LONG LASTING INSECTICIDAL NETS (LLINs)
DISTRIBUTION STRATEGY

Directorate of Malaria Control (DoMC)-Pakistan

Save the Children
LONG LASTING INSECTICIDAL NETS (LLINs)
DISTRIBUTION STRATEGY (Up-dated)
NEW FUNDING MODEL-GLOBAL FUND
PAKISTAN

Developed by:
Directorate of Malaria Control (DoMC)-Pakistan
Save the Children

Supported by:
Global Fund to fight against Tuberculosis, AIDS and Malaria (GFTAM)
March 2015
Acknowledgements

The document has been developed under the close supervision and guidance from Mr. Muhammad Aslam Khan (Director-DoMC). The technical assistance from Mr. Muhammad Mukhtar (Senior Scientific Officer/Entomologist) through the provision of all technical material and vector surveillance tools is greatly acknowledged. He worked on this document as contributing author from Directorate of Malaria Control (DoMC).

In addition, the technical inputs from, Dr. Muhammad Imran (Project Director, Save the Children), Dr. Mah Talat (Manager Training and Communication, Save the Children), Mr Ali Asghar (M&E Manager, Save the Children) Dr. Abdul Majeed (SPO Global Fund, DoMC), Dr Qutubuddin Kakar (WHO), Mr. Muhammad Naeem Durrani (Merlin-International) and Dr Muhammad Arif Munir (PMRC) are highly appreciated.

We would also like to thank the participants of the Technical Work Group (TWG) who provided very valuable comments to up-date this important document.

Ownership

All the ideas, know-how, processes and information included in this document are joint property of Directorate of Malaria Control (DoMC) and Save the Children. All rights for this document are reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying or by any information storage or retrieval system, without the written permission from Directorate of Malaria Control (DoMC) and Save the Children-International, except for the inclusion of quotations in a review.

Disclaimer

The Consultant Dr Nauman Safdar- MBBS, MSc, MBA, MMCH, PhD and contributing author Mr. Muhammad Mukhtar have made every effort to provide the most accurate information, data, facts, figures, drawings and descriptions in this document. The limitations of the accuracy of the information at the source, however, remain. The document may thus contain human or mechanical errors or omissions. No liability for such errors, or omissions, or un-intentional misrepresentations will be accepted. The Consultant and Contributing Author reserve the right to make corrections and changes in any information contained in this and in subsequent versions of this document.
Table of Contents

SECTION 1: INTRODUCTION .................................................................................................................. 7
  1.1. Malaria situation in Pakistan ........................................................................................................ 7
  1.2. Malaria Control Strategic Plan 2015-2020, Pakistan .................................................................. 8
  1.3. Coverage with Insecticide Treated Nets ....................................................................................... 8
  1.4. Rational to Up-date LLIN Operational Strategy .......................................................................... 8
  1.5. National Technical Work Group (TWG) Meeting ....................................................................... 9
  1.6. Objectives of Updating LLIN Distribution Strategy .................................................................. 10

SECTION 2: PROCESS OF UPDATING LLIN DISTRIBUTION STRATEGY .................................. 12
  2.1. Desk Review .................................................................................................................................. 12
  2.2. Consultative Meetings Including TWG ....................................................................................... 12
  2.3. Focus Group Discussion (FGD) .................................................................................................. 12
  2.4. Consensus Building ...................................................................................................................... 12

Section 3: ROLES OF KEY STAKEHOLDERS IN LLINs INTERVENTION .................................. 13
  3.1. Directorate of Malaria Control (District, Provincial, FATA and Federal) ..................................... 13
  3.2. Community Level ....................................................................................................................... 15

SECTION 4: BENEFICIARY (HOUSEHOLD): ..................................................................................... 16
  4.1. Who is LLINs beneficiary? ........................................................................................................... 16
  4.2. Who should use a LLIN? .............................................................................................................. 16
  4.3. How to access a beneficiary? ....................................................................................................... 16

SECTION 5: OPERATIONAL MECHANISM FOR LLINs DISTRIBUTION .................................. 19
  5.1. Mass Distribution of LLINs ......................................................................................................... 19
  5.2. Continuous Distribution of LLINs ............................................................................................... 21
    5.2.1. LLINs continuous distribution outlets in a district: ............................................................ 21
    5.2.2. Strengthening of LLINs distribution outlets: .................................................................... 22
  5.3. LLIN Distribution Coupon and its Management System .............................................................. 22

SECTION 6: LOGISTICS OF LLINs ................................................................................................. 25
  6.1. Procurement ............................................................................................................................... 25
  6.2. Transportation of LLINs ............................................................................................................. 25
  6.3. Storage ....................................................................................................................................... 26
SECTION 7: WASTE DISPOSAL ........................................................................................................28
SECTION 8: TRAINING ON LLIN DISTRIBUTION AND USER GUIDE ........................................29
SECTION 9: RECORDING AND REPORTING TOOLS FOR LLINS AT DISTRICT LEVEL ...... 30
  9.1. Central Level to Implementing District .................................................................................. 30
  9.2. Stock Entries ....................................................................................................................... 31
  9.3. District Store to LLINs Distribution Outlet ......................................................................... 33
  9.4. District/regional Warehouse to LLINs Distribution Outlet ................................................. 34
  9.5. Beneficiary Receiving LLINs from Distribution Outlet ..................................................... 35
  9.7. Monitoring of LLINs .......................................................................................................... 37
  9.8. Advocacy and Social Mobilization on LLINs ..................................................................... 37
SECTION 10: LIST OF NATIONAL TECHNICAL WORK GROUP PARTICIPANTS .............. 38

Tables and Figures:
Table 1: Requirements for quantification of LLINs ........................................................................ 17
Table 2: Population dynamics in high malaria prevalence provinces/region in Pakistan .......... 18
Table 3: Operational Matrix for Mass Distribution of LLINs ....................................................... 16
Table 4: Monthly state- Continuous LLIN distribution outlet ...................................................... 22

Figure 1: Dimensions for mass distribution of LLINs ................................................................. 20
Figure 2: Flow of LLINs – Central level to beneficiary .............................................................. 25
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>API</td>
<td>Annual Parasite Incidence</td>
</tr>
<tr>
<td>AJK</td>
<td>Azad Jammu and Kashmir</td>
</tr>
<tr>
<td>BHU</td>
<td>Basic Health Unit</td>
</tr>
<tr>
<td>DHQ</td>
<td>District Head Quarter</td>
</tr>
<tr>
<td>DoMC</td>
<td>Directorate of Malaria Control</td>
</tr>
<tr>
<td>FATA</td>
<td>Federally Administered Tribal Area</td>
</tr>
<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
</tr>
<tr>
<td>GFATM</td>
<td>Global Fund to Fight against AIDS, Tuberculosis and Malaria</td>
</tr>
<tr>
<td>GR</td>
<td>Geographical reconnaissance</td>
</tr>
<tr>
<td>IDP</td>
<td>Internally Displaced Population</td>
</tr>
<tr>
<td>IPC</td>
<td>Inter-Personal Communication</td>
</tr>
<tr>
<td>ITNs</td>
<td>Insecticide treated bednets</td>
</tr>
<tr>
<td>IRS</td>
<td>Indoor Residual Spraying</td>
</tr>
<tr>
<td>KPK</td>
<td>Khyber Pakhtunkhwa</td>
</tr>
<tr>
<td>LLINs</td>
<td>Long Lasting Insecticidal Treated nets</td>
</tr>
<tr>
<td>MCH</td>
<td>Maternal and Child Health</td>
</tr>
<tr>
<td>MCP</td>
<td>Malaria Control Program</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MIS</td>
<td>Malaria Information System</td>
</tr>
<tr>
<td>NFM</td>
<td>New Funding Model</td>
</tr>
<tr>
<td>NSP</td>
<td>National Strategic Plan</td>
</tr>
<tr>
<td>RHC</td>
<td>Rural Health Center</td>
</tr>
<tr>
<td>SRs</td>
<td>Sub Recipients</td>
</tr>
<tr>
<td>TGF</td>
<td>The Global Fund</td>
</tr>
<tr>
<td>THQ</td>
<td>Tehsil Head Quarter</td>
</tr>
<tr>
<td>TWG</td>
<td>Technical Working Group</td>
</tr>
<tr>
<td>UC</td>
<td>Union Council</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
SECTION 1: INTRODUCTION

1.1. Malaria situation in Pakistan

Pakistan has a population of 180 million inhabitants of which 95 million are at risk of malaria. In 2013, there were 3.4 million presumed and confirmed malaria cases in Pakistan\(^1\). It is among the four countries in the world, which account for more than 80% of estimated cases of the *Plasmodium vivax* (*P.*vivax). Epidemiologically, Pakistan is classified as a low to moderate (Group-III) malaria endemic country with a national API averaging at 1.69\(^2\) and has diversity within and between the provinces and districts. The two parasites that account for malaria in Pakistan are *Plasmodium vivax* (*P.*vivax) and *Plasmodium falciparum* (*P.*falciparum). The main malaria vectors in the country are *Anopheles culicifacies* and *Anopheles stephensi*. The key underlying risk factors for malaria endemicity in Pakistan includes: a) unpredictable transmission patterns; b) low immune status of the population to diseases; c) poor socioeconomic conditions; d) mass population movements within the country and across international borders with Iran and Afghanistan; e) natural disasters including floods and heavy rain fall in few areas; f) low antenatal coverage; and g) internally displaced population (IDPs) in some districts due to conflict situation.

In 2013, 281,755 confirmed malaria cases were reported through national malaria disease surveillance system. However, during the same period, 3.1 million cases were clinically diagnosed and treated for malaria at public sector outpatient facilities. The number of reported malaria cases almost doubled from 2009 to 2012 with an equivalent rise in Annual Parasite Incidence (API).

Epidemiology of the malaria varies in Pakistan due to different geo-environmental condition. At one extreme it is unstable, occurring in epidemics separated by regular or irregular intervals and at the other extreme it may occurs in a stable state where little difference in the incidence occurs from year to year. In Pakistan malaria is unstable in Punjab, AJK, KPK and most part of the Sindh province. However, in bordering and coastal areas of Balochistan, FATA and Sindh it is stable. The main transmission season is post-monsoon i.e. September-November whereas, a short transmission season is also observed during the months of March-April.

In Pakistan, the malaria prevention greatly relies on the use of Long Last Insecticide Treated Nets (LLINs) and Insecticide Residual Spray (IRS). During last 6 years about 4.7 million LLINs have been distributed in the country focusing on high risk districts in the province of Baluchistan, Sind, Khyber Pakhtunkhwa and FATA The distribution of LLINs remained the main intervention under Global Fund (GF) Round-10. About 2.2 million LLINs were distributed mainly through public sector health facilities including antenatal clinics and Maternal and Child Health (MCH) centers in targeted Union Councils (UC) of 38 malaria high-risk districts in the country.

\(^2\) Malaria Information System, Directorate of Malaria Control, 2013
1.2. Malaria Control Strategic Plan 2015-2020, Pakistan

In 2014, Directorate of Malaria Control (DoMC)-Pakistan with the support of WHO, has developed a National Malaria Control Strategic Plan 2015-2020 (final draft under approval process). The plan has innovative strategies that will:

- Improve the performance and impact of malaria control in Pakistan with maximizing public sector investment and accountability in malaria control activities
- Reduce diagnostic delay related to malaria and improve the efficacy of treatment
- Prevent malaria disease by effective vector control interventions with universal coverage of LLINs and selective IRS
- Better surveillance and program management
- Prioritize research that has the potential to change policy and practice in malaria care in the province

More than 90% of the malaria disease burden in the country is shared by 66 highly endemic strata of districts, mostly located in province of Balochistan, Sindh, and Khyber Pakhtunkhwa and also in Federally Administered Tribal Areas (FATA). Universal coverage of target population/area through LLINs is the proposed strategy for vector control in these high endemic districts.

1.3. Coverage with Insecticide Treated Nets

The Malaria Indicator Survey (MIS) carried out in 2013 shows that among the survey households in 38 districts, 34% households had at least one LLIN. The highest coverage was in FATA (54%) whereas the lowest was in KP (15%). The households possessing LLINs, 21% children of age < 5 years and 28% of the pregnant women slept under LLIN previous night of survey.

1.4. Rational to Up-date LLIN Operational Strategy

Long-lasting insecticidal nets (LLINs) have played an important role in the remarkable success in reducing malaria burden over the past decade\(^3\). During the early period of implementation of LLINs in Pakistan, supported by The Global Fund (TGF), the LLINs were distributed through different approaches including; campaigns, private outlets, community health workers, etc. The approach was then modified in 2012 and for the first time in Pakistan a comprehensive LLINs distribution strategy was developed and implemented through the support of GF Round 10 in 38 high risk districts in the country. In the strategy document, for the universal coverage of high risk areas with LLINs, a continuous distribution approach was adopted. The voucher system was introduced and public health facilities, which were strengthened as RDT and Microscopy centers, were involved as major LLIN distribution outlets followed by the private sector outlets.

The vouchers were distributed mainly though LHWs and hired staff (casual workers) and resulted in distributing about 2.2 million LLINs in these districts. Despite these efforts, there is still low coverage with LLINs in these districts and its use in the high risk groups i.e. children under five and pregnant women also remained remarkably low.

WHO recommends that, in areas targeted for LLINs/ITNs, all those at risk should be protected. National Malaria Strategic Plan (NSP) -2015-20204 also embarks on achieving Universal Coverage of LLINs in high risk districts. The NSP categorizes 66 districts/agencies as highly endemic (Stratum-I) districts with API>5. The total population of these highly endemic districts is more than 44 million. Most of these districts are being covered under New Funding Model (NFM) of The Global Fund, which is going to be initiated in the second quarter of 2015 and will end in 2017. The overall aim of the new grant is to scale-up and sustain the interventions in selected districts. Under NFM, 5.2 million LLINs have been approved by TGF for the grant period (2015-2017). These LLINs will be provided free of cost to all households (100% coverage) in 42 (38 are from R.10 grant and 4 from new ranking) malaria high burden sharing districts in Pakistan.

1.5. National Technical Work Group (TWG) Meeting

In March 2015, a National Technical Work Group (TWG) Meeting was organized by Directorate of Malaria Control (DoMC) and Save the Children. The participants of the meeting were provincial/FATA malaria control programme managers, representative of World Health Organization (WHO), Sub-Recipients (SRs) and malaria experts. The following were the recommendations from the TWG.

Recommendation 1:
An up-date LLIN distribution strategy is required to achieve and maintain universal coverage through LLINs in 42 high burden sharing districts being supported by TGF in the country.

Recommendation 2:
The quantification of LLINs should be based on 1.8 LLIN per household. However, the number of LLINs to be provided to each HH can be increased in regions such as FATA where the family size of household is usually more than 7.

Recommendation 3:
The Universal Coverage of LLINs should be achieved by implementing different approaches which include;
   a) Mass distribution- coupled with;

   b) Continuous distribution

Recommendation 4:
The strategy should address approaches to sustain high levels of LLIN coverage in parallel with achieving rapid scale-up i.e. mass campaigns to be complemented by LLIN distribution to

pregnant women through antenatal services, and to infants through immunization services (mainly static centers). This will help a continuous and sustainable coverage with LLINs.

**Recommendation 5:**
Due to local sensitivities with polio campaigns, the outreach immunization services and campaigns (NIDs/SNIDs) should not be used currently as LLINs distribution channel.

**Recommendation 6:**
All the HH in a selected Union Council (UC) should be covered before moving to adjacent UC in the same district.

**Recommendation 7:**
The Mass Distribution campaign should be completed within a week in a selected Union Council (UC). In case of left over LLINs from campaign, marked for a specific UC, a door to door distribution should be carried out to achieve and maintain desired level of coverage of a single UC.

**Recommendation 8:**
In areas where campaign are not possible, due to security reasons, the distribution of LLINs should be carried through outreach workers.

**Recommendation 9:**
Disposal of damaged LLINs and its packing should be linked with the protocols of waste management provided by the Environment Protection Agency (EPA). In this regards DOMC should develop and provide country-specific guidelines for disposal of LLINs bags without compromising local environment.

**Recommendation 10:**
A comprehensive system of recording and reporting should be adopted for LLIN program to ensure equitable distribution and accountability at all levels. This will include; an adapted coupon system with beneficiary/household identification number which could be the CNIC of the household a unique household code.

### 1.6. Objectives of Updating LLIN Distribution Strategy

The aim of this document is to provide a comprehensive strategic direction and operational mechanism to ensure equitable distribution of LLINs to achieve the national target of universal coverage through mass distribution coupled with continuous distribution approach. This document is primarily meant for policy makers, programme management at all levels and other organizations involve in LLINs operation.

The main objective of an update LLINs distribution strategy is to describe:

i) Provide distribution mechanism and approaches i.e. Mass distribution supported by continuous distribution to achieve universal coverage in 42 malaria high risk districts

ii) The role of various stakeholders involved in LLINs distribution program
iii) Selection of beneficiary
iv) The procurement and logistic involved in LLINs distribution
v) Supervision, monitoring and evaluation
vi) The recording and reporting system for LLINs distribution
SECTION 2: PROCESS OF UPDATING LLIN DISTRIBUTION STRATEGY

The following process has been followed for the development of this document;

2.1. Desk Review

The desk review comprised of the national and international reports, strategic documents and plans and key recent published articles on LLINs. The major documents reviewed included;

i) World malaria report 2014
ii) The Global Fund malaria concept note Pakistan- NFM 2015-17
iii) National Strategic Plan (NSP) 2015-2020
iv) National guidelines for control of vectors of public health importance 2010-11
v) National guidelines for quality assurance for vector control 2013
vi) National guidelines for malaria vector control 2010
vii) Internationally published strategic documents and guidelines on LLINs.

2.2. Consultative Meetings Including TWG

The consultative meetings were held with the Directorate Malaria Control (DoMC)-Pakistan, Save the Children, members of National Technical Workgroup (TWG) including; managers provincial Malaria Control Programme, Technical Experts, representatives of research and academic institution and implementing partners, representatives of World Health Organization (WHO), representatives of Sub Recipients (SRs), district and community stakeholders.

2.3. Focus Group Discussion (FGD)

A focus group discussion was organized in the district Bannu of province of Khyber Pakhtunkhwa to discuss the operational details of LLINs update strategy and implementing IRS during outbreak/epidemic. The discussion was participated by malaria focal person of the district, doctor incharge of microscopy center and its microscopist, EPI community mobilize UNICEF, local elderlies and manager and field staff of Merlin. The suggestions provided by the group are incorporated in the document.

2.4. Consensus Building

The draft of the document was circulated to all the stakeholders and comments were incorporated and the document was endorsed by the DoMC.
Section 3: ROLES OF KEY STAKEHOLDERS IN LLINs INTERVENTION

After 18th constitutional amendment, provinces and districts are the main implementers of health interventions while federal government is mainly responsible for policy formulation, technical assistance, resource mobilization and consolidating information. In this scenario, the present document suggests following roles and responsibilities of key stakeholders to ensure best implementation of LLINs intervention:

3.1. Directorate of Malaria Control (District, Provincial, FATA and Federal)

**District level**

District level malaria focal persons i.e. Malaria Superintendent, Assistant Entomologist, CDC Officer, under the lead of district health officer, will be responsible for data analysis, interpretation and implementing the outbreak response activities. The activities can be supported by the implementing partners in the particular district or province. The overall role and responsibility includes:

- Compilation of epidemiological and entomological data of districts up to union council and sharing with provincial office
- Identification of high risk and epidemic prone union councils for LLIN operations in consultation of provincial office
- Timely and adequate arrangement of financial resources for all operational and non-operational LLIN activities.
- Timely detection of any un-usual rise in vector densities, composition, etc
- Coordinate with district level stakeholders, private sector health service providers, CBOs, NGOs and communities to secure their support for IRS operation in district
- Conduction of Geographical Reconnaissance (GR) on annual basis
- Selection and recruitment of daily wages spray operators and their capacity building
- Provision of required LLINs and other necessary equipment
- Implement LLINs in affected UCs

Provincial and Federal Directorate of Malaria Control in light of 18th constitutional amendment, has clear roles and responsibilities.

**Provincial/FATA Directorate of Malaria Control**

- Compilation and analysis of epidemiological and entomological data from districts including private health care providers, NGO’s, CBOs
- Technical assistance and capacity building of districts for data analysis, interpretation and finally identification of high risk *union councils* and epidemic prone areas for LLINs distribution operation
- Establishment of Data Management Units(DMUs) at district level
- Provision of up-dated surveillance tools to districts
• Develop strategy, policy operational guidelines, safety standards and training manual for LLINs
• Technical assistance to provinces for; macro-stratification, micro-stratification, and capacity building
• Timely arrangements of all logistics and financial resources for LLINs operation
• Establishment/strengthening of Data Management Units (DMUs) at all levels for timely detection of epidemic and response (improved surveillance)
• Development of standardized/uniform surveillance tools and supervisor checklists through the consensus of all stakeholders
• Management of sentinel sites (surveillance sites) and district level DMUs
• Compilation of data of provinces of insecticides usage, susceptibility level, coverage and sharing with national and international partners e.g. World Malaria Report of WHO etc.

**Federal Directorate of Malaria Control**

• To develop and provide country-specific strategy, policy operational guidelines, safety standards and training manual for LLINs operations
• Technical assistance to provinces for;
  ➢ macro-stratification: Compilation and analysis of epidemiological and entomological data from all provinces to identify high, moderate, low and malaria free districts in country
  ➢ micro-stratification: identification of hot-spots (target areas) within districts
  ➢ capacity building of Epidemic Investigation Team and district level Data Management Units (DMUs)
• Coordination with provinces and other stakeholders for timely arrangements of all logistics and financial resources for LLINs field operation
• Establishment/strengthening of Data Management Units (DMUs) at all levels for timely detection of epidemic and response (improved surveillance)
• Development of standardized/uniform surveillance tools and supervisor checklists through the consensus of all stakeholders
• Compilation of data of provinces of insecticides usage, susceptibility level, and coverage and sharing with national and international partners e.g. World Malaria Report of WHO etc.

**Partners, Research & Development organizations**

• Sharing of data
• Technical Assistance for development of strategic and implementation documents development of surveillance sites and tools
• Timely detection of epidemic or outbreak
• Resource mobilization
• Capacity building Social mobilization
3.2. Community Level

The community level stakeholders include; community health workers i.e. Lady Health Workers (LHW), community volunteers, etc. The key roles are;

- Facilitation in identification of priority households requiring LLINs
- Facilitating information and access to LLINs
- Supporting the households in using LLINs
- Social mobilization
SECTION 4: BENEFICIARY (HOUSEHOLD):

To get the full benefits of LLINs usage, WHO has introduced the concept of “Universal Coverage”. The approach is now modified from targeted coverage (children <5 and pregnant women) to universal coverage i.e. everyone living in a malarious area must sleep under an LLIN/ITN, every night (100% coverage) throughout the year. Most member states have set targets of universal coverage with LLINs up to 80%-85% due to socio-economic and cultural reasons. Internationally published reports have confirmed that this minimum coverage of population showed a significant impact on reduction of malaria caseload in LLINs implemented areas.

Pakistan being a signatory to global RBM initiative has also adopted the approach of universal coverage of target population through equitable distribution of LLINs in the country. This document in broad spectrum fully promotes the global WHO universal coverage initiative for best management of malaria in the country. However, as there are deficient financial resources, priority is given to highest malaria affected areas in the country and through the recent support received from The Global Fund (TGF) New Funding Model, 42 malaria high endemic districts have been selected to give universal coverage with LLINs.

4.1. Who is LLINs beneficiary?

All the households in the targeted Union Council in a particular malaria high risk district are the “beneficiary”. A full coverage (100%) with LLINs is the recommended strategy to protect the population in that particular UC from malaria.

4.2. Who should use a LLIN?

All the households should sleep under LLIN every night. However, if there is shortage of LLINs in a particular household, due to large family size, then the age and gender would become the deciding factors. In case of age, the priority starts from children less than 5 years of age while in case of gender, the females and that too the pregnant females would be given preference.

4.3. How to access a beneficiary?

Once the targets population is identified, the distribution strategy would then mainly focus on access and ownership. The access to a household (beneficiary) or household accessing a LLIN has always been a major challenge to achieve the targets. This challenge can be addressed through the involvement of local health staff and intensive local community awareness campaign.

In this context of the health staff, the support can be obtained through:

   i) Local health staff preferably Malaria Superintendent, Malaria Supervisor, CDC Officer, etc.
   ii) Lady Health Workers (LHW) in the selected area
   iii) Self motivated teams of volunteers
iv) Project specific staff of NGOs, CBOs

For the local advertisement to inform the household, following could be the sources:
   i) Community awareness events
   ii) Local print media
   iii) Local electronic media i.e. Cable network
   iv) Banners at public places such as markets, health facilities and schools entry points, outside mosques
   v) Person to person communication i.e. through LHW for a particular locality

This community awareness will help in improving the access and ownership of household to LLINs. Quantification of LLINs.

In order to achieve universal coverage it has been suggested that every household possesses at least 1 LLIN/ITN for every 2 persons. This is global formula to have 1 LLIN/2 family members. Therefore we must stick to “2”. For mass campaigns, one LLIN should be distributed for every two persons at risk of malaria. However, for procurement purposes since many households have an odd number of members, the calculation needs to be adjusted when quantifying at the population level. Therefore, an overall ratio of 1 LLIN for every 1.8 persons in the target population should be used\(^5\). However, achieving this level of coverage is still a challenging task for Pakistan due to number of factors like financial constraints, demographic characteristics, diversity of cultural and social factors including identification of households, beneficiaries (prioritization), sleeping pattern, bed net usage practices at community level, etc.

During the course of implementation of New Funding Model (NFM) of TGF, 5.2 million LLINs will be distributed in 42 high burden sharing districts during 2015-17, giving 100% coverage of target population.

For the estimation of required number of LLINs in a geographic area generally the following data are required;

**Table 1: Requirements for quantification of LLINs**

<table>
<thead>
<tr>
<th>Information</th>
<th>Unit</th>
<th>Source(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population size</td>
<td>Number</td>
<td>1) Most recent national census data</td>
</tr>
<tr>
<td>Proportion of urban population</td>
<td>Percentage</td>
<td>2) Pakistan Demographic Health Survey</td>
</tr>
<tr>
<td>Number of households</td>
<td>Number</td>
<td>3) Household Integrated Economic Survey</td>
</tr>
<tr>
<td>Average number of people per household</td>
<td>Number</td>
<td>4) District EPI data</td>
</tr>
<tr>
<td>Annual growth rate</td>
<td>Percentage</td>
<td>5) Population department</td>
</tr>
</tbody>
</table>

Ideally for this information, there should be one source (national census data or EPI data) otherwise there will be different figure. As agreed in TWG meeting EPI day will be used.

The table below provides the population dynamics in provinces with high malaria prevalence in the country.

Table 2: Population dynamics in high malaria prevalence provinces/region in Pakistan

<table>
<thead>
<tr>
<th>Indicators</th>
<th>National(^6)</th>
<th>Provinces/ Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Balochistan</td>
</tr>
<tr>
<td>Total Population (Million)</td>
<td>184.5</td>
<td>9.8</td>
</tr>
<tr>
<td>Population density (per Sq.Km)</td>
<td>231</td>
<td>26</td>
</tr>
<tr>
<td>Geographic Area (Sq.Km)</td>
<td>796,095</td>
<td>347,190</td>
</tr>
<tr>
<td>Average Household size (^7)</td>
<td>6.41</td>
<td>8.53</td>
</tr>
<tr>
<td>Children under 5 years</td>
<td>13.5%</td>
<td>16.6%</td>
</tr>
</tbody>
</table>

To achieve the target(s) of universal coverage at least 2-3 LLIN would be required to cover all family members. However, with respect to province/area the denominator can be adjusted to make more realistic calculation to achieve the universal coverage.

---

\(^6\) Pakistan Demographic Health Survey 2012-13
\(^7\) Household Integrated Economic Survey, 2011-12
SECTION 5: OPERATIONAL MECHANISM FOR LLINS DISTRIBUTION

There will be two approaches including i) large-scale mass community distribution campaigns (achieve) and ii) continuous distribution approaches (maintain), which will be followed for the distribution of free of cost LLINs and achieving universal coverage in the 42 malaria high risk districts being supported by Global Fund.

5.1. Mass Distribution of LLINs

Many countries have embarked upon campaign-like strategies to rapidly increase coverage with LLINs. Large-scale community level LLINs distribution campaign is the best delivery mechanism to achieve rapid, sizable, and equitable increases in LLIN coverage especially when household ownership levels are low. The mass distribution approach classically refers to community-based distribution of LLINs which is usually carried out at one point in time.

The Directorate Malaria Control (DoMC)-Pakistan has also adopted the mass distribution supported by Continuous distribution approach to distribute LLINs in malaria high risk districts through TGF support. This will help in achieving the national target of universal coverage through LLINs in a short period of time in all target areas of the country. This approach will consequently help to get the desired impact by decreasing malaria related morbidity and mortality in the country.

The activities to mass distribute LLINs should be started simultaneously in all the priority districts and must be completed preferably 1 month or 1-2 months prior to the start of malaria season. This will help households to get equipped with the LLINs before malaria transmission starts.

Note: The main malaria transmission season in Pakistan is post-monsoon i.e. September-November whereas, a short transmission season is also observed during the months of March-April of each year.

The figure below shows the sequence of events to be followed while implementing mass distribution strategy.
The section below shows the operational details which will be followed to implement mass distribution campaign for LLINs.
### Table 3: Operational Matrix for Mass Distribution of LLINs

<table>
<thead>
<tr>
<th>SR.#</th>
<th>DIMENSIONS</th>
<th>ACTIVITIES*/ EXPLANATION</th>
<th>TIMEFRAME</th>
</tr>
</thead>
</table>
| 1.   | Prioritizing the UCs to be covered first with LLIN in target districts and distributing coupon | 1.1. Estimate the population of the particular malaria high risk district from relevant sources**  
1.2. List the number of UCs in the particular  
1.3. Estimate the number of household in a particular UC to be covered  
1.4. Prioritize the UC to start first to get universal coverage- Ranking should be based on the level of malaria endemicity using past data  
1.5. A single coupon (green copy) for 2 LLINs should be distributed to the beneficiaries with special instructions to bring the coupon while collecting the LLIN on the specified date.  
1.6. When the beneficiary collect his/her quota of LLIN, a stamp of LLIN received should be made on the beneficiary coupon to avoid its re-use. | Week 1 and 2 |
| 2.   | Identify outlets/channels for mass distribution of LLINs | 2.1. **Health Facility Premises:** The health facility in a particular UC should be involved in the campaign and formal linkages should be established before initiation of activities. The facilities includes:  
- RDT centers (BHU/MCH centers) in the UC  
- Microscopy Centers (RHCs and Hospitals) in the UC  
2.2. **Community Gathering:** The community gathering can also be used in distributing LLINs as an additional or alternate option in following conditions:  
- Health facility in particular UC is non-functional  
- Health facility is inaccessible  
- UC is geographically large  
- There are many households in a UC.  
In most of the peripheral districts in Pakistan and in particular Federally Administered Tribal Areas (FATA) the options where community gathering can take place includes;  
- Premises of School  
- Premises of Mosque (in exceptional cases where the health facility/school is non functional) | Week 3 and 4 |
<table>
<thead>
<tr>
<th>SR.#</th>
<th>DIMENSIONS</th>
<th>ACTIVITIES*/ EXPLANATION</th>
<th>TIMEFRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>- Compound/Hujra of a local Opinion Leader (in exceptional cases where the health facility/school is non functional) The campaign can focus up to a smaller unit in the UC i.e. Mohalla, Kali, Ward, etc and for each sub unit the distribution mechanisms can differ. Those closer to health center can be covered through RDT/MC center and the far ones can be covered through community based distribution campaigns.</td>
<td></td>
</tr>
</tbody>
</table>
|      |            | **2.3. Door to Door Distribution:** Door to door distribution of LLINs can be used in additional or as an alternate option in following:  
- Household turnover is low in the campaign  
- Health facility in particular UC is non-functional  
- Health facility is inaccessible  
- UC is geographically large  
- There are many households in a UC.  
- Campaign not possible due to security reasons  
The following channels should be used for door to door distribution  
- Paid outreach workers/ community workers  
- Through community health workers (Lady Health Workers/ Community Mid Wives)  
**Note:** Due to on-going sensitivities during NIDs/SNIDs campaign in the country, the outreach vaccinator will not be used currently in door to door distribution |          |
|      |            | **3. Strengthening of distribution channel and outlets**  
3.1. Training of providers involved in LLINs distribution in a district. The selected providers from the distribution outlets will be provided training (in batches) on the distribution of LLIN including the use of LLINs. | Week 5-6 |
|      |            | 3.2. The outlet will be strengthened by ensuring;  
- Availability of trained staff  
- Required number of LLINs in stock  
- Recording and reporting materials  
- Education materials and LLINs User guide/leaflet |          |
|      |            | **4. Advertise the mass distribution campaign**  
4.1. Community sensitization and awareness activities before the mass distribution. | Week 5-6 |
<table>
<thead>
<tr>
<th>SR.#</th>
<th>DIMENSIONS</th>
<th>ACTIVITIES*/ EXPLANATION</th>
<th>TIMEFRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>To optimize the time kept for a campaign, an effective BCC campaign should be launched in a particular district. The major information to be provided to the community should include:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Knowledge about malaria disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Importance of LLINs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Days and timing of campaign in a particular UC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Sequence of UCs to be covered in a district</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- LLIN distribution outlets/ channels</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Accountability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Mass Distribution of LLINs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.1. The optimal duration of campaign should be decided in advance</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The duration should be between 3-7 days depending on the size of a particular UC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.2. Logistics including required quantity of LLINs at each campaign outlet</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Adequate arrangements should be made to ensure that the required number of LLINs to cover a complete UC should be available well in advance with the distribution team in the district.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Piles should be arranged according to the number of households in the UCs and transportation and security arrangements should be ensured.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Chairs, tents, banners and other necessary arrangements should be made in advance for effective implementation of campaign.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.3. LLINs demonstration during campaign.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- It is preferred that the household while receiving their quota of LLINs should be given a demonstration on the use of LLINs which includes; how to install and remove a LLIN, preferable time of use, maintenance, washing, disposal of wrapper, replacement, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- An installed LLIN should be kept at the point of distribution campaign, so that household can observe an installed LLIN.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.4. Number of LLINs to be given to each household.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- It is preferred that each household should be provided 2 LLINs. However, additional LLINs will be provided to a</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR.#</td>
<td>DIMENSIONS</td>
<td>ACTIVITIES*/ EXPLANATION</td>
<td>TIMEFRAME</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
<td>--------------------------</td>
<td>-----------</td>
</tr>
</tbody>
</table>
|      |            | household having bigger size.  
- The packets of the LLINs should be opened in front of the household while providing him/her with the required quota of nets. |           |
| 5.5. | Distribution of LLIN information material.  
At the time of receiving the LLIN the household should be provided the information material in local language regarding the use of LLIN. The material include:  
- Educational material  
- LLINs User guide/leaflet |           |
| 6.   | Avoid leakage and excess collection by a single household | 6.1. Unique “code” should be allocated to each LLIN. The code can be the “coupon number” on which the nets will be provided to the household.  
6.2. The coupon number should be written on each net with a permanent marker, while giving it to the household.  
6.3. The National Identity Card (CNIC) number of the household (head of the household or the person receiving for the household) should also be written on the coupon and on the LLIN  
6.4. The entry should be made using software which can pick “double/triple entry” on the same CNIC (based on the assumption that mostly household will be given 2 LLINs for their household requirement and on a single CNIC). This will also avoid a household getting several LLINs than its quota. | Week 7-10 |
| 7.   | Recording and reporting of the LLINs distributed | 7.1. The recording of each LLINs distributed is mandatory. The following is the process:  
- A “duplicate” two coloured coupon (Green and Yellow) will be used for distributing a single LLIN  
- The coupon will carry all the necessary administrative information related to the household (sample is provided below)  
- The Green copy will remain with the household along with the LLIN  
- The Yellow copy will be kept by the distributor for official purposes. | Week 7-10 |
<table>
<thead>
<tr>
<th>SR.#</th>
<th>DIMENSIONS</th>
<th>ACTIVITIES*/ EXPLANATION</th>
<th>TIMEFRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>7.2. The information will also be entered in an “LLIN register” which will be placed at every mass distribution campaign site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.3. A consolidated report on the mass distribution after its completion in a particular district will be produced (monthly/quarterly basis) based on the LLIN register and will be submitted to the district/province and the Principal Recipient (PR).</td>
<td></td>
</tr>
</tbody>
</table>
| 8.   | Monitoring and supervision | 8.1. Monitoring and supervision will be carried out by stakeholders at all levels during the mass distribution campaigns. This includes:  
- District level: EDO health, district malaria focal person and representative of SR  
- Provincial level: Provincial directorate malaria control and representative of PR  
- Federal level: Federal Directorate of Malaria Control (DoMC), representative of PR and LFA | Week 7-10 |
|      |            | 8.2. The monitoring and supervision will be carried out on set formats (as per Global Fund criteria and indicators) |           |

* Responsibility - District malaria focal person, Provincial Directorate of Malaria Control and Implementing Partners (PR/SRs).

** District population and household data should be collected from the EPI data base in the particular district.
5.2. Continuous Distribution of LLINs

In recent past the LLINs were distributed based on continuous approach through voucher based system. Based on the experiences and the limitations (less coverage, management and logistic issues etc) encountered during previous distribution campaigns, current strategy for LLINs operation has been revised further strengthening the mass distribution of LLINs coupled with continuous distribution.

Strategically, the continuous distribution of LLINs is important to maintain a high level of coverage in the community. The lifespan of the current generation of LLINs is expected to be 3 years (Please remember there is no LLINs which has been recommended by WHOPES for 5 years). Due to sub-optimal use practices of LLINs use at community level, in many rural settings in Pakistan there are possibilities that the LLINs get affected in a shorter period. There is nationally and internationally reported consensus that coverage levels start declining immediately after distribution through various reasons, starting gradually and then increasing over the next year. Therefore, to achieve and sustain the universal coverage, the mass distribution approach should be coupled with continuous LLINs distribution.

Continuous distribution system offers individuals and households in communities to access LLINs at any time during the year when there is a need to replace or acquire a LLIN.

5.2.1. LLINs continuous distribution outlets in a district:

In this system the distribution of LLINs will be carried out mainly through the existing health facilities which have been strengthened as microscopy and RDT centers. The distribution channels within a health facility and currently following existing health facilities will be designated and promoted as LLINs continuous distribution outlets:

- Basic Health Units (BHUs): All those BHUs which are titled as RDT centres by the DoMC and its partners.
  - Antenatal clinic within the health facility
  - Static vaccination center within the health facility
- Rural Health Centres (RHCs): All those RHCs and MCH centres which are strengthened by malaria control program and its partners and titled as malaria microscopy centres.
  - Antenatal clinic within the health facility
  - Static vaccination center within the health facility
- District/ Tehsil headquarters hospitals (DHQs/THQs): All those DHQs/THQs which are strengthened by DoMC and its partners and titled as malaria microscopy centres.
- Health camps: This may include; camps which are established to provide health care services to the displaced population due to natural disaster (flood, earthquake, etc) or due to conflict situation.
Note: Those facilities which are identified and are operational microscopy & RDT centers in the GF Round 10 districts.

5.2.2. Strengthening of LLINs distribution outlets:

The LLINs distribution outlets will be strengthened through;

- Provision of adequate number of LLINs (and associated coupon, same version which is used for mass distribution) to the health facility based on ante-natal and vaccination coverage in the particular facility.
- Provision of LLINs user guide and materials.
- Training of all staff involve in LLIN operation on user guide and continuous distribution strategy.
- Recording and reporting arrangements.

It implies a detailed procedure of reinforcement and replenishment of outflow of LLINs as a result of delivery against devised collection tool, coupon in this case. In this a monthly activity state will be prepared by the in-charge distribution centre and submit it to respective district storage facility where from the replenishment will be carried out keeping in view the total expected out-flow based on target population.

The monthly state should bear following key information from each distribution outlet:

Table 4: Monthly state- Continuous LLIN distribution outlet

<table>
<thead>
<tr>
<th>Name of distribution outlet (RDT/Microscopy)</th>
<th>Name of person(s) trained on LLINs</th>
<th>Total LLINs received in 1st tranche</th>
<th>Total LLINs distribution</th>
<th>Buffer requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Antenatal clinic</td>
<td>Static Vaccination center</td>
<td></td>
</tr>
</tbody>
</table>

5.3. LLIN Distribution Coupon and its Management System

The formal delivery of LLINs during mass distribution and continuous distribution will be based on the “Coupon” system. In present strategy, coupon will be used to identify beneficiaries (Households). The coupons will have printed serial numbers which will help relate LLINs for tracking. The coupon will be provided to the beneficiary with a free LLIN at a specified distribution outlet in the district (mass or continuous distribution site). The coupon will indicate the distribution point of LLINs from where the beneficiary has received the LLINs on specified date and time.

The coupon will be produced as duplicate (two copies in two different colors i.e. GREEN and YELLOW). The GREEN part will be given to the beneficiary (Household), whereas the YELLOW part will help kept by the distributor for verification of the LLIN and other administrative purposes. The LLIN provider will open the packet of the bednet(s) in front of the beneficiary and
write the coupon serial number on the bed net and retain the YELLOW copy of the coupon for verification purpose. The beneficiary will keep the bed net and the GREEN coupon (see sample below). The record of the coupon received and LLIN provided will be maintained in a register which will remain at the mass or continuous site.

**NOTE:** The LLIN provider will also give demonstration to the beneficiary on the use of LLIN after handing over the bed nets.
COUPON FOR LLIN (copy Beneficiary)
Directorate of Malaria Control (DoMC)-Pakistan

Family No.(LHW or from CNIC): ...........................................
Name of Head of Household: ..............................................
Total Number of Family Members: ......................................
Address (complete): ..........................................................
Identity Card Number: ......................................................
Number of Children < 5 years: ...........................................
Number of Woman 15 to 49 years: ......................................
Number of LLINs Required: ...............................................  
Date of Receiving LLINs: ..................................................
Name of Distribution Outlet: ..............................................
Total Number of LLINs Received: .......................................
Name of Beneficiary: .......................................................  
Name/Designation of LLIN Distributor: ...............................  
.........................................................................................
Signature of LLIN distributor

COUPON FOR LLINs (copy LLIN distributor)
Directorate of Malaria Control (DoMC)-Pakistan

Family No.(LHW or from CNIC): ...........................................
Name of Head of Household: ..............................................
Total Number of Family Members: ......................................
Address (complete): ..........................................................
Identity Card Number: ......................................................
Number of Children < 5 years: ...........................................
Number of Woman 15 to 49 years: ......................................
Number of LLINs Required: ...............................................  
Date of Receiving LLINs: ..................................................
Name of Distribution Outlet: ..............................................
Total Number of LLINs Received: .......................................
Name of Beneficiary: .......................................................  
Name/Designation of Coupon Distributor: ...............................  
.........................................................................................
Signature of Beneficiary
SECTION 6: LOGISTICS OF LLINS

The usual flow of LLINs is from the federal to provinces and then to the implementing districts. The figure below shows the standard LLINs flow in Pakistan.

Figure 2: Flow of LLINs – Central level to beneficiary

6.1. Procurement

Currently procurement of LLINs is the responsibility of Federal Directorate Malaria Control (DoMC) supported by the Principal Receipt Office of The Global Fund. As mentioned above, this strategic document only deals with the distribution strategy of LLINs for GF- New Funding Model.

The DoMC at federal or provincial level will follow PPRA rules while procuring LLINs through public sector resources.

6.2. Transportation of LLINs

This section covers the transport process of LLINs once they will be received at the provincial/district/ regional offices (either public or private sector) from the national level (procurement authority for GF-NFM).

The district/regional offices of the GF implementing partners, under intimation to district health authorities of concerned districts, will be responsible for the transportation of LLIN to
the mass and continuous distribution outlets which will predominantly entail following phases in order of succession:

**Pre- transportation Phase:**

- Arranging the LLINs in to manageable bales / pallets
- Formulating a sustainable transportation plan as explained in succeeding sections.
- Floating of invitation for tender from potential transport operators through advertising in local print media/ quotation from local market in the absence of print media
- Post- bid analyses followed by technical acceptance report (TAR)
- Completing the contractual formalities with successful transport operators
- Dissemination of transport plan for operationalization

**Transportation Phase:** Transportation of LLINs from central warehouse (district warehouse) to distribution out-reach point (as per the GF implementing partners logistic policy)

- Identifying the loading mechanism i.e. manually or through mechanical handling equipment (MHEs).
- Loading and recording of LLINs at district/regional warehouse. Complete information regarding loading and transportation will be recorded on logistics records as per format attached hitherto; that will accompany the consignment. This document will bear comprehensive information such as:
  i) Number of LLINs per bale,
  ii) Weight, volume and dimensions of each bale
  iii) Number of bales that can be transported in vehicle
  iv) Name and address of consignee with total traveling time at an average keeping in view the distance and type of track / road,

**Post Transportation Phase:**

- Unloading and record verification at district warehouse to forestall pilferage in route.
- Warehouse management at district storage facility
- Post unloading counting of bales / LLINs
- Cross matching of receipts with transportation documents

6.3. **Storage**

Regardless of the point of warehouse i.e. whether at central, district/regional storage facility; this section will cover the storage of LLINs after having been received at respective point. Storage of LLINs should be done keeping in view replenishment plan and periodic out flow of stocks. Following points may be kept in mind in this respect:

- The size of warehouse should be reasonably large to accommodate substantial quantity of LLINs the volume of which should be calculated keeping in view the expected outflow vis-à-vis number of potential beneficiaries
- Warehouse should be located at accessible transportation artery
- Warehouse selected should be situated at secure and dry place
- Stacks of LLINs should be arranged keeping in view the standard inventory management practices (see figure below)

This type of pattern is ideally designed to maximize the number of end caps along the store traffic route that will ensure two-way traffic to create a circular flow leading from the front doors, around the stacks, and to the checkout/accounting counter. This type of warehouse will also ensure easy movement of MHEs like fork lifters or stackers for speedy transactional activities of issue and/or receipt thus saving time and effort.
SECTION 7: WASTE DISPOSAL

Waste disposal has become one of the major challenges for any program dealing large scale distribution of LLINs. If LLIN packaging (individual wrapper and baling material) is not managed properly, the following may result:

- pesticide poisoning when the packaging is reused for food storage
- pesticide pollution in soil and groundwater
- dangerous persistent toxins from uncontrolled open-air burning.

Therefore, all stakeholders involved with LLIN distribution programs can reduce the risk from any of this event. Under New Funding Model 5.2 M LLINs will be distributed in 42 malaria high risk districts in Pakistan from 2015 to 2017, therefore the revised strategic document provides comprehensive guidelines (in line with Environment Protection Agency (EPA) for appropriate disposal of LLIN wastes (bags and damaged LLINs) during LLIN distribution operation in Pakistan.

Directorate of Malaria Control (DoMC) strongly discourage the;

- reuse of LLIN bags for any purposes to avoid the risk pesticides poisoning
- Burning of bags and baling material in open air
- disposal of packing as ordinary waste or in improper sanitary landfills

Directorate of Malaria Control (DoMC) strictly advises following safety measures and precautions;

- All personal involve in LLINs operation must wear proper Personal Protection Equipments (PPEs) during all stages of operation for collection, sorting, recycling and disposing of LLINs packaging
- Incinerate LLINs bags and baling material ONLY if specified high-temperature incineration conditions for pesticide-tainted plastic can be guaranteed and if FAO/WHO and Basel Convention guidelines as well as national regulations and requirements can be strictly followed
- Store used LLIN packaging to be recycled or disposed of in a dry, ventilated and secure facilities
- Dispose of LLIN packaging away from any residences, in a landfill that will not leach contaminants, if the manufacturer does not recommend recycling or incineration.
SECTION 8: TRAINING ON LLIN DISTRIBUTION AND USER GUIDE

A training manual has been developed for the district level master trainers. The purpose of the manual is to build the capacity of the district/ GF implementing partners staff involved in LLINs management and distribution by enhancing their knowledge and skills on various components of LLINs distribution and user guide. The master trainers will further impart training in their respective districts to the personnel to be involved in mass and continuous distribution of LLINs. RDT/Microscopy centre staff who will be assigned the role for LLINs distribution and demonstration of LLINs use to the beneficiary. A separate Training manual “LLINs distribution and user guide” has been developed for this purpose.
**SECTION 9: RECORDING AND REPORTING TOOLS FOR LLINS AT DISTRICT LEVEL**

There are various recording and reporting tools proposed in this document which will be required in order to monitor the distribution of LLINs in the district. This implies managing the stock of LLINs at the district level store (once received from the central store of DoMC/Principal Recipient GF NFM).

9.1. **Central Level to Implementing District**

The central/ district or regional store when issuing the LLINs to the implementing district would use the following issue and receipt voucher.

**Issued and Receipt Voucher for LLINs (Central to District/regional store).**

<table>
<thead>
<tr>
<th>REF: No.</th>
<th>Dated: ____________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department from:</td>
<td><strong>Focal person (central/ district or regional store),</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issued to:</th>
<th><strong>Focal person (district/regional store)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>District</td>
<td>_________,</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sr.#</th>
<th>Items</th>
<th>Unit</th>
<th>Qty</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please sign and return two (02) copies duly accepted and stamped for the record of this office.

**Received by**

**Focal person district**

**District:** ____________

**Issued by**

(Name of Incharge) Designation/

Store & Supply In-charge.
9.2. **Stock Entries**

When LLINs will arrive in district, they will be entered on stock register (ledger) immediately. To maintain security of items, following precautions must be adopted;

- Items having "ORIGINAL" Consignment Bill or Issue and Receipt voucher will only be entertained.
- All "ORIGINAL" Consignment Bill will be kept with this ledger as ready reference. The consignment bill will be pasted on the page of the stock register where the entry is made.
- All entries (issued & received) will be counter-signed by Store Incharge.
- Over-writing is not allowed at any cost, if it happens will be verified and countersigned by Store-Incharge
- Any other instruction

Specimen of stock register has also been attached below.
STOCK (Inward & Outward) REGISTER

Article: Long Lasting Insecticidal Nets (LLINs)

<table>
<thead>
<tr>
<th>Month &amp; Date</th>
<th>PARTICULARS</th>
<th>Receiving voucher numbers</th>
<th>QUANTITY</th>
<th>REMARKS and SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>RECEIPT</td>
<td>ISSUE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9.3. District Store to LLINs Distribution Outlet

After all entries and other formalities, concerned implementing partner of GF Round 10 will prepare a distribution plan for LLINs with respect to caseload of areas (Union council, village etc). For this purpose, following tool will be used:

**District Allocation Plan for LLINs (District to RDT/Microscopy centre)**

<table>
<thead>
<tr>
<th>District Name</th>
<th>Population</th>
<th>Rural population</th>
<th>No. of HH</th>
<th>Av. Size of HH</th>
<th>Total. LLINs Required</th>
<th>LLINs Received</th>
<th>Coverage (%)</th>
<th>Name of nearest distribution point</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U/c: ..........</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village A/Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village B/Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village C/Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U/c: ..........</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village A/Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village B/Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village C/Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U/c: ..........</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village A/Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village B/Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village C/Health Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9.4. District/regional Warehouse to LLINs Distribution Outlet

Note: This can be adapted for mass distribution campaign by replacing the health facility by the site of mass distribution campaign

District/ regional warehouse when issuing the LLINs to the distribution point/outlet would use similar issued and receipt voucher.

Issued and Receipt Voucher.

I.V. No. /----/20012-10
Dated:

Department from: Focal person (district/ regional store)
District -------.

Issued to: Incharge
Health Facility (RDT/Microscopy centre)
District -------.

<table>
<thead>
<tr>
<th>Sr.#</th>
<th>Items</th>
<th>Unit</th>
<th>Qty</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please sign and return two (02) copies duly accepted and stamped for the record of this office.

Received by

Issued by

(Name of Incharge)
Incharge/Focal Person etc.
RDT/Microscopy centre

Designation/
Focal person
9.5. **Beneficiary Receiving LLINs from Distribution Outlet**

This register will be kept at each LLIN mass distribution and continuous distribution (RDT/Microscopy centre) site and would be the main document for record keeping and would be reviewed at time of monitoring the implementation of LLIN distribution.

### LLIN Distribution Outlet Register

<table>
<thead>
<tr>
<th>LLIN Distribution Outlet Name</th>
<th>Name of U/C</th>
<th>Name of Tehsil</th>
<th>Name of District</th>
<th>Name of LLIN Distributor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*S. No.* | **Coupon Number** | **Family No.** | **Name of Head of Family** | **CNIC No.** | **Name of Husband/Father** | **Total Family Members** | **15-49 Year Old Men** | **No. of PLHIV** | **No. of Lリン Required** | **No. of Lリン Distributed** | **No. of Lリン Distributed to <5 Children & 15-49 Women** | **Date of Distribution** | **Sign/Stamp impression of the Recipient** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Recipient must be member or head of household*

This report should be generated on monthly basis from the LLIN distribution register and should be prepared by the focal person of mass distribution/ continuous distribution site to be submitted to the district health office.

**MONTHLY REPORT OF LLINs DISTRIBUTION FOR THE MONTH OF ---------------**

<table>
<thead>
<tr>
<th>Name of District:</th>
<th>Name of distribution outlet: Mass distribution/ Continuous distribution)</th>
<th>Name of Incharge:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Balance current month:</th>
<th>Balance at last date of previous month:</th>
<th>Total distributed LLINs:</th>
</tr>
</thead>
</table>

Details as under:

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name of beneficiaries (Household)</th>
<th>Date of issue</th>
<th>Coupon Serial No.</th>
<th>No. of LLINs distributed</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prepared by:  
Designation:  
Date:  
Contact No:

Counter-Signed by:  
Designation:  
Date:  
Contact No:
9.7. Monitoring of LLINs

The monitoring of the LLINs distribution and its related activities would be the role of malaria control program (national and provincial), the District health authorities and the office of the Principal Recipient (PR) and implementing partners. The registers and tools mentioned in the section above will be the main source of data collection for monitoring purpose.

9.8. Advocacy and Social Mobilization on LLINs

Directorate of Malaria Control (DoMC)-Pakistan with support of its partners has developed a comprehensive advocacy and social mobilization scheme for LLINs. The details of this advocacy and social mobilization scheme are part of a separate document.
### SECTION 10: LIST OF NATIONAL TECHNICAL WORK GROUP PARTICIPANTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Muhammad Aslam Khan</td>
<td>DOMC</td>
</tr>
<tr>
<td>Mr. Muhammad Mukhtar</td>
<td>DOMC</td>
</tr>
<tr>
<td>Dr. Suleman Memon</td>
<td>DOMC</td>
</tr>
<tr>
<td>Dr. Abdul Majeed</td>
<td>DOMC</td>
</tr>
<tr>
<td>Mr. Naveed Choudhary</td>
<td>DOMC</td>
</tr>
<tr>
<td>Mr. Jaipal</td>
<td>DOMC</td>
</tr>
<tr>
<td>Dr. Khalid Iqbal</td>
<td>KPK</td>
</tr>
<tr>
<td>Dr. Sadiq</td>
<td>FATA</td>
</tr>
<tr>
<td>Dr. Kamalan Gichki</td>
<td>Balochistan</td>
</tr>
<tr>
<td>Dr. Mah Talat</td>
<td>SCI</td>
</tr>
<tr>
<td>Mr. Ali Asghar Khan</td>
<td>SCI</td>
</tr>
<tr>
<td>Mr. Alamgeer Khan</td>
<td>SCI</td>
</tr>
<tr>
<td>Mr. Muhammad Ali</td>
<td>SCI</td>
</tr>
<tr>
<td>Mr. Naeem Durrani</td>
<td>Merlin</td>
</tr>
<tr>
<td>Dr. Muhammad Arif Munir</td>
<td>PMRC</td>
</tr>
<tr>
<td>Dr. Qutbuddin Kakar</td>
<td>WHO</td>
</tr>
<tr>
<td>Dr. Iftikhar</td>
<td>ACD</td>
</tr>
<tr>
<td>Dr. Arshad Iqbal</td>
<td>ASD</td>
</tr>
<tr>
<td>Dr. Shahid Ujjan</td>
<td>NRSP</td>
</tr>
<tr>
<td>Dr. Nauman Safdar</td>
<td>Consultant</td>
</tr>
</tbody>
</table>