



4: LLIN procurement and pipeline monitoring

A definition of procurement that can be used for LLIN procurement in this toolkit is: “the process of acquiring” ...commodities, i.e. LLINs... “at the best possible cost, in the right quantities, of desired quality, in the right place and at the right time”^a. In the case of LLINs, the minimum requirement is a WHOPEs Phase II recommendation^b, currently held by a limited number of suppliers.

Procurement and supply management (PSM) activities are fundamental to good programme implementation and performance. While the procurement process and many of the procedures are similar for many commodities, with potential problems and their solutions well-documented, the procurement of LLINs for mass distribution programmes has particular challenges. Different countries have encountered different issues causing bottlenecks in the LLIN supply chain. This section will briefly discuss some of the common challenges experienced and lessons learned.

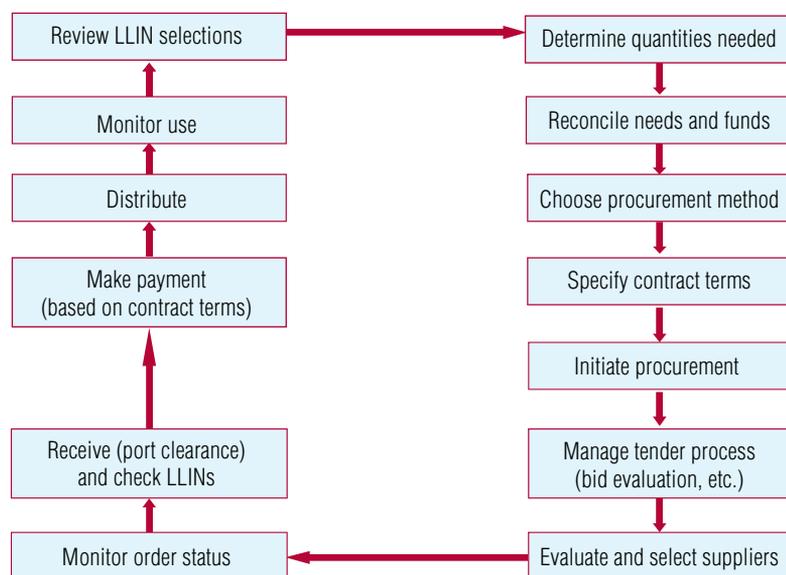
4.1 The procurement life cycle

The LLIN procurement life cycle goes through three phases:

1. Pre-procurement:
 - determination of availability of funding
 - identification of the product and specifications
 - decision on quantity required
 - identification of target date for receipt
 - undertaking market research to find suppliers who can satisfy the requirements
2. Procurement and contract management
 - identification of procurement method
 - preparation of tender/bidding documents with clear terms and conditions
 - development of evaluation criteria
 - issuance of the tender documentation
 - evaluation of offers and adjudication
 - contract award and signature of contracts
 - follow-up on implementation of the contractual terms and conditions
 - receipt of supplies
 - process of payment in line with contract
3. Assessment and evaluation
 - assessment of overall historical performance of the supplier and, based on that assessment, recommendations on whether supplier(s) is reliable and can be used for future purchases
 - evaluation of the procurement activity and assessment of any remaining requirements (gap)



The LLIN procurement process is shown in the following simplified illustration^c:



See Resource R4-1 for an overview of the LLIN procurement and supply process.

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
- ensure ethics in the procurement process
- ensure timely delivery and notification
- ensure the lowest possible total cost of the operation of assured quality

Procurement of LLINs generally happens long in advance of the establishment of coordination structures (described in Chapter 2) or the development of the plan of action (described in Chapter 3). In most cases, needs are estimated by the Ministry of Health (MoH) and funding organizations to ensure timely delivery based on a general annual plan of activities. Procurement, whether initiated by the MoH or a procurement agency, is the responsibility of the MoH, through various departments, such as procurement and finance.

Good practice in LLIN procurement ensures that:

- procurement is in accordance with donor’s timelines, regulations and procedures
- procurement should be in bulk to ensure economies of scale
- the bidding process is competitive and transparent
- quantities should be ordered based on a reliable estimate of overall need
- 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

4.2 Estimating needs

There is a need for a clear country definition of universal coverage in terms of LLINs to be able to quantify needs for mass LLIN distribution. In general, the requirement for LLINs has been underestimated, partly because of an assumption about the size of households, and out-of-date demographic data. Different definitions occur in different countries: some use one net per two people, while some give a fixed number



Zanzibar. © Maggie Hallahan / Sumitomo Chemical

of nets per household regardless of how many people it contains. It is essential for estimating requirements to make the forecast taking into consideration a number of variables, for instance population, size of net, timing and availability of funding and timing of distribution. The greater the certainty for each variable, the more accurate the forecast will be, and the more efficient the procurement process.

While recognizing that there are cost implications, recent recommendations suggest a quantification factor of 1.8 people per net (see Chapter 3), taking into consideration households with odd numbers of people where the number of LLINs required is rounded up instead of down. This figure may also help to account for poor census data and other household registration and distribution issues (for example, a number of countries, during the household registration, have found that the average household size is lower than expected, thus increasing the need for LLINs where the strategy is a fixed number of nets per household). This figure is the current recommendation, but with more evidence, it is expected a more precise

figure will emerge to allow for quantification that ensures sufficient nets for the campaign to achieve universal coverage targets.

“Mop-up” campaigns will require data on previous campaigns, and currently available demographic data to estimate the gaps in coverage and the number of nets needed to replace older nets in order to move from low or moderate coverage to universal coverage. For estimating purposes, based on WHOPES evaluations, nets are considered to have an effective life of three years.

4.3 Planning for procurement

Universal coverage campaigns are generally on a national or sub-national scale, usually requiring huge quantities of LLINs to be procured. The massive task must be carefully planned. Once baseline funding has been secured, the development of a structured procurement plan is essential. This will contain information on the requirements for goods or contracts, the method of procurement and procedures for review of the plan. The method of procurement

needs to be determined, based on donor guidelines and country policy, and a timeline for the whole procurement process, from initial research to receipt by beneficiary must be established. Different funding agencies have their own timelines. While the main processes will be similar, it is essential to be guided by the donor's own policies and procedures. The main difference is between pooled procurement, or joint purchasing, and individual or ad hoc procurement. For pooled procurement in particular, good coordination and meticulous planning are critical. As examples, timelines for major donors such as the Global Fund, the World Bank, UNICEF and USAID/PMI are given in the Appendices and on the Resources CD (R4-2 to R4-5), showing the differences in procedures and responsibilities, as well as terminology.

4.4 Donor organizations and funding

Major sources of funding include, among others, governments, the Global Fund, the World Bank, UNICEF and USAID/PMI. The various funding agencies each have their own rules and regulations regarding procurement, which must be taken into consideration when making funding requests. Procurement must also be in accordance with national and international laws.

A number of checklists and other documents, relevant to the major donors, are available to give guidance on their regulations and procedures. Among these are:

- *Guide to the Global Fund's Policies on Procurement and Supply Management^d (Resource R4-6)
- Global Fund Guide to the Voluntary Pooled Procurement Process^e
- *Global Fund Quick Facts on Procuring Long-lasting Insecticidal Nets^f (Resource R4-7)
- *World Bank Malaria Booster Control Program. Procurement and Supply Management Toolkit^g (Resource 4-8)
- Roll Back Malaria Toolbox: Procurement of LLINs. Technical data and manufacturers^h



A to Z factory, Tanzania. © Maggie Hallahan/Sumitomo Chemical

- *Overview of UNICEF's Procurement of LLINs: Key Challenges and Sustaining Gains. October 2010ⁱ (Resource R4-9)
- UNICEF Long-Lasting Insecticidal Nets (LLINs) Suppliers Meeting^j. There are a number of procurement-related presentations on this link.

The asterisked documents can also be found on the Resources CD.

Once needs have been quantified, coordination between donors, where there are multiple sources of funding for LLIN procurement, is crucial. It is important that all donors attempt to meet the specified timelines for delivery to the country. This may be as general as "before the rainy season" in the case of a non-integrated campaign, or may be quite specific where campaigns are integrated and the platform (for example EPI) has fixed campaign dates.

In cases where bottlenecks in procurement affect efficiency in implementation, countries may decide to outsource procurement. In parallel, countries should work towards addressing the existing bottlenecks. Countries with limited staff capacity or time, as well as countries seeking to expedite the procurement process should seek support from partners, stakeholders and third parties to ensure rapid delivery of commodities. Malaria programmes facing procurement bottlenecks may also seek collaboration with countries experienced in best practices in LLIN procurement.

4.5 Sources of LLINs

Different kinds of issues make the secure procurement of a sufficient quantity of quality-assured WHOPEs-recommended LLINs a challenging task. Suppliers will not proceed with an order until contracts are signed and verified. In some countries this may take a considerable amount of time, which needs to be built into the timeline. Bottlenecks should be avoided by ensuring that time needed for mandatory processes such as bid evaluation, preparation of contracts, inspection, etc. is not underestimated.

Regulatory issues also need to be considered. We have already seen that the majority of countries and for the majority of donors, regulations mandate that nets are WHOPEs-recommended. In some cases, however, countries may also require product registration which may limit competition. The requirement should be validated during the procurement planning process; lack of registration should not bar WHOPEs-recommended suppliers from bidding. The numbers of both WHOPEs-recommended products and suppliers have grown in recent years, and are published by WHOPEs^k. LLINs which are currently being evaluated are also listed^l and updated regularly.

Suppliers must give assurance that they can meet contract requirements, including deadlines. Part of the task of a bid evaluation process is to ensure that the supplier has a history of meeting delivery schedules, the capacity to deliver on time and in the right quantity. Contracts should contain penalty clauses, which must be enforced in the case of breach of contract through late or inadequate delivery.

4.6 Procurement issues

Specific parts of the LLIN procurement process are key to the successful completion of the operation. The following are included because of their potential to cause problems:

1. **Putting out a tender:** This requires a clear specification of requirements, including deadline and award criteria. Transparency is vital in order to avoid any future problems. Tender documents should include a detailed and clear specification of the product, using variables that can be met by more than one supplier, in order to avoid procurement of a particular brand and to eliminate unfair competition. Suppliers must be aware of the evaluation criteria, how they will be notified of results, and so on. They should also be aware of procedures such as fines for non-compliance, lateness, etc. A standard bidding document (included on the CD as Resource R4-10) produced by the World Bank is one example of documentation that ensures the tendering process is clear and precise^m.

For practical purposes when dealing with very large quantities of LLINs, as is often the case with universal coverage, it is recommended that the tender is split into a number of lots, by region or district for example. This attempts to mitigate any difficulties that any one supplier might have with production or shipment.

2. **Evaluation of bids:** This requires a strict deadline and transparent procedures for evaluation. In most cases, particularly in government-led procurement with donor funding, sealed bids only should be accepted. Public bid openings should also be put in place and publicly announced. The evaluation process should be based on established criteria and will determine not just the costs involved, but also the ability of the supplier to comply with all necessary regulatory aspects, adherence to the delivery schedule, maintenance of quality control and past performance. It should be noted that the lowest bidder may not be the most appropriate. Depending on the donor's regulations, responsibility for evaluation may be taken by the purchaser, in the form of a procurement committee, or by the procurement agent.

3. Regulatory issues, quality assurance and quality control:

Pre-delivery inspections may be carried out by both supplier and purchaser. Suppliers may arrange for batch inspection, but purchasers may independently do pre-delivery inspections for each shipment. This should be clearly identified in the bidding documents and also in the contracts. Pre-delivery inspections should be based on pre-defined criteria for minor and major defects. Generally, if there has been adequate pre-delivery quality inspection, post-shipment inspection, except for loss and damage, would not be required.

4. Human resource capacity: There is a need for a clear definition of roles and responsibilities of procurement staff and their involvement in the planning process. In general, there is a limited number of staff with adequate experience and training to carry out LLIN procurement and supply functions at different levels. Procurement staff should be part of the wider procurement and supply management team, and should include staff with technical and logistics expertise for the functions of receipt, clearance, storage and transport, as well as project staff to monitor the use of the product. There is also a requirement to build and sustain country capacity for the future via training, monitoring and evaluation.

5. Shipping, transport and storage issues are discussed in Chapter 5.

4.7 Monitoring and evaluation

As more universal coverage campaigns are undertaken, lessons have been learned about LLIN procurement, but there is a requirement to set performance indicators so that proper monitoring and evaluation (M&E) can be put in place. These are required for the procurement process itself, and also for the end use of LLINs to ensure that the procurement and supply management

process functions well. Lessons from both will be used to improve future implementation of malaria prevention programmes, inform future training needs, modify procedures and build country capacity wherever possible. More detail on commodity management assessment can be found in Chapter 5.

4.8 Pipeline monitoring

With the shift to universal coverage, the number of nets involved in mass distribution campaigns has increased dramatically. Supply chain management, from procurement to distribution, has become more complex and is now facing additional logistics challenges.

While in early campaigns the comparatively small number of nets generally allowed for one-off procurement and delivery to the recipient country, the situation in most current campaigns often requires staged procurement and delivery of hundreds of containers phased over several months. Complicating the issue further, suppliers are now often required to deliver these containers to various locations in-country (at regional or district level), rather than to a single central destination.

One of the main responsibilities of the recipient country will be to monitor the situation regarding procurement, shipping and deliveries, including inland transport from point of entry to final destination. LLIN shipment and delivery are referred to as the LLIN “pipeline”.

Procurement and pipeline monitoring, which should be handled by the logistics sub-committee and/or the central logistics team (CLT), together maintain an up-to-date global picture of how many nets have been procured and by whom, and how many nets have been shipped, received, cleared and transported to final destinations. This information is vital not only for the global planning of a one-off campaign, but also for the coordination and timing of the various phases of rolling campaigns if that is the country strategy.



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Monitoring the procurement and pipeline situation requires the CLT to maintain regular contacts with the procurement agency (for Voluntary Pooled Procurement (VPP) or if using a different third party procurement agent) or procurement officers at NMCP and/or partners' offices as well as with suppliers and their representatives in-country (where applicable).

Timely dissemination of information concerning the LLIN pipeline is also essential. The CLT will need to maintain contact with regional/district logisticians and keep them informed of movement of the nets (quantities and estimated

arrival times) from point of entry through the in-country supply chain.

A template has been developed for Nigeria's state-by-state universal coverage campaigns (see Resources R4-11) in order to facilitate the collection of data and its dissemination among all those involved. The template includes a procurement table by partner and by supplier, a pipeline summary table by state and partner, and a detailed pipeline table for each individual state. Other countries may wish to adapt this tool to their specific country situation.

Appendix 4A: World Bank procurement timeline*

Activity	Responsibility/Notes	Weeks																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Review forecast	By purchaser																										
Review and agree LLIN specifications (WHOPES Phase II only as a minimum)	By purchaser as part of the review of Bidding Document (BD). World Bank gives no objection to BD.	X	X																								
Decide on Quality Assurance (QA) protocol	By purchaser	X	X																								
Determine quantities	By purchaser	X	X																								
Reconcile quantities against budget	By purchaser	X	X																								
Select procurement method	Usually during Project Appraisal of a Procurement Plan. In general, International Competitive Bidding (ICB) is used, and exceptionally, limited ICB.	X	X																								
Initiate procurement	By purchaser			X	X																						
Specify and publish the award criteria and supplier selection	By purchaser, in the invitation for bids			X	X																						
Issue tender/request for quotations (RFQ)	By purchaser, in the invitation for bids			X	X																						
Tender/RFQ closes	Normally 8 weeks after invitation for bids is published								X	X																	
Public tender opening if required by donor or national regulations	Once tender/RFQ closes								X	X																	
Complete evaluation	May take 3–5 weeks, more in certain countries													X	X												
Make recommendation for award	As above, may take 3–5 weeks													X	X												
Recommendation accepted	Depends on clearances required																										
Donor approval (e.g. WB no objection)	Issuance of No Objection by WB. Usually takes less than 2 weeks																			X	X						
Contract award	Follows WB No Objection promptly, although this may take longer in some countries																				X	X					
Contract progress monitoring	Imposed in BD, usually from 2 to 4 months																					X	X				
Production lead time	Imposed in BD, usually prior to shipment																						X	X			
Ready for inspection (Quality Assurance)	Purchase is made on CIF/CIP basis; pre-shipment inspection is prescribed																						X	X			
Released for shipment	Supplier's responsibility as purchase is made on CIF/CIP basis																					X	X				
Booked for shipment	Purchaser's responsibility																					X	X				
Transit time	Depends on country logistics, purchaser's responsibility																					X	X				
Arrival at final destination	Purchaser's responsibility																					X	X				
Clear customs, receive, count and check for loss/damage	Purchaser's responsibility under CIF/CIP																					X	X				
Payment to supplier	Usually by Letter of Credit, for the most part (80%) at the time of shipment																					X	X				

*See Resource R4-2 on the CD for Excel version of the timeline.

Appendix 4B: Global Fund Voluntary Pooled Procurement timeline**

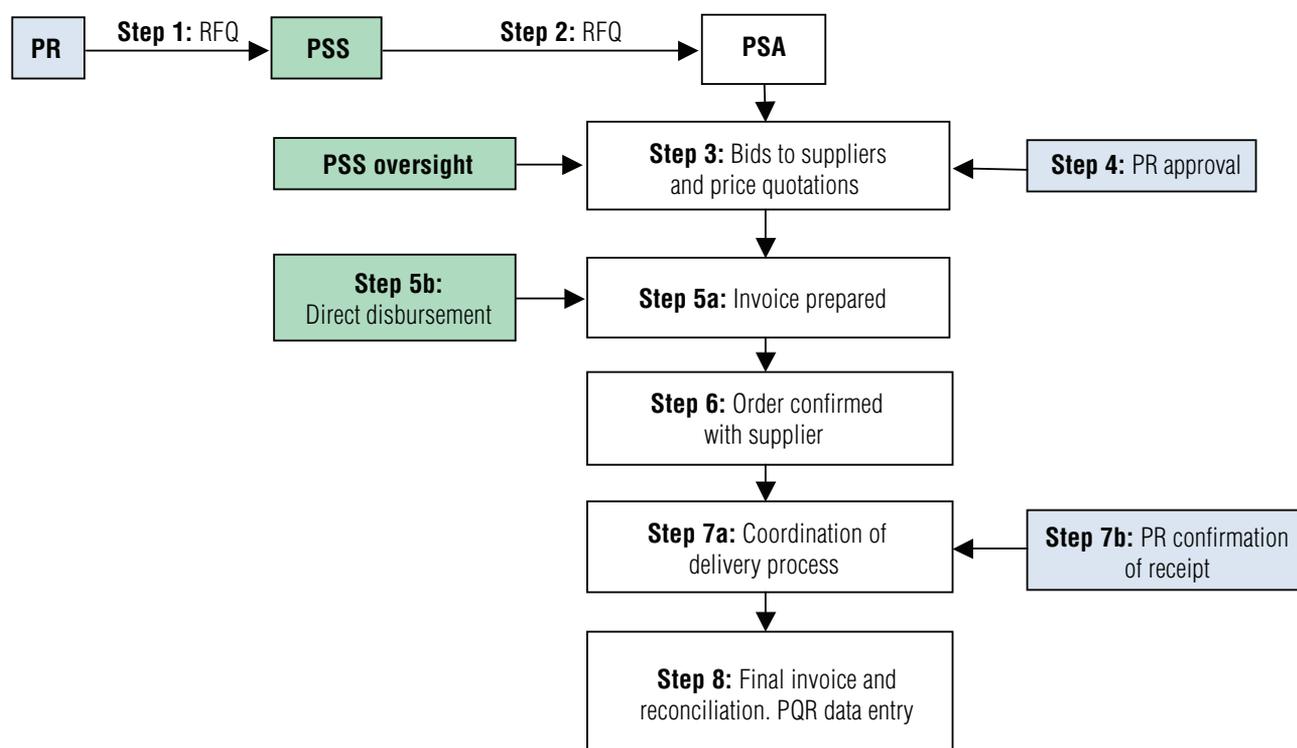
Activity	Responsibility/Notes	Weeks																										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
Identification of needs	PR	X																										
Finalization of specifications	PR	X																										
Reconcile quantities and budget	PR	X																										
PR submits request to PSS team for screening and onward forwarding to PSA	PR/PSS	X	X																									
PSA clarifies request, invites bids from eligible suppliers and submits price quotations to PR	PSA	X	X	X	X	X																						
PR reviews price quotations and accepts (declines)	PR			X	X	X																						
PSS team prepare direct disbursement request and facilitate payment to PSA	PSS				X	X	X	X																				
PSA confirms order with supplier	PSA						X	X	X	X																		
Production	Typically 6—8 weeks							X	X	X	X	X	X	X	X	X	X	X	X									
Pre-shipment inspection (sampling and testing)	PSA coordinates											X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Freight/transit time	4—6 weeks depending on destination																											
Customs clearance	PR/PSA (depending on incoterm (1—2 weeks))																											
Receipt, reporting of receipt and any discrepancies or damage	PR																											
Payment of suppliers	PSA																											

PR = Principal Recipient
 PSA = Procurement Services Agent
 PSS = Procurement Support Services
 VPP = Voluntary Pooled Procurement
 **See Resource R4-3 on the CD for Excel version of the timeline.

VPP process

The eight major steps in the VPP Process are as follows, and as indicated in the flowchart:

1. PR (Principal Recipient) sends Request for Quotation (RFQ) with product specifications, quantities and desired delivery dates to PSS (Procurement Support Services) team.
2. PSS team screens RFQ and sends to PSA (Procurement Services Agent).
3. PSA on behalf of the PR invites bids from suppliers and submits price quotations to PR based on the bids.
4. PR accepts or declines the price quotations and returns a signed copy to the PSA with a copy to the PSS team.
5. a) PSA prepares a proforma invoice.
b) PSS team prepares a direct disbursement request and facilitates payment to PSA.
6. On receipt of payment, PSA confirms the order with supplier.
7. a) PSA provides periodic updates to the PR on expected delivery and coordinates the delivery process for the PR.
b) PR confirms receipt of goods to PSA.
8. PSA reconciles the account and submits a final invoice to PR. PSA enters data into the Price and Quality Reporting system (PQR).



Appendix 4C: JSI Deliver project, supporting USAID/PMI-funded programmes: timeline***

Activity	Weeks																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
JSI receive signed Commodity Procurement Information Request (CPIR)	X																									
Issue RFQ	X																									
RFQ closes		X																								
Complete evaluation			X																							
Accept evaluation				X																						
Office of Acquisition and Assistance (OAA) documents submitted						X																				
OAA approval received							X																			
Order placed							X																			
Production								X	X	X	X	X	X	X	X											
Ready for inspection																	X									
Booked for shipment																			X							
Shipment dispatched																				X	X	X	X	X	X	X
Arrival at final destination																										X

***See Resource R4-4 on the CD for Excel version of the timeline.

Appendix 4D: UNICEF timeline: a pooled procurement model****

Donor: Development agencies and donors¹

Part 1: Annual procurement process (long-term contract)

Activity	Notes	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	
Procurement strategy	June – Procurement strategy in place						X										
Forecast process initiated by	Mid-August – Annual Forecasting tool is shared with all countries								X								
Forecast received	Mid-Sept									X							
Clarification on forecasts	Mid-Oct – all countries finalize their annual forecast										X						
Pooled annual forecast	October – annual forecast overview										X						
Review and agree LLIN specifications (WHOPES Phase II recommended minimum for award of contract)	Regular review on new available WHOPES-recommended specifications	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Decide on QA protocol	Existing procedures																
Determine quantities	As per forecast and regular updates	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Reconcile quantities against budget	n/a. This is part of forecast update exercise, which is ongoing activity throughout the year																
Select procurement method	Procurement method selected and shared with industry – end October										X						
Sourcing – only WHOPES-recommended products	Based on WHOPES updated recommendations (regular review on new products under evaluation)																
Decide/select appropriate contract terms	Standard in place																
Specify and publish the award criteria and supplier selection	Before launching of the tender – end October										X						
Issue tender/RFQ	Tender documents issued to eligible suppliers – mid-November											X					
Tender/RFQ closes	Last date for submission of completed tender documents – mid-December												X				
Public tender opening, if required by donor or national regulations													X				
Complete evaluation	December and January (the following year)													X			
Make recommendations for award	February														X		
Recommendation accepted	February															X	
Donor approval	As and at time required																
Contract award	Annual contract issued 1 March																X
Contract progress monitoring	Regularly	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

¹Unicef undertakes procurement for the other three main donors.

****See Resource R4-5 on the CD for Excel version of the timeline

Part 2: Execution of individual purchase orders

Activity	Notes	Weeks																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Placement of individual purchase orders	2—5 days after receipt if not deviation of requirements from forecast	X																					
Production lead time	Weeks 2—3 for small quantity, 2—6 for medium-size orders and 2—8 for large orders and non-commonly produced LLINs		X																				
Ready for inspection (QA)	For available LLINs, 3—8 days after placing the order, as per schedule adjusted to production lead times. Duration of inspection is 2—3 days depending on the quantity of nets procured.		X							X													
Released for shipment	7 days after inspection date										X												
Booked for shipment	Within 10 days from inspection										X												
Transit time	May vary 20—70 days depending on country location (longer lead times for landlocked countries) and also on quantity														X								
Arrival and clear customs at final destination	Different timelines for customs clearance – country specific														X								
Clear customs, receive, count and check for loss/damage	Different for different countries – immediate check on arrival														X								
Insurance claim procedure in the event of any loss or damage	Short shipment reported at receipt – starts immediately on arrival														X								
Payment to supplier	Within 30 days from delivery date														X								

Endnotes

- a. From Procurement and Supply Management of LLINs Workshop, Global Fund PMU/Roll Back Malaria PSMWG, October 2009. See Resources R4-1.
- b. WHO Pesticide Evaluation Scheme interim recommendation. See www.who.int/whopes/Long_lasting_insecticidal_nets_Jan_2011.pdf and www.who.int/whopes/pdt_under_WHOPEs_eval_March_2011.pdf
- c. From Procurement and Supply Management of LLINs Workshop, Global Fund PMU/Roll Back Malaria PSMWG, October 2009. See Resources R4-1.
- d. See: www.theglobalfund.org/en/procurement
- e. See: www.theglobalfund.org/en/procurement/vpp
- f. See: www.theglobalfund.org/en/procurement
- g. See: siteresources.worldbank.org/INTPROCUREMENT/Resources/Malaria-Toolkit.pdf
- h. See: rbm.who.int/psm/procurementLLINs.html
- i. See: www.unicef.org/supply/files/Procurement_of_LLINs_-_Key_Challenges_and_Sustaining_Gains_-_28_October_2010.pdf
- j. See: www.unicef.org/supply/index_56727.html
- k. See: www.who.int/whopes/Long_lasting_insecticidal_nets_Jan_2011.pdf
- l. See: www.who.int/whopes/pdt_under_WHOPEs_eval_March_2011.pdf
- m. See: web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/PROCUREMENT/0,,contentMDK:20062738-menuPK:84284-pagePK:84269-piPK:60001558-theSitePK:84266,00.html