

LLIN purchase decisions based on unit cost  
vs person-years of protection

A story of unintended consequences,  
bureaucratic impasse, short-termism  
category error.

How the good can be the enemy of the best

...

Jo Lines



# **UPDATE ON DEMAND (1)**

## **Public Sector demand: available funding for GF Approved Proposals & Grants 2005 – 2007**

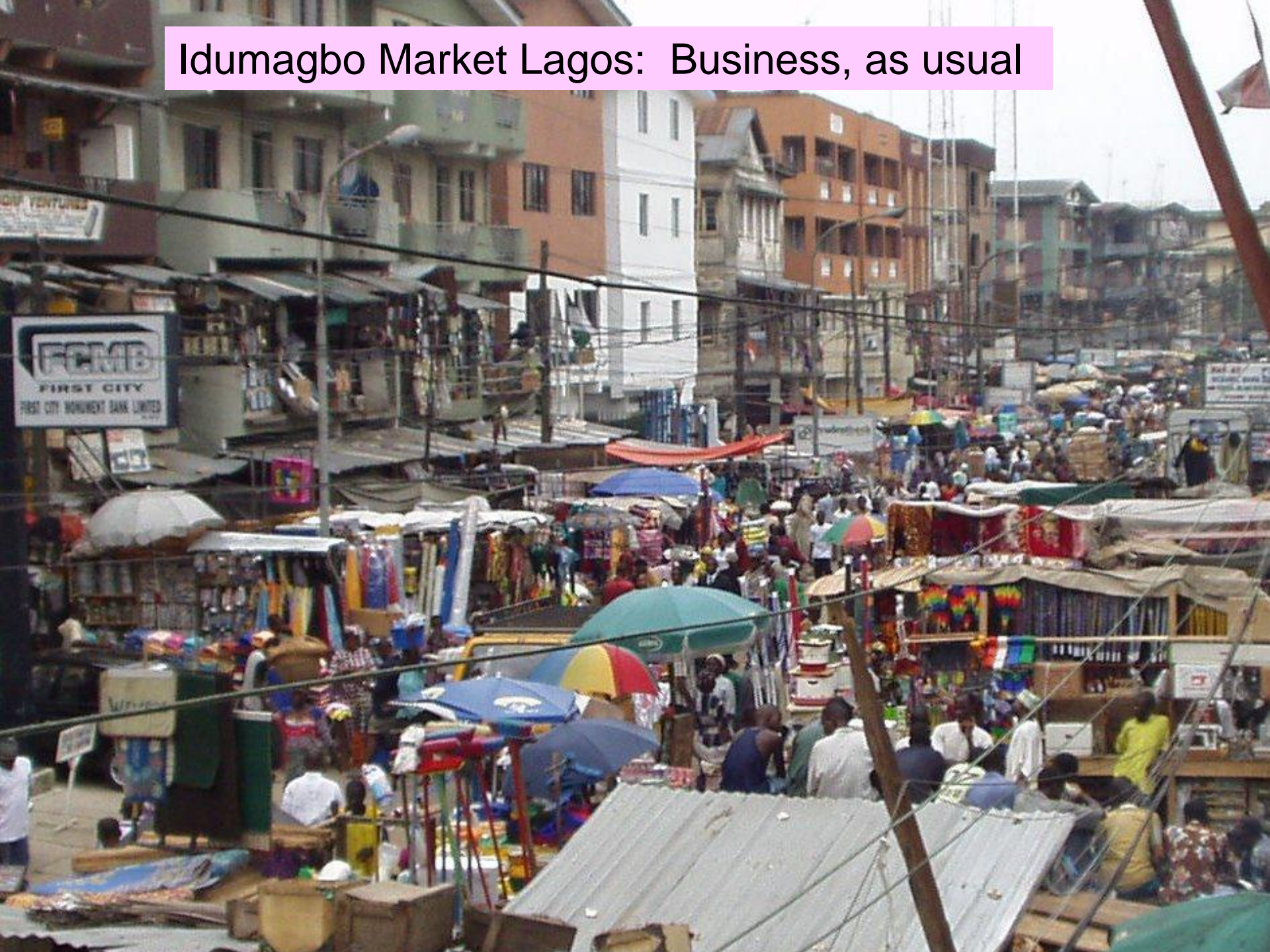
	<b>Number of Countries</b>	<b>Number of ITNs</b>	<b>Number of LLINs</b>
<b>Approved &amp; funded</b>	<b>37</b>	<b>11,426,573</b>	<b>25,493,683</b>
<b>Ordered</b>	<b>15</b>	<b>1,765,000</b>	<b>10,054,055</b>

The wholesale market in nets and second-hand netting, Railway Market, Kumasi:  
Highly organised, coordinated, efficient





# Idumagbo Market Lagos: Business, as usual





Local traders now sell **Treated Nets**





Local nets can be prettier and more durable than project nets



We know that buying local seed and tools is more effective at promoting post-disaster agricultural recovery... so why do donors/projects insist on buying imported seed and tools instead?

- Fears of low quality
  - Donor regulations - certification as proxy for quality
  - Mis-diagnosis of unavailability of local sources
  - Fears that local sources lack capacity
  - deliberate promotion of external sources
  - Opportunity for researchers to promote their own varieties
- 
- Remington et al (2002) Disasters 26(4) 316-28

- **Vector Control:**

**technology evolution**

**market shaping**

**product choice**



- Technology Evolution:
  - Paris Green, IRS, LLINs
- IRS, then LLINs – allow scaling up
  - Long replacement lifespan
  - Standardised methods

PROBLEM:

LLINs stopped evolving in 2004!

## WHO and “which LLIN to buy?”

- WHO defines measures of the effectiveness of LLINs and sets minimum standards for these measures
- WHOPES compares each product with these objective standards
- - so all WHOPES-recommended products are known to be effective
- GFATM treats all WHOPES as equal...but they are not!
- But how to choose within the WHOPES list?  
Donors look to WHO for guidance...



- Standards for procurement: WHOPES system
  - Standard testing methods
  - Specifications –
    - OK for IRS = simple recipe
    - For LLINs?
      - Complex product, many dimensions of quality
  - Equivalence ('me too')
  - Current system gives clear incentive:
    - produce a net that JUST exceeds WHOPES standards but is otherwise as cheap as possible to make.

# WHO Global Malaria Programme

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## **A system to improve Value for Money in LLIN procurement through market competition based on cost per year of effective coverage**

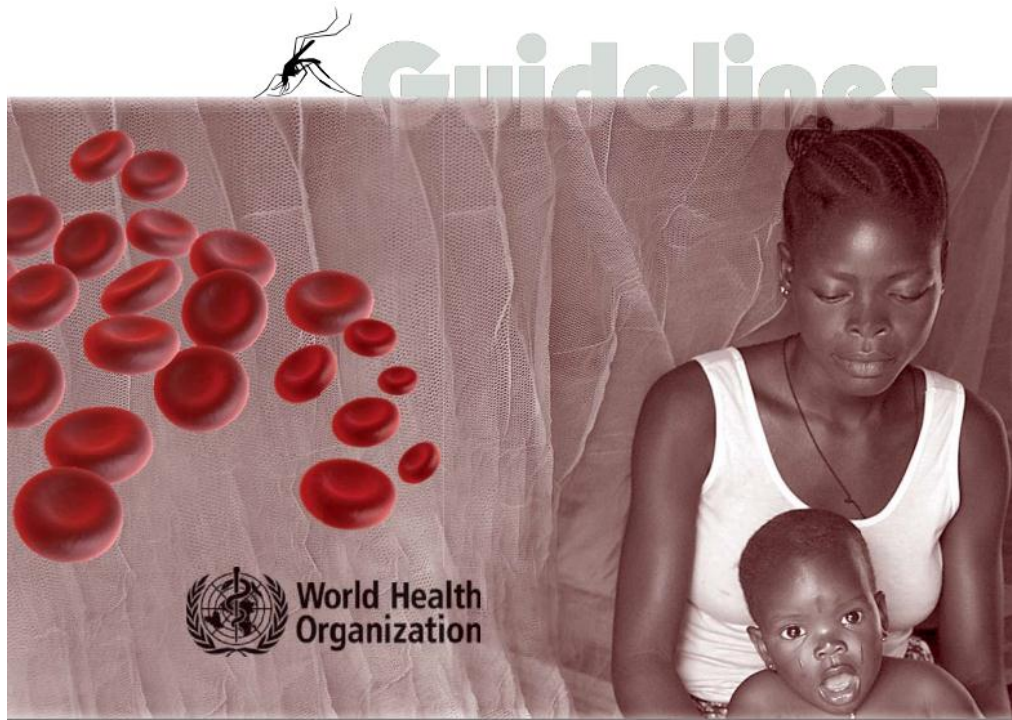
*Concept Note*

In order to create these incentives, there is a need for (a) more and better data on the relative durability of alternative LLIN products in local settings, and (b) adjustment in current procurement practice to allow such data to be taken into account.

- **DATA** - costing <1% of total value
- **Procurement Practice**



# Guidelines for monitoring the durability of long-lasting insecticidal mosquito nets under operational conditions

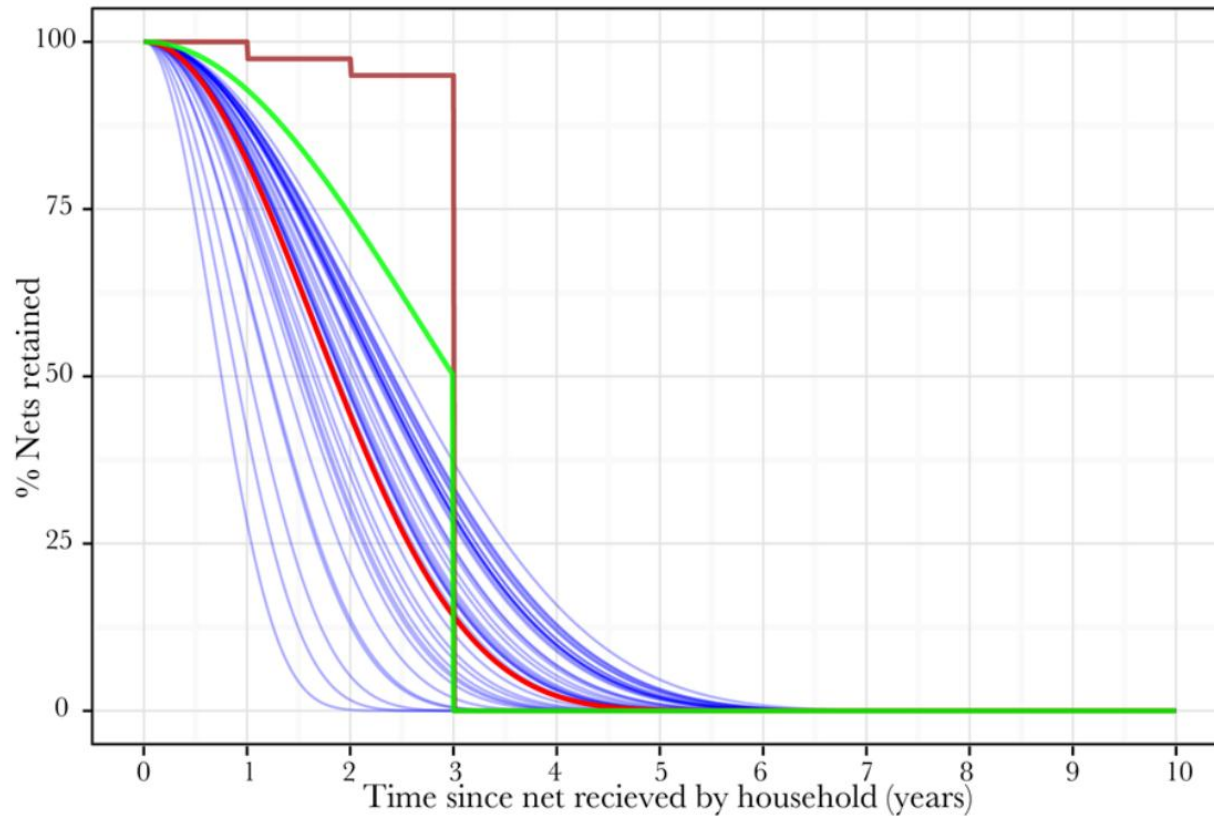


# Data

- Lab measures
  - Can lab tests on a new net reliably predict its lifespan?
  - denier
    - Loosely related to durability, but not reliable as predictor
  - bursting strength
    - Loosely related to durability, but not reliable as predictor
  - RD score ??
- Field Measures – actual lifespan (by setting)
  - The only reliable way?
  - Can be simplified: record only presence/absence



# Estimated LLIN retention curves from MAP model in most recent surveys



Blue = each country; Red = combined for all

# Procurement System

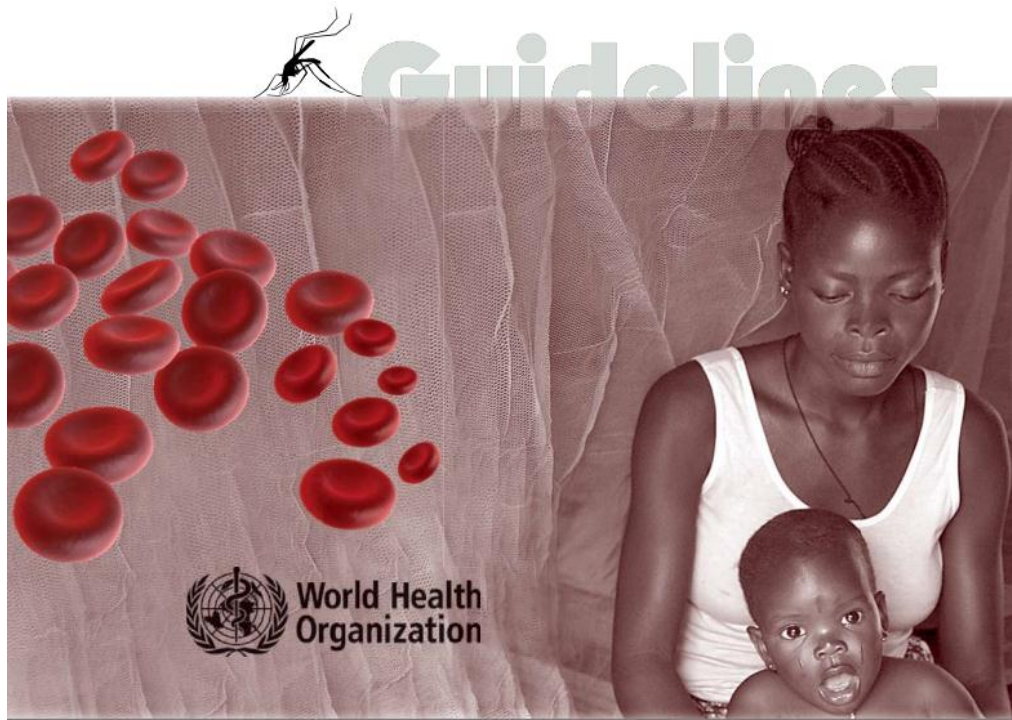
- Best buy list?
  - Needs consistent ranking
  - But ranking is not consistent?
  - CDC data says roughly consistent?

**Chad:                Holes in polyester nets >> polyethylene nets**

**Madagascar: Holes in polyester nets << polyethylene nets**

- The RDT analogy--- but LLINs are more complex products with much more complex function in more diverse settings
- Raise the WHOPES bar?

# Guidelines for monitoring the durability of long-lasting insecticidal mosquito nets under operational conditions







# GUIDELINES FOR PROCURING PUBLIC HEALTH PESTICIDES



World Health  
Organization



# Guidelines for Pesticide Procurement

- the **susceptibility** of the target species to the insecticide ...
- **national registration status** of the product;
- **operational cost**, which should be determined from the cost of the product as applied or delivered and not strictly on its purchase price. The criteria for comparing the operational cost and 'value for money' of different products for the intended application(s) should be set at the onset. For indoor residual spraying, the criteria for comparison can be the 'cost per unit surface area (m<sup>2</sup>) sprayed for a certain time, preferably for 1 year' (Table 1).
- For LNs -- '**cost per median year of net life under local conditions of use**'.

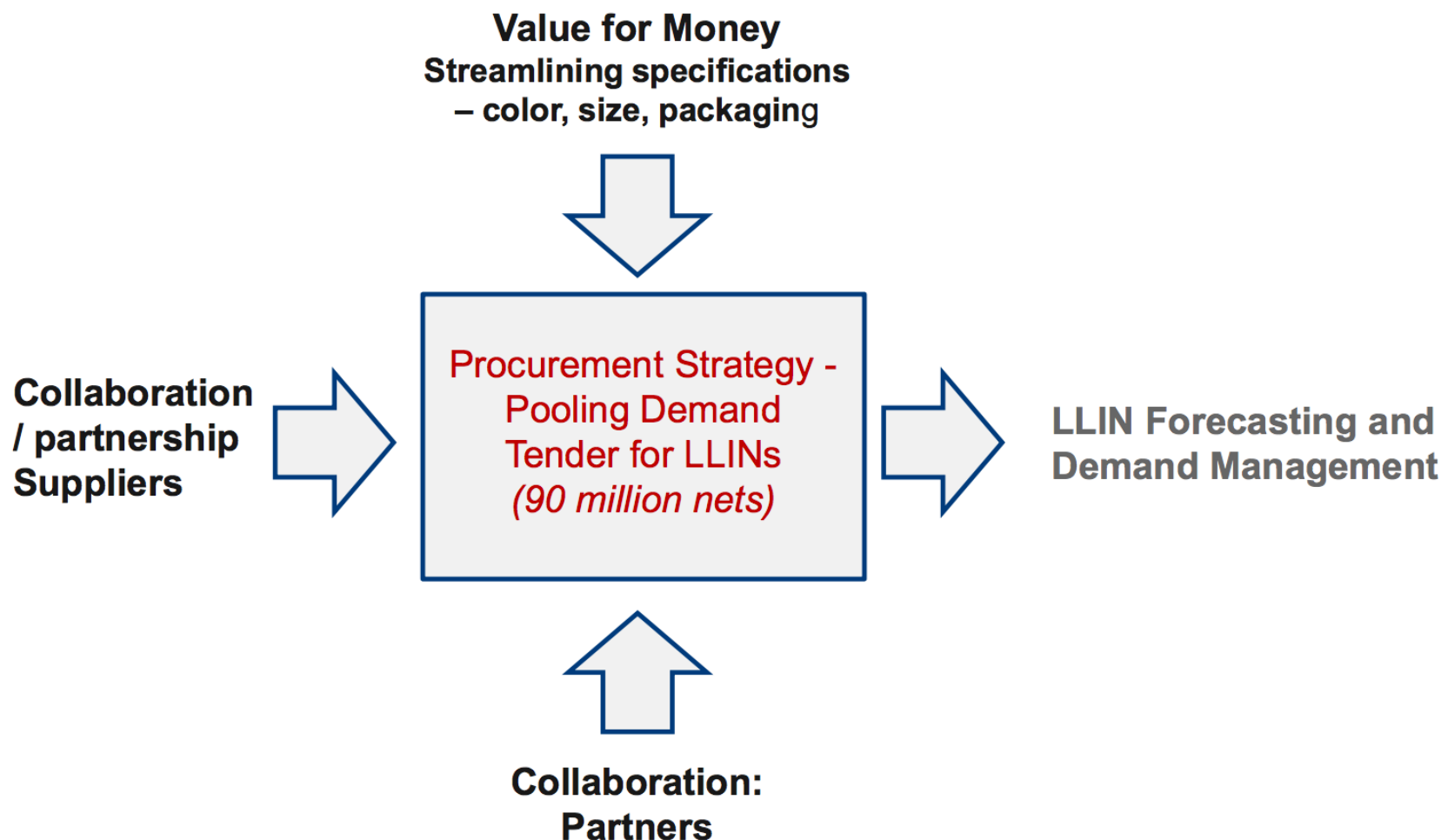


# Market Shaping Strategy and Procurement Process for LLIN

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Sourcing Department



# LLIN Market Shaping Strategy



# Procurement For Impact (P4i) - LLIN Tender

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The LLIN procurement strategy is based on the following key principles

- A shift to long term contracts to provide greater visibility for capacity planning; production optimisation and a sustainable market;
- The maintenance of a competitive pricing dynamic in the market;
- Risk mitigation through the distribution of long term contracts across various geographic regions and mechanisms to avoid market dominance by few suppliers;
- An acknowledgement of the differences between nets but also a recognition of the current limitations on LLIN durability data & the current LLIN replacement policy on procurement decisions;
- A collaborative approach and support on LLIN durability studies and other innovative activities related to cost effectiveness of nets to ensure value for money;

# Tender Evaluation – Factors

- Success is dependent on long term supplier collaboration and is not purely price based - therefore a range of non-commercial evaluation criteria were defined in the evaluation process.

Element	Criteria	Use by Evaluation Team	Element Score Weighting (Total)
<b>1.Product and Company</b>	Product Details Original or Equivalent Product Plant Ownership Forecast utilization and Lead time	For Information Evaluated Evaluated For Information	10%
<b>2.Commercials</b>	Initial Price (against four high-volume standard nets) Volume discount Future Potential discount	Evaluated  Evaluated Evaluated	65%
<b>3. Quality and Performance</b>	Customer History Delivery Performance Quality Performance	Evaluated Evaluated Evaluated	10%
<b>4. Value Proposition</b>	A narrative section to allow suppliers to share where they think they have offered or can offer competitive advantage through innovation, additional services, or any other factor.	Evaluated	15%



# What is “Monopsony” (or Oligopsony)

- A market dominated by a single buyer (or a few buyers)
- Examples:
  - UNICEF & Vaccines
  - Volkswagon and its suppliers
- Net suppliers
- Net examples:
  - Olyset
  - Lifenet - will Bayer leave the market?

Physical integrity is more important  
with resistant vectors!

Effect of net condition on malaria protection in Western Kenya	
Condition of net	% HH with an infected person
Good	5.3 %
Bad (> 100 cm <sup>2</sup> )	22.9 %
Mejia et al Malaria J (2013) 12:158	

- This is for durability
- Still no change in purchase practice after 4 years of lobbying.
- This needs high level action!
- What will happen with resistance?





