

Raising the Floor on Vector Control

ITN Quality & Performance

Nairobi,
5th May, 2023

ITN quality has consistently hit the headlines

Malaria Journal

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Evaluation of the durability and use of long-lasting insecticidal nets in Nicaragua

[Emperatriz Lugo Villalta](#), [Aida Mercedes Soto Bravo](#), [Lucrecia Vizcaino](#), [Nicole Dzuris](#), [Marco Delgado](#), [Michael Green](#), [Stephen C. Smith](#), [Audrey Lenhart](#) & [Alexandre Macedo de Oliveira](#) ✉

[Malaria Journal](#) 20, Article number: 106 (2021) | [Cite this article](#)

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Collection time point

Mosquito Mortality by Cone Bioassay per Collection Time Point

The Ministry of Health has blamed the rising rate of malaria incidences in the country on substandard bed nets.

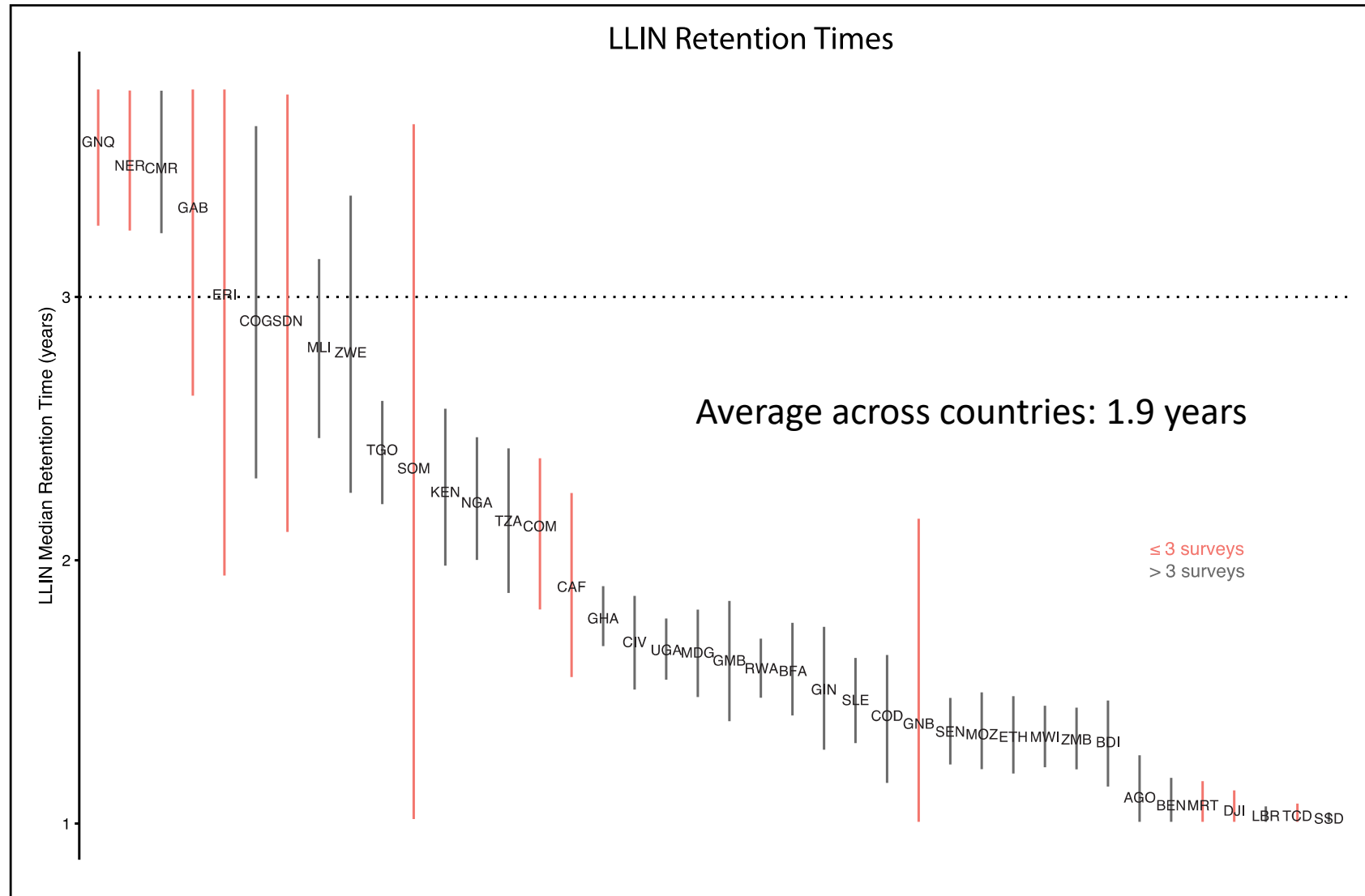
FRIDAY JANUARY 16 2015

By Daniel Sabiti March 04, 2019 at 5:44 pm

Anecdotaly, other countries have also identified net quality issues:

- South Sudan
- Nigeria
- Pakistan

Recent modeling estimates that nets are discarded rapidly between mass distributions in Africa



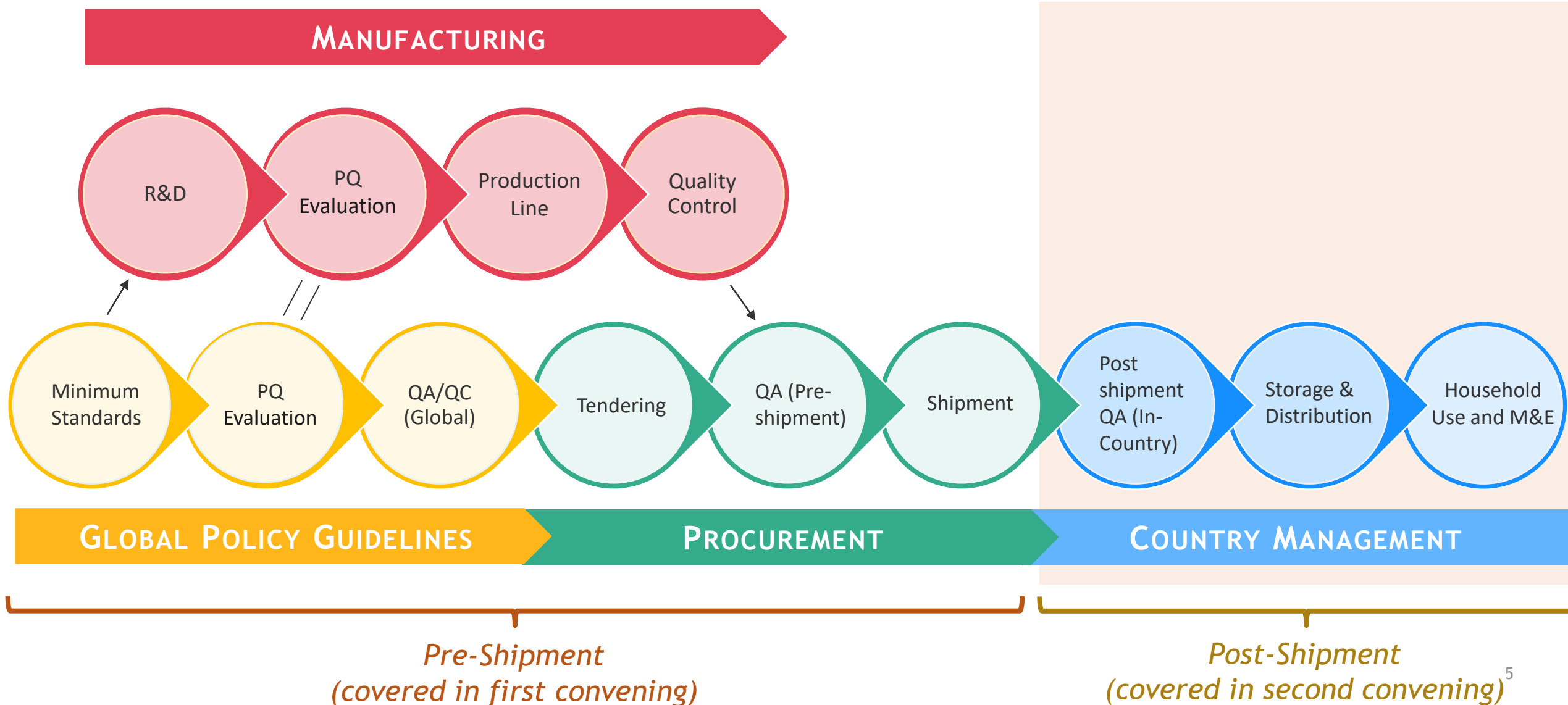
I2I, BMGF, and CHAI have sponsored two convenings to bring together key stakeholders and chart a way forward



- BMGF, I2I, and CHAI hosted three-day workshops in December 2021 and May 2022
- The objectives of the meeting were:
 1. To present an overview of **factors that influence net quality**
 2. To identify current and potential **challenges** with the current system
 3. To **discuss solutions and a pathway forward**
- ~50 groups/organizations attended, including WHO PQT, representatives from across industry, governments and supporting NGOs, researchers, and procurers



The ITN Quality Lifecycle is framework we have used to map out the different factors that can affect net quality and performance



Need to differentiate between quality and performance

technical definition

the degree to which nets meet the chemical and physical properties defined by their specifications

No convincing evidence to suggest that ITNs are consistently out of specification

QUALITY

common definition

whether nets do what we expect under normal usage conditions (remain physically and chemically active for 3 years)

Unclear relationship between data captured by global quality system and performance

Meeting the technical definition does not lead to meeting the performance expected in the common definition

In the two convenings, attendees identified a number of key challenges across the lifecycle along with possible solutions



THEME	TOP CHALLENGES	PRIORITIZED SOLUTIONS
Global Policy	<ul style="list-style-type: none"> Updated testing guidance to reflect new products Inconsistent product data 	<ul style="list-style-type: none"> Update and disseminate testing guidelines Review capacity of GLP facilities and pre/post-shipment lab testing infrastructure
Manufacturing	<ul style="list-style-type: none"> Link product specifications to field performance Metrics to differentiate ITN performance and quality that incentivize innovation 	<ul style="list-style-type: none"> Define clear, reproducible characteristics Delineation of standards and specifications that allow procurers to justify price/volume premiums
Procurement	<ul style="list-style-type: none"> Too much emphasis on price over quality Clarify criteria for acceptance of ITNs that deviate from specs 	<ul style="list-style-type: none"> LQAG working on harmonized pre-shipment testing guidelines. GFATM developing pre-shipment sampling guidance
Country Management	<ul style="list-style-type: none"> Non-standardized post-shipment testing Delays and storage at port including customs clearance and distribution related delays 	<ul style="list-style-type: none"> Developing post market approaches to collect actionable data Advocacy to facilitate rapid customs clearance
Cross cutting	<ul style="list-style-type: none"> Varying definitions of key terms makes it difficult to discuss issues of ITN quality and performance Trust is lacking between stakeholder groups 	<ul style="list-style-type: none"> Develop a clear glossary of terms Develop communication strategy to help drive clarity and build trust. Transparency through data sharing

CHAI, I2I, BMGF, and partners have put together an initiative called Raising the Floor to strengthen ITN performance and quality

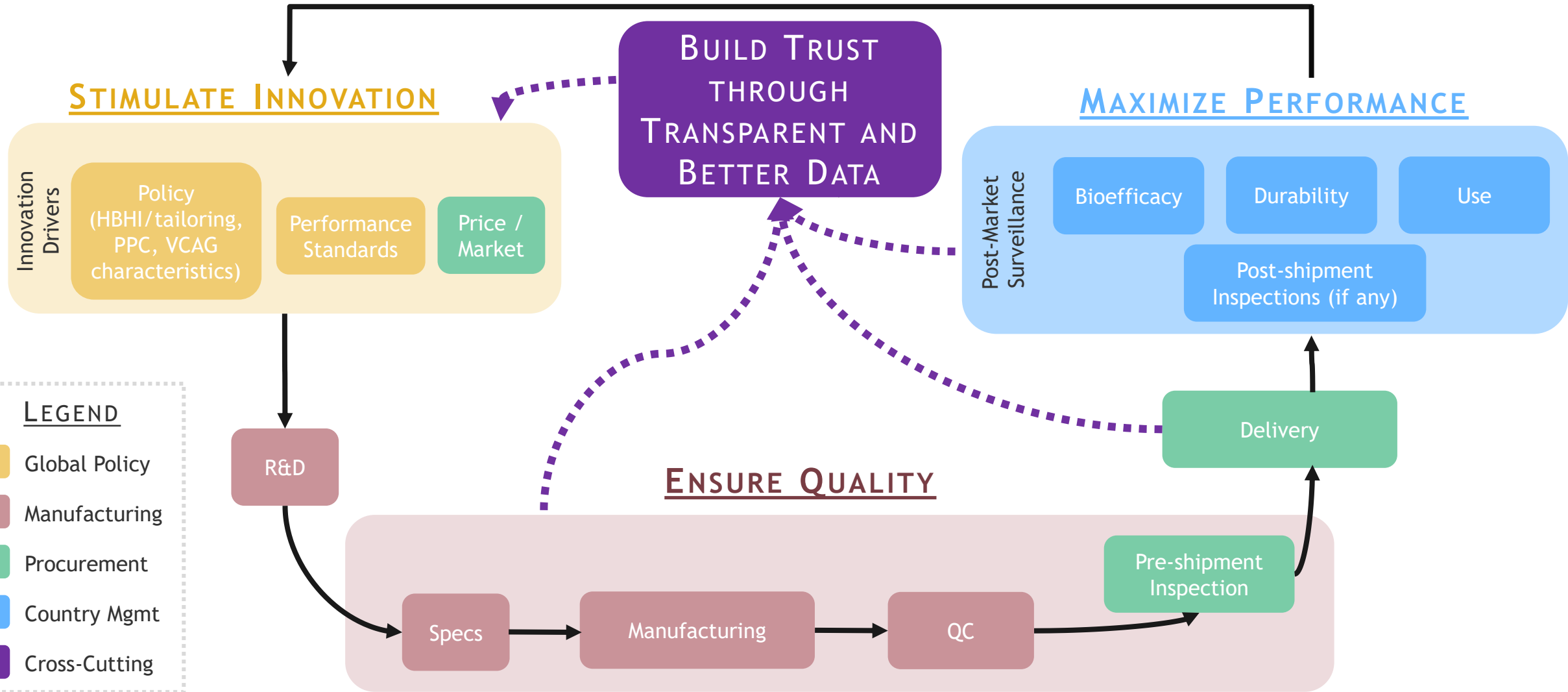


VISION: To create a system that incentivizes continuous innovation of higher quality, higher performing ITNs



- 1 STIMULATE INNOVATION:** Incentivize improvements to ITN quality and performance
- 2 VALIDATE METHODS:** Generate consistent and useful data
- 3 MAXIMIZE PERFORMANCE:** Using lifecycle data to improve performance
- 4 ENSURE QUALITY:** Keeping products consistently in spec
- 5 BUILD TRUST & USE DATA:** Mechanisms to communicate information more effectively

ITN quality and performance is a continuum that needs to be holistically addressed



BUILDING HIGHER PERFORMING ITNs - PROCESS MAP

Overview of Post Market Data Collection Listening Sessions

Post Market Data is Crucial to Maintaining Quality and Performance



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I2I and CHAI carried out a series of listening sessions with key stakeholder groups based around 3 questions



1 What decisions do you need to make using ITN post-market monitoring data (routinely collected ITN durability, bioefficacy, use)?

2 Is the data currently available sufficient to make those decisions? Where does the data fall short? Is it clear how to interpret the data?

3 What would help you make these decisions better?

Different stakeholders will have different perspectives and priorities for Post Market Data Collection, so this was an effort to clarify areas of agreement and needs for alignment

- Countries
- Implementers
- Procurers
- Manufacturers

Working definitions of Post Market Data Collection

ITN post-market data collection (PMDC)

Activities to track the performance of net products in the field, including measuring *physical integrity, bioefficacy, and use factors*

ITN Quality Data

Ensuring the product is produced within specification consistently

ITN Performance Data

Monitoring net performance according to its claims under normal usage conditions

Lifecycle Management

Activities to measure and respond to identified quality and performance issues across the lifespan of a net, from development through use



Key Learnings from Listening Exercises

Quality Monitoring:

- Countries have expressed the need for clearer data product quality data before it arrives in country
- Some responses have suggested that there are misunderstandings of some product specifications that need clarifying
- Identified need for narrower ranges for product specifications
- Much more guidance needed on storage, shelf life and expiry dates of nets

Data Collection:

- Countries are almost universally aware of ITN retention issues and are keen to monitor performance over a net's lifespan in their countries
- Durability Monitoring (DM) is not done routinely mostly due to lack of funding. Are there ways to look at this differently?
- Data collected on ITN quality and performance is often fragmented and not consolidated, making interpretation difficult
- General recognition from countries that we need to expand our knowledge of usage practices and user information



Key Learnings from Listening Exercises

General Comments:

- There will be a need to inform countries about the details of the updated WHO PQ ITN guidelines, including definitions and changes to data requirements
- Understanding of the Corrective Actions Preventative Actions (CAPA) needs to be improved to streamline responses to Out Of Specification (OOS) events
- Better interpretation of data is needed, particularly concerning quality, performance and impact data
- Requests for guidance on communication of proper net use and care

Overall, there is a lot more that can be done to improve understanding of the factors affecting ITN quality and performance, particularly in terms of data availability and understanding

Discussion

Thank You!
