loss of LLINs over the years after families receive or buy LLINs. The tool also takes into account the gradual and slowly increasing ‘loss’ of LLINs and calculates the number of new LLINs that are needed each year to maintain the targeted ownership level.

6.0 LLIN logistics

The logistics components including effectively procuring, storing, transporting, and tracking LLINs from port of entry to beneficiaries are key elements that can determine the success of a routine LLIN delivery program. The logistics of ensuring continuous supply of LLINs to support routine distribution can build, in part, on existing supply chains for medicines and other supplies to health facilities. Given the bulk of LLINs, additional planning will need to take place to accommodate the transport, warehousing, handling, distribution, and waste disposal for LLINs. With indirect distribution, commercial-sector distributors and vendors may handle LLIN stocks and manage their storage.

6.1 LLIN procurement and forecasting

While order volumes will be lower than for mass campaigns aimed at achieving Universal Coverage, LLINs for routine distribution will be procured on an on-going basis for the life of the program. It is critical, therefore, to establish sound practices from the outset that

follow national and donor procedures, maximize LLIN quality and quantity, minimize costs, and ensure timely delivery.

An important consideration in procurement for routine delivery channels, for example, is phasing LLIN arrivals. When the NMCD is quantifying LLIN needs, according to established targets and objectives, decisions will be made regarding numbers of LLINs needed at national, district, and health facility levels for given periods of time, including buffer stocks. The LLIN procurement and ordering process can work with manufacturers to plan periodic shipping allotments (e.g. quarterly, semi-annually, annually) to phase arrivals. This can help to reduce the overall need for warehousing space at each level. Adequate transport systems must be always available to ensure dispatching, however.

The objectives of good LLIN procurement are to:

- Procure the right nets, in the right quantities, at the lowest possible purchase price, that meet the required specifications and evaluation criteria for the intended population
- Select reliable suppliers of quality products (WHOPES-recommended)
- Ensure fair market competition respecting public procurement principles
- Ensure ethical conduct in the procurement process
- Ensure timely delivery and notification

Good practice in LLIN procurement ensures the following;

- Procurement is in accordance with donor policy; donors will have their own timelines;
- Regulations and procedures are followed;
- Procurement is consistent with reliable forecasts of quantities needed and timing;
- Procurement is in bulk to ensure economies of scale;
- The bidding process is competitive and transparent;
- Funding is available at the right time through good financial management;
- Pre- or post-shipment quality assurance and quality control (QA/QC) mechanisms are in place. The National Drug Authority has been designated to conduct QA/QC on the LLINs procured in Uganda.

Estimating quantities of LLINs needed to achieve and maintain targeted coverage levels at national and peripheral levels will be an on-going process and will involve discussions and decisions regarding LLINs for routine delivery channels via health facilities, other routine delivery mechanisms, and mass campaigns.

Following decision-making at national level and procurement of LLIN allotments, there is need to determine the geographic allocation of LLIN numbers based on available population and/or health facility data. Once program implementation has been started, continued monitoring of LLIN stock levels at each facility will be necessary to determine uptake rates and ensure that new consignments are sent as LLIN stock levels fall below alert levels that are established to spark the re-supply process.

6.2 Warehousing and LLIN storage

Storing LLINs requires significant warehouse space. Also, moving LLINs back and forth

among shipping containers, warehouses, and vehicles is time-consuming; labor costs for moving and organizing LLIN bales need to be budgeted, as does the cost of supervision to ensure accurate counting of bales in movement intended to detect any leakage during storage or transit. Private-sector LLIN handlers or malaria partners with sufficient logistics experience may be engaged, through a competitive process, to handle LLIN warehousing and associated activities.

6.3 National and peripheral levels

Once LLINs have been cleared from customs, they will need to be transported to available storage facilities. To avoid unnecessary port charges for LLINs stored beyond customs clearance dates, it is important to plan in advance to ensure that warehouse space is available.

6.3.1 National level

The volume of LLINs will be greatest at the national level, before the quantity of LLINs procured has been divided into district or sub-district level. Therefore, procuring large enough storage space before shipment arrival is important.

6.3.2 Peripheral level

Direct delivery to the district or sub-county level is also possible and a request to that effect can be agreed upon with the manufacturer or procurement agent. This delivery system bypasses the need for central storage. District-level warehouses need to have the capacity to store quarterly, semi-annual, or annual consignments of LLINs for many health facilities, community groups and school campaigns. The warehouse space available may or may not be sufficient at the district level which may require that additional warehouse space be sought or rented.

6.3.3 Health facility level

With direct distribution and in some indirect distribution models (e.g. where vouchers are redeemed at health facilities, pharmacies, or stores), LLINs are stored at the health facility level. In many cases the space allotted for storage of medicines and other supplies will not be sufficient for LLINs, given the volumes of bales and number of bales needed. If so, health facilities should find additional storage space.

6.4 Warehousing

6.4.1 Assessing warehouse capacity and quality

All Storage facilities will be assessed for good storage conditions. Once LLIN numbers are determined, it is possible to calculate space needs and set quality requirements at each level where LLINs will be stored. An assessment of available storage space and quality should then be conducted and compared with needs. Where gaps exist, the NMCD and partners can work with district authorities and health facilities to identify alternative storage options. To determine warehousing space needed, it is necessary to collect information on the following:

- LLIN volume in cubic meters
- Stacking height at the warehouse. LLINs can be stacked as high as 2–3m without damage to the lower levels. However, a number of conditions should be considered when calculating maximum stacking height, including; ceiling height, presence of fans or other obstructions, facilities for stacking, and safety.

6.4.2 Storage conditions

Other considerations when selecting storage facilities for LLINs include location and accessibility. Warehouses need to allow access to the vehicles that will transport LLINs in and out. Warehouses must be in reasonably good condition such as:

1. Clean: Even if already clean, they should be cleaned again before storing LLINs.
2. No leaks
3. No vermin
4. Not have been used to store toxic substances (e.g. fuel, engine oil, etc.)
5. Secure: locking doors, secured windows, and padlocks
6. Firefighting equipment should be installed and serviced.

6.4.3 LLIN Insurance

To protect against theft, damage, fire, and other unforeseen adverse events, it is important to budget for insurance to cover LLINs while in maritime transit and from port of entry to beneficiary. Warehouse and transport contracts should also specify the liability of the warehouse owner/agent and transport companies if LLINs are lost, damaged, or destroyed.

6.4.4 Warehouse security

All storage facilities must have locking doors (or chains and padlocks) and consideration should be given to the possible need to have the facilities guarded day and night.

6.5 Warehouse management and inventory controls

A well-designed and properly implemented tracking system should act as a deterrent to LLIN leakage, since it will rapidly identify where leakage has happened and who is responsible. Tracking tools will show the names and signatures of people involved at each step of the supply chain where responsibility for the LLINs is passed from one entity to another. Experienced warehouse managers will be responsible for each warehouse and should use stock sheets and waybills to ensure that the inventory system contains up-to-date information.

Warehouse management tools include:

- Stock sheets are a combination of a standard warehouse journal or ledger and a warehouse stock card. They serve two purposes: (1) to chronologically record quantities of LLINs received into and issued out of the warehouse; and (2) to keep the balance sheet of LLINs in the warehouse.

- Waybills are issued by the sender and indicate the nature and quantity of commodities being shipped. Warehouse managers must issue a separate waybill for each destination (drop-off point). Thus, each vehicle departing with consignments will carry as many waybills as there are drop-off points.

6.6 Inventory controls

Periodic checks of physical inventory against stock sheets and waybills should be conducted by NMCD staff or an implementing partner and, if possible, an independent audit team. At the start of a program, inventories may be conducted more frequently in order to catch problems early and put in place additional control measures if needed and/or to inform the design of training and support to warehouse managers and other personnel in charge of handling LLINs.

6.7 LLIN transport

Ensuring timely and cost-effective transport of LLIN from central to district, sub-county and health facility levels presents a number of financial and operational challenges. The NMCD will use the existing NMS/JMS distribution platform for routine LLINs for sustainability and cost effectiveness. The procurement and logistics team will supply the NMS/JMS with the following:

6.7.1 Transport planning

A preliminary transport plan will include key information, such as;

- Name of delivery point
- Number of LLINs needed
- Number of bales
- Weight
- Distance (km) each vehicle will travel

6.8 Ensuring continuous and sufficient supply

Fundamental to the success of routine LLIN distribution is that LLINs are consistently available to every qualifying beneficiary. When routine LLIN distribution is interrupted due to stock-outs, communities may grow disillusioned and no longer promote the program. Potential beneficiaries who do not receive LLINs become frustrated and may lose confidence in the system. Therefore, when the national quantification of LLINs needed for routine delivery is done, it is essential to cover the full extent of LLINs needed to meet the beneficiaries' demand.

6.9 National advocacy and decision-making

In the event of an identified LLIN gap, in-country and international partners should be mobilized to understand the extent of the gap and review possible solutions, both to manage the limited number of LLIN available and to advocate actions to fill the gap. While not ideal,

the NCC may temporarily need to limit beneficiary groups, geographical areas, or make other difficult choices regarding their routine LLIN distribution program until sufficient funds can be mobilized to cover all groups consistently.

6.10 Stock management procedures

6.10.1 Periodic resupply and security stocks

The NMCD and partners will establish a system of periodic resupply of LLINs on a quarterly, semi-annual, or annual basis. While planning the periodicity of consignments and levels of buffer stock, distribution personnel need to consider available storage area at each level and transport availability.

6.10.2 Monitoring stock levels

To avoid stock-outs, it is essential to keep accurate track of LLIN stock levels at national, district, and health facility levels. Thus, store managers need to give quarterly updates from LLIN stock inventories at ANC, EPI, or other registries indicating LLINs distributed by every health facility.

6.10.3 Threshold for ordering new nets

To assist health facility staff, in particular LLIN store managers, a stock level of at least two months of average distribution of LLINs will be considered as the minimum stock threshold for each health facility, district, and national level warehouse. These thresholds need to take into consideration (1) available storage area at each level, (2) periodicity of national-level consignments, and (3) time needed to requisition and transport LLINs to replenish stocks.

6.11 Procedures for requisitioning LLIN stocks and handling stock-outs

Standard operating procedures clearly documenting the following, at all levels of LLIN storage are available

1. Who is responsible for signaling when LLIN stocks fall below recommended thresholds
2. Who is responsible for reporting low LLIN stock levels to the next higher level
3. Who is responsible for responding to reports of low LLIN stock levels
4. The procedures to follow in the case of a low LLIN stock alert

7.0 Social Behavior Change Communication (SBC)

Communication is an essential element of malaria control efforts in the country that facilitates adoption of good practices by the community. The success of the routine LLIN distribution hinges heavily on a robust Social Behavior Change (SBC) strategy. The NMCD therefore considers this priority and a communication strategy was developed to harmonize activities of the NMCD and partners.

7.1 Communication channels and activities

There are three principle communication activities to ensure the success of routine LLIN distribution;

1. Advocacy activities which seek to influence public-policy and resource allocation decisions. These are carried out on multiple levels including international, national, regional, district, and local levels, it is important to ensure buy-in from the political and school administrators, health authorities, community members and the private sector.
2. Social mobilization activities in a routine LLIN distribution program aim to ensure that all eligible beneficiaries are aware of and are participating in the program. These activities can include both mass media and interpersonal communication activities. Messages can reinforce beneficiaries' knowledge of how, when, and where to obtain an LLIN.
3. Behavior change communication activities in a routine LLIN distribution program should reinforce: key messages regarding malaria prevention; the effectiveness of LLINs; biological risk factors; the importance of and 'how-to' tips for hanging the LLIN correctly and promptly; using LLINs every night; Lnet care, repair, and repurposing; and giving priority to vulnerable groups where LLINs are not available in sufficient numbers to cover the whole household.

A number of channels are used to deliver the key messages of these three types of communication activities:

1. Mass media channels include television, radio, certain print media (e.g. billboards, newspapers), and newer technology (e.g. SMS, Internet).
2. Choice of media channels should take into consideration access of the population to the medium—radio versus TV, for example—and literacy levels.
3. Print materials that emphasize photos and graphics rather than text, especially for areas where literacy levels are low.
4. Interpersonal communication (IPC) in routine LLIN distribution program transmits key messages directly from a person/group to beneficiaries. During the ANC, EPI, or other health consultation, health personnel, trained community agents, or trained partner organization staff can conduct educational sessions that communicate key messages, answer questions and concerns, dispel myths, and encourage LLIN use and care directly with beneficiaries.
5. Training is essential to ensuring consistency and effectiveness of messaging during IPC. IPC agents can be trained in malaria basics, key messages to be delivered, responding to frequently asked questions, effective communication techniques, diverse communication methods, and adult-learning techniques (e.g. storytelling, 'teach back').
6. In communities and schools key messages may be directed at larger gatherings of community members (e.g. village meetings, market days) or to beneficiaries and their families during house-to-house visits or other occasions such as school days. To support the delivery of key messages during IPC, print or other media may be used. For example, personnel may use a job aid or flip chart book to illustrate key points and to remind themselves of key messages to deliver. Community or partner agents may use mobile video units to display short films or may develop a song or drama to convey messages.

7.2 Communication planning

Communication activities to support routine LLIN distribution need to be coordinated to ensure that all partners and implementers are conveying harmonized messages and are pooling resources effectively to maximize impact. Communication can be channeled through the already existing SBC-TWG. This committee should coordinate communication, oversee and make recommendations to the larger malaria task force in the following areas:\

1. Developing a communication plan broadly addressing malaria prevention. This process should be led by the NMCD and/or the MOH communication division, with support from communication focal points from implementing and donor partners.
2. Communication trainings package.
3. Identify target audiences, key messages, communication channels, and tools/materials to be developed and disseminated.
4. The NMCD should take the lead in developing the key messages that all partners and implementers of routine LLIN distribution should communicate. Partners can support the NMCD to pre-test the messages to ensure that beneficiaries across the country, across socio-economic groups, and in both urban and rural areas understand and appreciate the message.
5. Managing logos: Donors and implementing partners often want to include their logos or verbal references to their organizations in communication materials. This aspect of developing communication materials, while seemingly small, can take significant time and possibly delay completion of communication materials. If donors' and partners' logos are to be used, partners should supply print-ready materials to the communication coordination group and should avoid using multiple logos for the same partner
6. Coordinating resources: During the communication planning process, the NMCD can express overall needs for the country, which partners can contribute to producing to avoid duplication of materials.

7.3 Production and dissemination of materials

Once communication planning has determined which materials are needed to support communication objectives and convey the key messages, the process of developing, pre-testing, and disseminating materials and tools can begin. Both private creative agencies and partner organizations can provide technical support and/or develop materials for pre-testing and review.

Key steps in the process to develop communication materials include:

1. Developing a creative brief: A creative brief provides an outline of the intended audience, the communication objective, key message(s), and other features of a communication campaign. "Its main purpose is to serve as set of instructions for a creative agency or artist who will produce the material. A creative brief is both a product and a process. The process is a step-by-step approach to deciding what the message will be. The product is a short document (two to four pages) that captures these decisions

2. Choosing and contracting an agency: As with any procurement process, the choice of a designer, photographer, or creative agency needs to follow standard procurement procedures.
3. Before the release of communication materials, it is essential to carefully review and edit the materials with two key audiences, beneficiaries and stakeholders:
4. Pre-testing materials with beneficiaries: Print materials, verbal messages, images on a television screen can be interpreted in many ways. The pre-testing process helps to ensure that the intended audiences understand and appreciate key messages, pictures, and other visual or verbal cues. Pre-testing is usually a qualitative process.
5. Reviewing and validating materials with key stakeholders: Communication focal points will want to review draft materials with malaria technical experts and routine LLIN distribution stakeholders. This will help to ensure both the accuracy in the materials and the buy-in of partners who may be funding or using the materials. The MOH/NMCD should provide sign-off before any communication material is considered final.
6. Production of materials such as printing of posters or flyers etc
7. Dissemination of materials: In addition to careful planning and follow-up of production, communication planning should carefully describe who will receive each material, in what quantities, and how each should be used (e.g. displayed in the health facility, distributed to beneficiaries, broadcast in the intended areas, etc.). Airing of radio and TV advertisements or shows requires additional planning and contracting with national or regional broadcasting stations. Community radio stations are often a more economical alternative to national stations, and many have high listenership among the target audience

8.0 Training

It is important to train all staff and partners who will be involved in the routine LLIN distribution program. Given high turnover of staff in some health systems, it is also important to conduct refresher trainings for new staff and periodically to reinforce concepts with existing staff. Information collected during supervision visits is an important indicator for trainers of the areas that need reinforcing or clarification. Supervisors may also decide to conduct on-the-job training during or following supervision visits to reinforce key points and to correct problems early.

8.1 Developing training plans

The IVM TWG will lead the development of training plans in collaboration with other stakeholders as mentioned in section as mentioned under the section 2: Routine LLIN coordination and planning. The training can either be stand alone or integrated with other activities.

8.1.1 Integrated training

The IVM TWG should first take into consideration existing MOH plans for training in malaria in pregnancy(MiP), malaria, Maternal and Child Health (MCH), School Health or other broader areas and explore the option of integrating the routine LLIN delivery components into an already scheduled training. *Advantages include:*

- Lower training costs
- Reduced burden on the health system to organize and commit staff to multiple vertical trainings
- Reinforcement of the LLIN program as part of the overall health system, rather than a malaria program added onto health personnel's responsibilities, and
- Integration of messages in the health system.

8.1.2 Stand alone training

In some cases, the IVM TWG may recommend to the NMCD or malaria task force that a stand alone training take place. Reasons for this might include:

- At program start-up highly specific information needs to be communicated to multiple actors within and outside the health system, which may be too much to include as part of another training.
- If timing of other planned trainings might delay program start-up beyond acceptable limits for donors or NMCD priorities.

8.2 Identifying trainers

The NCC committee, the NMCD leadership together with relevant stakeholders should develop a trainer's database. The first to be considered are the available pool of central-level trainers and guidance regarding the choice of potential trainers from the MOH and partner organizations especially those who were involved in the LLIN mass campaigns. Central-level trainers need to have sufficient time available to plan and conduct the training of trainers for regional, district, and peripheral personnel and to supervise the trainings of health facility and partner personnel. District-level authorities who will be overseeing the program should be trained as trainers for the health facility and community levels.

8.3 Identifying who should be trained and how

All health facility, community-level, school and private partnership personnel who will be involved with the program should be trained. As the tasks for store managers, for example, may differ significantly from those of the nursing staff, which also differ significantly from the tasks and roles of community agents, the TWG will design training modules for each area of responsibility. Depending on resources available, it may be feasible to bring all personnel into one training and provide cross-cutting training for all groups on each area. Or it may be decided to train only the health facility staff on all of the key elements and to task them with further cascade trainings of the other actors. If cascade training is used, then there will be a system to monitor whether the cascade is successfully implemented.

8.4 Training organization

The IVM - TWG can also make recommendations on operational considerations in planning and organizing the trainings, including:

- Ratio of trainers to trainees and number of hours/days needed for training:

- Training dates and venues
- Training agenda: An outline of training sessions, including time allotted for each session, an indication of start and end times, and time for administrative procedures, lunches, and breaks is a basic prerequisite of any training.
- Refresher trainings: Over time staff movement and turnover are likely to reduce the number of trained personnel who understand the routine LLIN distribution system. Eventually, this may reduce program effectiveness. The TWG should assess turnover frequency and levels to determine how often refresher trainings are needed. These trainings bring together experienced staff trained previously with newer staff to review the program elements necessary to continued quality in implementation.

8.5 Developing training materials

During the preparation of any training, it is important to develop documents to guide the training process, to reinforce consistency across the diverse pool of trainers, and to inform trainees of topics that will be covered.

8.5.1 Training manual

A written training manual helps to ensure that key messages and instructions regarding how the program should be managed, supervised, monitored, and evaluated are communicated correctly, consistently, and according to NMCD policies and decisions. Routine LLIN distribution components are covered in larger malaria training manuals including the mass distribution training manuals. These can be used for reference.

8.5.2 Training curricula

While the training manual helps to ensure a foundation of key information, a training curriculum reinforces the delivery of that information in a consistent and high-quality manner. Training modules can be developed incorporating each of the key elements from the training manual. Development of training modules helps training planners to think through each step of the training, to plan for materials needed, and to guide trainers on techniques for delivering information that reinforce comprehension and retention. The same training modules used for the larger malaria training and mass distribution will be used.

8.5.3 Training materials

A number of tools and supporting materials are needed to reinforce key information and ensure a comfortable and conducive environment for learning. These may include:

- Handouts or job aids to provide take-home messages that participants can keep for future reference
- Pre-prepared slides in PowerPoint or other software or posters written in advance on flip chart paper or a chalk board to display key information
- Samples of LLINs, reporting forms, ANC or health cards, and other materials that will be used to implement the program
- Stationery and other materials: pens, notebooks, markers, chalk, projector, power cords and adaptors.

8.6 Training oversight

Well organized training requires significant investments of time and resources. To ensure the quality of each training and the achievement of the training objectives, it is important to include a supervision component. The IVM TWG should lead training supervision and, where appropriate, integrate partners involved in routine LLIN distribution in supporting it.

Tools to support supervision can include:

- A training supervision plan: For example, supervisors of the central- and district-level trainings can be drawn from the NMCD or partner staff pools. These central-level trainers can then supervise their district counterparts during trainings at the health facility level. District trainers can supervise the trainings of community-level actors.
- A schedule for deployment of supervisors and debriefings
- A plan for communicating problems as they arise and mechanisms for responding to problems
- A supervision checklist with a pre-determined set of criteria to be assessed and report on
- A supervision response team to review reports and to troubleshoot problems as they arise.

9.0 Managing the distribution

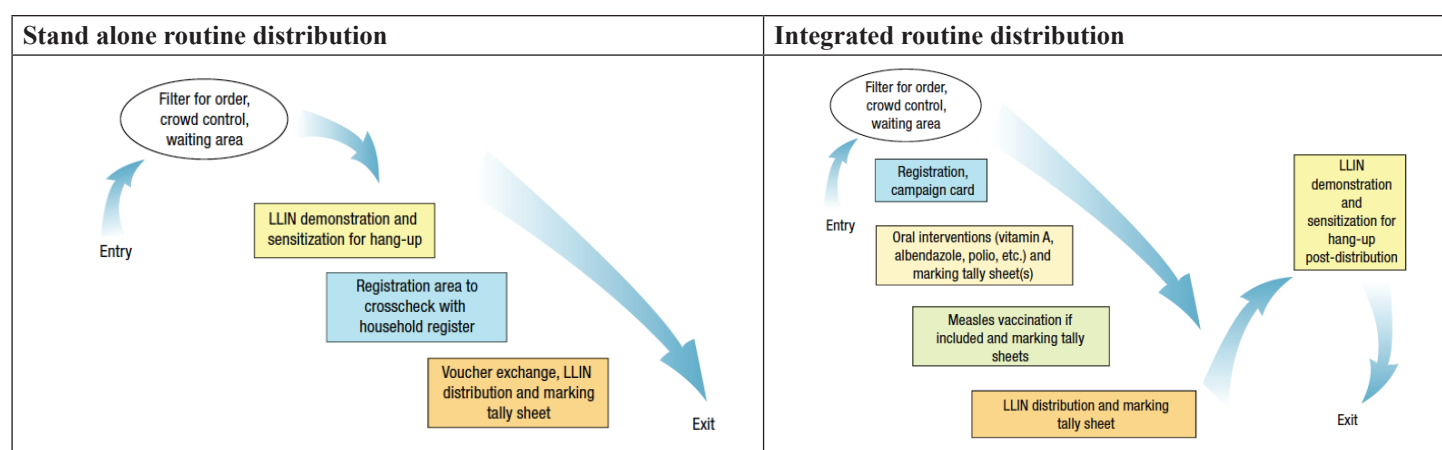
Following the Malaria Strategic Plan, the implementation of this guideline will mainly be at the district level in line with the decentralization policy. The district health officer (DHO) will be the overall responsible person for the coordination and supervision of the implementation of routine LLIN distribution at district level.

The LLIN distribution activities can be organized in three major phases; pre-distribution, during distribution and post distribution phases. However, this section will focus on the two later phases because most of the pre-distribution activities have already been detailed in the earlier sections of this guideline. These include; coordination, formation of a coordination group, estimation of LLIN needs and quantification of other resources, procurement, logistics, transportation and pre- LLIN communication.

9.1 During distribution activities

Routine LLIN distribution can be planned as a stand alone or in combination with other activities such as measles or polio vaccinations, vitamin A supplementation, de-worming, and other public health interventions (Fig 2 below). Communities, health system personnel, religious and political leaders, donors, and partners at all levels can be galvanized to participate in fundraising, planning, coordination, technical support, training, supervision, and monitoring and evaluation for LLIN campaign activities.

Figure 2: Routine LLIN distribution designs



The consolidated expected activities during this phase are listed below;

1. Engagement with relevant stakeholders including district, community, health facility staff, partners and civil societies dependent on the chosen distribution channel for implementation.
2. Micro-planning at the sub-national level which may sometimes involve setting up committees at the district and sub-district levels.
3. Identification and hiring of personnel required to implement the chosen channel
4. Training of personnel.
5. Pre-LLIN communication.
6. Beneficiary registration.
7. Identifying the distribution points/site.
8. Planning and implementation of crowd control and security.
9. Health education and hang up activities.
10. LLIN distribution and data capture.
11. Final data tally and transmission.
12. Supervision and monitoring.
13. Waste management procedures.

Details of the specific activities for each of the distribution mechanisms are elaborated upon in table 4 below.

Table 4: Routine LLIN distribution mechanisms and activities for the different stakeholders

Distribution Mechanism	Registration	LLIN distribution	Data capture
Routine health facility system	Health facilities have systems in place to register, manage, record visit information, and follow patients seeking ANC, EPI, or other services. These records are good enough to avoid the need for pre registration. LLIN delivery to beneficiaries is an important component to be included in these registries and to be captured as part of the DHIS2 data elements. As LLIN distribution is one of several components comprising the overall visit, it is important for NMCDs to coordinate with reproductive health (RH), EPI, and other MOH divisions involved in establishing these systems to harmonize procedures.	<ol style="list-style-type: none"> 1. LLIN distribution data should also be captured as part of the data elements during beneficiary visit. 2. As with patient registries, ANC and EPI or child health cards, the facility staff should also record the beneficiary's receipt of a LLIN on the card or patient folder. 3. The facility should have waste disposal protocols in place such as incineration of LLIN waste. 	Registration and LLIN distribution data captured in the DHIS2. All data management and procedures follow the DHIS2 protocols.

<p>School based distribution of LLINs</p>	<p>School registration data are often sufficiently accurate to avoid the need for a separate registration exercise. However, this information will still be verified by the district health officer and distribution supervisor in close collaboration with the District Education Officials. . Existing school enrollment data can be easily accessible through school head teachers.</p>	<p>One-day distribution events to selected classes can be planned annually. The following steps to be followed;</p> <ul style="list-style-type: none"> • Distribution site/school identification • Engagement with selected school administrative staff, teachers, parents and children. • Pre-LLIN communication • Distribution site set up • Crowd control and security • Health education and Hang up demonstration communication during distribution • Hold an assembly on the day of issuing LLINs to sensitize pupils on LLIN use, basics on malaria and use and maintenance LLINs. This should include instructions to deliver the LLIN at home. • Verification of enrolment registration desk • LLIN distribution and data capture ➤ Waste management procedures (LLIN waste to be collected and returned to the sub-county stores for disposal or for incineration at a nearest health facility) • Final data tally, synthesis and transmission • Left over LLINs to be returned to the nearest sub-county stores for storage and further re-distribution. 	<p>School LLIN data management system including data collection forms, data collation, data entry, data cleaning and data analysis. Set up DHIS2 data elements incorporating LLINs distributed through school based channel.</p>
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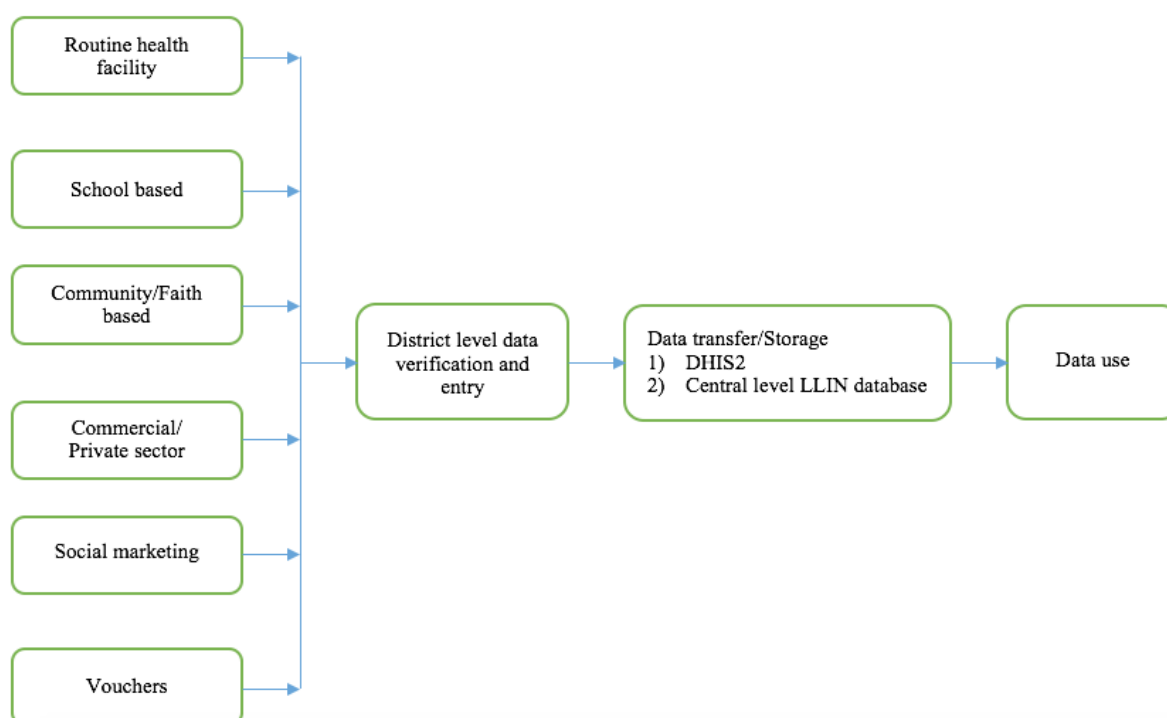
Community/Faith based groups	<p>Community based groups will follow an approach similar to the mass distribution campaign.</p> <ul style="list-style-type: none"> • Approach a household and request to speak with the head of household or any adult over 18 years living in the household. • Explain the purpose of their visit and why they are collecting specific data about the household. • Record the name of the household head, the number of people who regularly sleep in the household (including children away in boarding school) and the telephone number of the household head or someone else in the household with a phone. • Explain that households will be notified at the time of the LLIN distribution to be able to come and collect their LLINs at the nearest distribution point. • Use of job aids to ensure that the key messages about malaria, the LLIN distribution and the importance of hanging and using nets are disseminated. • Ask if the respondent has any questions related to their visit, the distribution or malaria. • Mark the household as having been registered for the LLIN distribution. 	<p>The following steps will be taken</p> <ul style="list-style-type: none"> ➤ Distribution point/site identification ➤ Pre-LLIN communication ➤ Distribution point set up ➤ Crowd control and security ➤ Health education and Hang up demonstration communication during distribution ➤ Verification of LLIN registration desk ➤ LLIN distribution and data capture ➤ Waste management procedures (LLIN waste to collected and returned to the sub-county stores for disposal or for incineration at a nearest health facility) ➤ Final data tally, synthesis and transmission ➤ Left over LLINs to be returned to the nearest sub-county stores for storage and further re-distribution. 	<p>Community based LLIN data management system including data collection forms, data collation, data entry, data cleaning and data analysis. Set up DHIS2 data elements incorporating LLINs distributed through community/faith based groups.</p>
Commercial/ private sector	<p>NMCD to encourage commercial sector to register particulars of LLIN beneficiaries by working with key commercial sector entities to develop data collection tools.</p>	<p>NMCD to liaise with the commercial sector to record particulars of those that bought an LLIN at commercial outlet.</p>	<p>Set up DHIS2 data elements incorporating LLINs distributed through the commercial sector</p>

Social Marketing	Data registration will depend on the distribution channel through which the social marketing campaigns will be conducted. This may include the using the existing health facilities, schools, community- based or commercial approaches.	Depending on the distribution approach, social marketing entities to work with the NMCD in the use of tools and recording of particulars of those that bought an LLIN.	Set up DHIS2 data elements incorporating LLINs distributed through the social marketing channel
Use of Vouchers	An LLIN beneficiary receives a voucher at point of care. For example, a pregnant woman receives a voucher at her first routine antenatal visit (ANC) or a child's mother or caregiver receives a voucher when the child is brought to a clinic for vaccination (EPI). Health facility registration follows the similar procedures as described under the routine health facility distribution mechanisms, however, the data element captured is receipt of voucher.	The voucher can be used at designated participating retailers for a discount on the price of a long-lasting insecticidal net (LLIN). The retailer records the beneficiary particulars during the point of delivering the LLIN. This data is then tallied and transferred to the central voucher data management system for synthesis.	DHIS2 for registration data Set up DHIS2 data elements incorporating LLINs distributed through use of vouchers

Data management

It is important to critically supervise and monitor the data collection process to ensure that information is collected, collated, recorded, entered and transferred correctly. The organization and management of data from routine LLIN distribution is more complex than the mass distribution campaigns because of the multiple channels involved. Therefore, data flow and control constitutes a central component of this process so as to guide every aspect of the distribution process and use for decision making. The data collection and collation process for each of the channels is described in table 4 above. All this data will be housed in the national DHIS2 system for continuity, sustainability and ease of access, just like other malaria related data elements. This data will also be kept on the NMCD LLIN database. Hard copy data from the field (from different channels) collected using a standard questionnaire (Appendix 4) will be transferred to the district biostatistician for verification and data entry into the DHIS2. This data will then be transferred to the central DHIS2 database for aggregation and use. The figure 3 below summarizes the overall flow of data from collection to final storage.

Figure 3: Routine LLIN data flow



Data quality assurance

The NMCD SMEOR thematic working group together with the DHIS2 team will be responsible for ensuring that appropriate data quality assurance procedures are in place and used for the full spectrum of data management. Key approaches will include review of errors, training of data entrants and random data verification checks in the field.

9.2 Post distribution activities

Expected activities under this phase include:

1. Post distribution communication focused on LLIN use
2. Data collation, correction, entry, analysis.
3. Report writing (including summary of implementation activities, observations and recommendations) and dissemination
4. Independent process evaluation

9.3 Issues of overlap, oversupply and other implications

It is likely that the selected strategy includes a mix of different supply mechanisms that make LLINs available to the same people through different mechanisms. For example, you may have LLINs available at EPI in all health facilities but also include a school-based or community-based distribution in certain target areas. Some overlap of different mechanisms reaching a target group will occur. Measures can be taken to ensure that LLINs are distributed appropriately (e.g. community groups may set their own criteria to identify families who really need LLINs), but this overlap, if not excessive, should not cause major concern.

10. Supervision

10.1 Coordination

As with training, supervision may be organized jointly among central and peripheral levels of the NMCD, RH, EPI, MCH, or other MOH divisions, with support of implementing partners, donor agencies, or even other visitors whom supervisors can accompany on travel to distribution sites or facilities. It is essential to emphasize that routine LLIN distribution takes place within MOH structures, with supervision falling within the NMCD mandate. While partner agencies can support the process and participate in joint supervision, the lead supervisory person or team should be from the NMCD

Integrated supervision allows central and district-level staff to conduct periodic visits across a number of health facilities and distribution sites. Advantages to this approach include reductions in the burden on health facility staff by avoiding multiple single-issue visits. This approach can also reduce supervision costs, as partners can often share vehicles and other resources. When multiple issues are addressed during supervision, it is possible for certain issues to take priority. However, if a large number of topics are covered, it may limit how thoroughly issues specific to the routine LLIN distribution program can be addressed.

10.2 Planning

The IVM TWG should prioritize the approach of planning both joint and specific supervision visits, building on available information regarding program implementation and working with other stakeholders at the central level and with provincial, regional, and district stakeholders to plan and coordinate supervision visits with other planned visits.

Where the program has been running smoothly and problems have not been raised, it is likely that joint supervision visits will suffice. Where problems have been flagged in advance (e.g. verbal or written reports, inconsistencies noted in reports, higher or lower than expected outputs), it may be necessary to organize a supervision visit specifically to address those issues. Also, if refresher training is needed to review or reinforce information, or to provide updated program information, a specific visit may be needed, or additional time following joint supervision should be scheduled.

Where community groups, school administrations or local associations play an important role in the routine LLIN distribution, supervisors may also want to plan additional time to review their activities and reports and provide feedback. Ideally, community personnel are linked with and supervised by health personnel, who can provide feedback on their activities and point out any problems.

10.3 Tools

A supervision checklist generated by the NMCD will help supervisors to approach the supervision visit systematically and to review point by point each of the areas under review. A supervision report template can provide a summary of key points covered in the supervision checklist and include space for the supervisor to summarize the local strengths and weaknesses of the routinely Distribution program, actions taken by the supervisor during the visit to correct weaknesses, and recommendations for any additional follow-up needed. The report template provides areas for the supervisor to note his/her name, contact information, date of the visit, names and titles of staff visited, and a signature. Signatures of district-, regional-, or central-level health personnel will also be included to confirm that the supervision visit took place.

10.4 Follow-up

Standard operating procedures documenting a clear process for analyzing supervision reports, following up on recommendations, documenting corrective actions taken during and after the supervision visit, and the results should be developed by NMCD. Advice or corrective action depends on the relationship that the NMCD has established with authorities at each level of the health system.

11. Monitoring and Evaluation

Collection of accurate and timely information on indicators of program progress is a key element of managing and improving program quality. The monitoring and evaluation of routine LLIN process falls under the broad NMCD LLIN strategy and this section will focus on aspects related to the routine distribution process. Routine delivery of LLINs requires sustained reporting and timely periodic data management throughout the year. Robust reporting and data management systems often need to be put in place and monitored, for instance improvements to the HMIS system, if LLINs will be delivered through health facilities and reporting integrated into this system

11.1 Monitoring

11.1.1 Indicators

As with any intervention aiming to achieve specific targets, sound monitoring is important, both to maintain the quality of implementation in all components of the mechanism and to measure progress towards the objectives of the system. Monitoring indicators will be specific to LLINs, as monitoring activities will be measuring progress of the interventions delivering LLINs.

Process monitoring areas include:

- **Delivery:** How many LLINs are being delivered to recipients, including a comparison between the number delivered and the total number of potential beneficiaries seen at the delivery point (to allow monitoring of what proportion did not receive an LLIN for some reason). This should be disaggregated by type of LLINs such as standard LLINs, PBO nets etc
- **Stock management:** This includes both tracking commodities and monitoring stock-outs.

An important monitoring task is reviewing tracking and supply management documentation during supervision visits.

Output monitoring areas include:

1. Does the program deliver adequate numbers of LLINs to the end-users on time? This should be disaggregated by type of LLIN
2. Are the LLINs delivered retained by the recipients?
3. Is the distribution in the population equitable?
4. Is the supply chain effective at maintaining continuous availability?

11.1.2 Activities

Monitoring activities will depend on the type of distribution mechanism being monitored. In some cases, monitoring can be integrated with other monitoring activities (e.g. where health facility channels are being used, it is often important to integrate monitoring with the national HMIS). In other cases, specific monitoring activities will need to be initiated, e.g. where schools or community groups are delivering LLINs. Activities may include:

- Monthly reports on potential recipient contacts and LLINs delivered (e.g. number of ANC attendances and number of LLINs delivered)
- Supervision visits using checklists to record specific indicators
- Internal commodity audits.

11.2 Evaluation

A key challenge of evaluating the performance of routine LLIN delivery is that, in ideal circumstances, LLIN delivery is conducted under multiple channels including mass campaign distributions as well as various continuous delivery channels. Thus, it may be difficult to evaluate separately the impact of routine LLIN delivery via the specific routine LLIN channels.

11.2.1 Indicators

Evaluation is conducted through national level surveys such as the Malaria Indicator Survey. The list below includes the currently recommended indicators to measure progress towards universal coverage as well as an indicator (number 6) that will specifically inform delivery strategy design.

Core indicators:

1. Proportion of households with at least one LLIN
2. Proportion of households with at least one LLIN for every two people
3. Proportion of the population that slept under an LLIN the previous night by age group and gender)
4. Proportion of existing LLINs used the previous night
5. Proportion of the population with access to an LLIN in their household
6. Proportions of LLINs in households coming from different sources.

When conducting national or regional malaria or health surveys it will be important to include indicators that can determine if beneficiaries have received LLINs from routine services, for example:

1. Proportion of pregnant women attending ANC who received an LLIN at ANC
2. Proportion of children attending EPI who received an LLIN at the EPI clinic
3. Proportion of children enrolled in primary school that received an LLIN at school
4. Proportion of the population that received an LLIN from the community groups
5. Proportion of the population that received an LLIN from private distributor.
6. Proportion of the population that received an LLIN through the voucher system

This information will allow program to assess the proportion of overall LLIN ownership attributable to each delivery mechanism and will show which mechanisms are reaching which households. Other useful information can be collected that will help inform program planning. For example, collecting information about use of nets, by whom, etc., that will help inform the communication approaches as well as aid understanding of how ownership and access indicators can best be interpreted as predictors of use.

11.3 Quality assurance and risk management

The quality assurance for routine distribution activities shall be provided at different levels and focus namely: strategy, processes, systems, equipment, people/human resources and financial management. The IVM TWG shall retain overall responsibility for the oversight and quality assurance.

To proactively mitigate key risks that can potentially arise during implementation, a risk management plan developed for the mass campaign will be used. This risk management plan will guide the overall identification and management of risks during routine LLIN distribution.

Some of the most important risks to consider for mitigation include;

1. Inadequate funding;
2. Fragmented programming and implementation;
3. Failure to empower staff; poor working environment; and inadequate staffing;
4. Over dependence on overseas assistance leading to sustainability concerns;
5. Failure;
6. To use the decentralized structures at regional and district level;
7. To improve the quality of data use for planning;
8. To engage the private sector despite its potential;
9. Inadequate performance reviews, audits, training, quality control/assurance;
10. Inadequate scope and scale of IEC/BCC

12. Identifying Research and support needs

During consideration of the context and discussion of appropriate distribution mechanisms, it is likely that there will be areas where information or experience is lacking or of interest in the country. If any of this missing information would be valuable to planning and to ensuring that the most cost-effective interventions are undertaken, it is important to consider some investigative or operational research activities.

Monitoring or evaluation activities may also highlight areas where research might provide useful information for future strategizing and planning. For example, it may be that LLIN uptake is far lower than had been expected despite good potential for access and therefore consider qualitative and exploratory research to determine the barriers to uptake. Presently, the NMCD research agenda is considering operational research in two areas closely related to LLINs which include; insecticide resistance studies and LLIN maintenance and durability studies.

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