



# Distributing different types of nets, from Quantification to End User: The experience of Ghana

AMP ANNUAL CONFERENCE

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# OUTLINE

- Introduction
- Stratification/ Multi-product Plan
- Processes for Multi-product Distribution
- Mass Campaign Implementation
- Results
- Challenges/Lessons
- Picture Gallery



# INTRODUCTION



GHANA

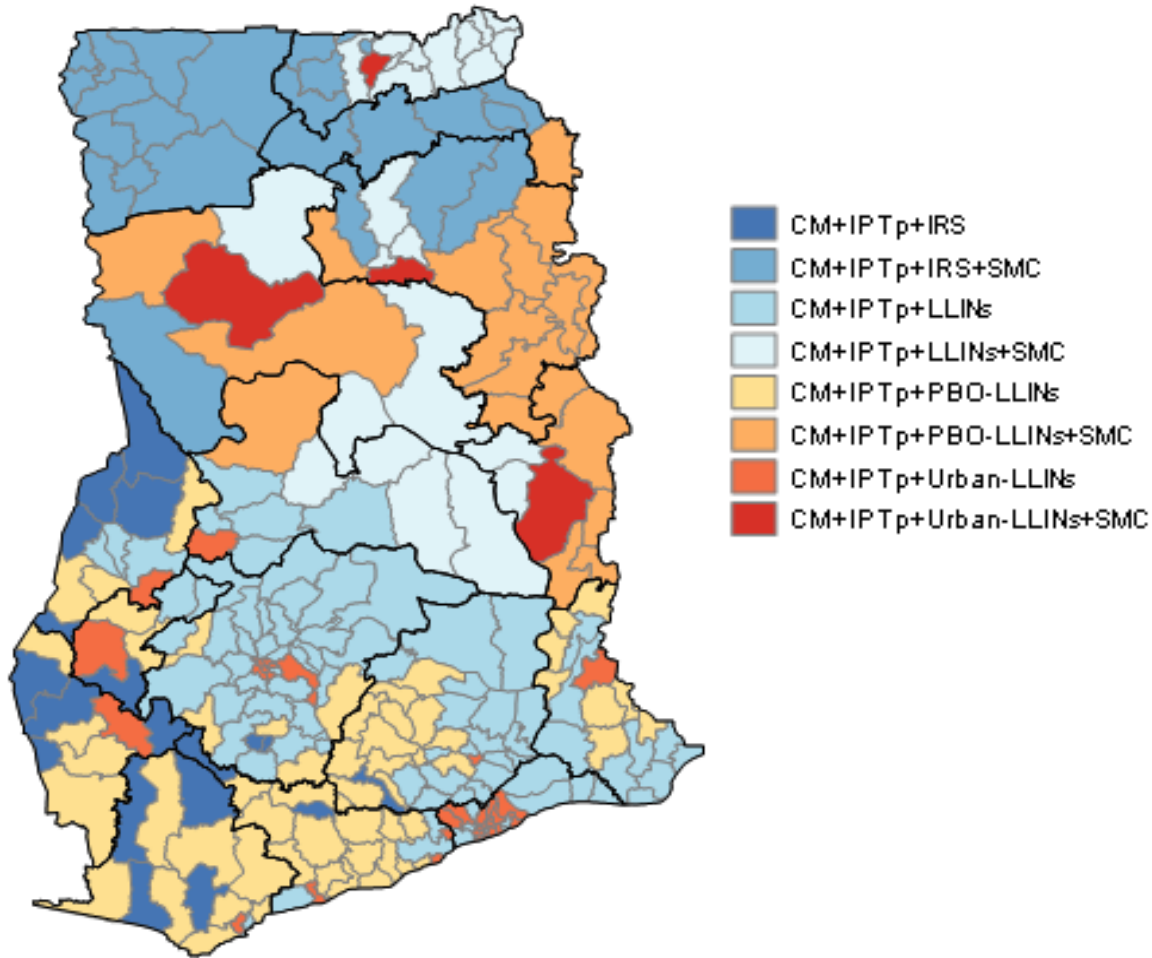
- Vector control is an essential strategic intervention for malaria control in Ghana
- Long Lasting Insecticidal Net (LLIN) is one of the core vector control tools
- Since 2003 efforts to promote ownership and use of LLINs have been made and several approaches have been used
- Following stratification; PMIs decision to support ITN distribution with PBO nets and Ghana's Inclusion in the New Nets project, ITN distribution in Ghana has taken a Multiproduct approach
- The country employs 2 major strategies for ITN distribution to Households: Mass campaign and Continuous distribution



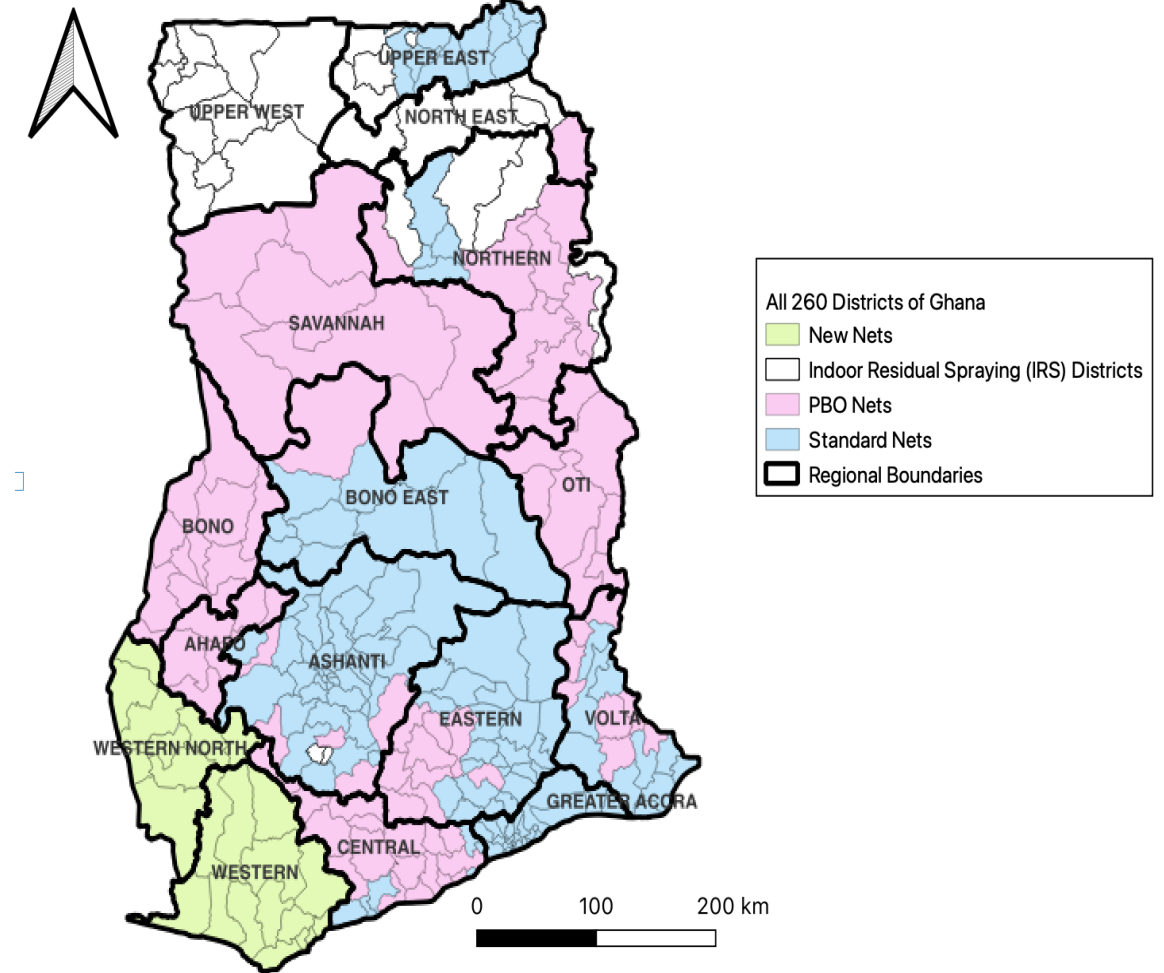


# STRATIFICATION: ITN Multi-product distribution Plan

## Intervention mix

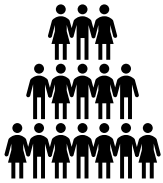


MAP OF GHANA SHOWING DISTRIBUTION OF DIFFERENT TYPES OF LLIN FOR MASS CAMPAIGN 2021



# PROCESSES FOR MULTI-PRODUCT ITN DISTRIBUTION

1



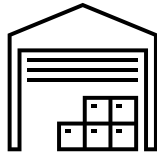
Quantification

2



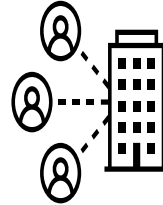
Procurement

3



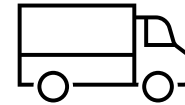
Delivery &  
Storage

4



Allocation

5



Transport

6



Distribution



# Quantification 1/3

- All quantification are based on population guided by stratification considering different types of nets
- Engage partners/donors early to get commitments for net gap

## Mass campaign

1. exclude all IRS populations
2. Reduce urban population targeted (*Backed by trends in previous campaigns*)
3. apply universal coverage ratio of 1 net to 1.8 persons to the resulting population after 1,2. to arrive at net need for mass campaign.

## Continuous Distribution( Health Facility & School)

### A. Pregnant women

1. Apply average proportion of ANC registrant to expected pregnancy (resulting from at least 3 years trend).
2. Result from 1 above gives expected registrants which is used for ITN need for Pregnant women

### B. Children under five

1. Apply average proportion of children given measles and rubella 1, from at least 3years trend
2. Result from 1 represents expected number of children due for measles and rubella 2 , thus entitled to ITNs

### C. Quantify for Pupils in classes 2 and 6 in all public and private schools using data from previous year (class 1&5)

*# Especially for new nets and PBO which may be limited for a target area, the right quantification is key to meet the need without shortage during implementation*



# Quantification 2/3

## SUMMARY OF NETS FOR CD AND MASS CAMPAIGN FOR 2021 TO 2025

### CD NET SUMMARY BY TYPE OF NET FOR 2021 TO 2025 (ANC & CWC)

TYPE OF NET	2021 Nets required for CD	2022 Nets required for CD	2023 Nets required for CD	2024 Nets required for CD	2025 Nets required for CD
PBO NET	600,345	616,746	633,585	650,874	668,628
STANDARD NET	1,509,093	1,547,133	1,586,192	1,626,298	1,667,478
NEW NET	169,949	174,166	178,488	182,917	187,457
<b>TOTAL</b>	<b>2,279,387</b>	<b>2,338,045</b>	<b>2,398,265</b>	<b>2,460,089</b>	<b>2,523,562</b>

### Total CD (including School and TB HIV)

PBO NET	748,797	1,085,506	1,109,730	747,010	1,162,168
STANDARD NET	1,882,258	2,723,038	2,778,232	1,866,506	2,898,306
NEW NET	211,973	306,542	312,624	209,935	325,825
<b>TOTAL</b>	<b>2,843,028</b>	<b>4,115,085</b>	<b>4,200,586</b>	<b>2,823,451</b>	<b>4,386,299</b>

Gap Analysis (includes, School+TB+HIV)	2,843,028	4,115,085	4,200,586	2,823,451	4,386,299
<b>Mass Campaign</b>					

PBO NET	5,026,513	-	-	5,453,568	-
STANDARD NET	9,788,940	-	-	10,579,830	-
NEW NET	1,410,264	-	-	1,518,920	-
<b>TOTAL</b>	<b>16,225,716</b>	<b>-</b>	<b>-</b>	<b>17,552,318</b>	<b>-</b>

### Total Nets by Type

PBO NET	5,775,310	1,085,506	1,109,730	6,200,579	1,162,168
STANDARD NET	11,671,197	2,723,038	2,778,232	12,446,336	2,898,306
NEW NET	1,622,237	306,542	312,624	1,728,854	325,825
<b>TOTAL</b>	<b>19,068,744</b>	<b>4,115,085</b>	<b>4,200,586</b>	<b>20,375,769</b>	<b>4,386,299</b>



# Quantification 3/3

MACRO ESTIMATE FOR 2021 MASS CAMPAIGN					
	REGION	STANDARD	PBO	NEW NET	Total
FIRST PHASE					
1	North East		46,574		46,574
2	Savanna		386,775		386,775
3	Upper East	613,260			613,260
4	Western	322,180		951,939	1,274,118
5	Western North			644,040	644,040
6	Bono		727,612		727,612
7	Bono East	576,611	68,084		644,695
8	Ahafo		375,483		375,483
9	Central	515,546	1,086,364		1,601,910
10	Oti		477,862		477,862
SECOND PHASE					
11	Northern	391,415	612,422		1,003,837
12	Eastern	1,155,726	762,008		1,917,734
13	Volta	759,092	331,872		1,090,964
14	Greater Accra	2,999,713			2,999,713
15	Ashanti	2,648,999	273,636		2,922,635
		9,982,542	5,148,692	1,595,978	16,727,212





# Procurement

- Procurement of LLINs are done with Macro estimates usually months in advance considering manufacturing, shipment and time needed in-country
- Procurement mechanisms differ among donors/partners and must be well understood : Global fund, PMI and Government of Ghana
- Different types of nets may have different procurement arrangement because of pricing and manufacturing

## Lessons

- Give prompt attention to administrative correspondence with procurement liaisons to avoid delays E.g. Agreeing on artwork, messaging etc.
- Constant checking and tracking of orders / shipments to allow for quick adjustments, if needed, as estimated times of arrivals can change
- Complete all contracting arrangements for Warehousing before nets come in-country
- Start working tax waiver process to expedite process
- A smooth process will limit storage need before outbound for implementation



# Delivery & Storage

- Stagger expected delivery time for ITN in-country and factor Implementation timelines to avoid being overwhelmed by lack of storage space
- ITNs are temporarily stored in Warehouse following in-country shipment before they are transported to districts
- Central Medical warehouse, Partner warehouse and sometimes private warehouses are used
- Allocate separate areas in warehouse for different types of nets where different types of nets are stored in same warehouse



# Allocation

## Mass Campaign

- ITNs are allocated for districts/regions only after validation exercise
- Validation figures reviewed and consensus built on actual quantity to be sent considering trends in ITN redemption in previous mass campaigns as well as type of nets
- Final Quantities communicated with transporters and warehouses for movement to districts

## Continuous Distribution

- Allocation done after careful review of ITN consumption data and actual stocks remaining at districts stores
- Allocations are usually done for a year
- Monitor Stock at district stores regularly to prevent possible stockout
- Allocate different types of nets guided by stratification
- Policy on use of leftover nets from mass campaign to factor type of nets



# Transportation

- National level responsible for transportation of ITNs from central warehouses to implementing districts
- Third Party logistics haulage companies are contracted by the Ministry of Health (MoH)/Ghana Health Service (GHS) and USAID/PMI to transport nets
- Carefully coordinate different transporters going to specific warehouses for different types of nets to avoid wrong transport of nets
- Transporters usually had averagely 2 weeks to move nets to districts as soon as quantities were confirmed
- Movement of ITNs from the district stores to Pre-positioning sites and Distribution Points handled by respective districts
- Different types of vehicle/means will be required based on terrain

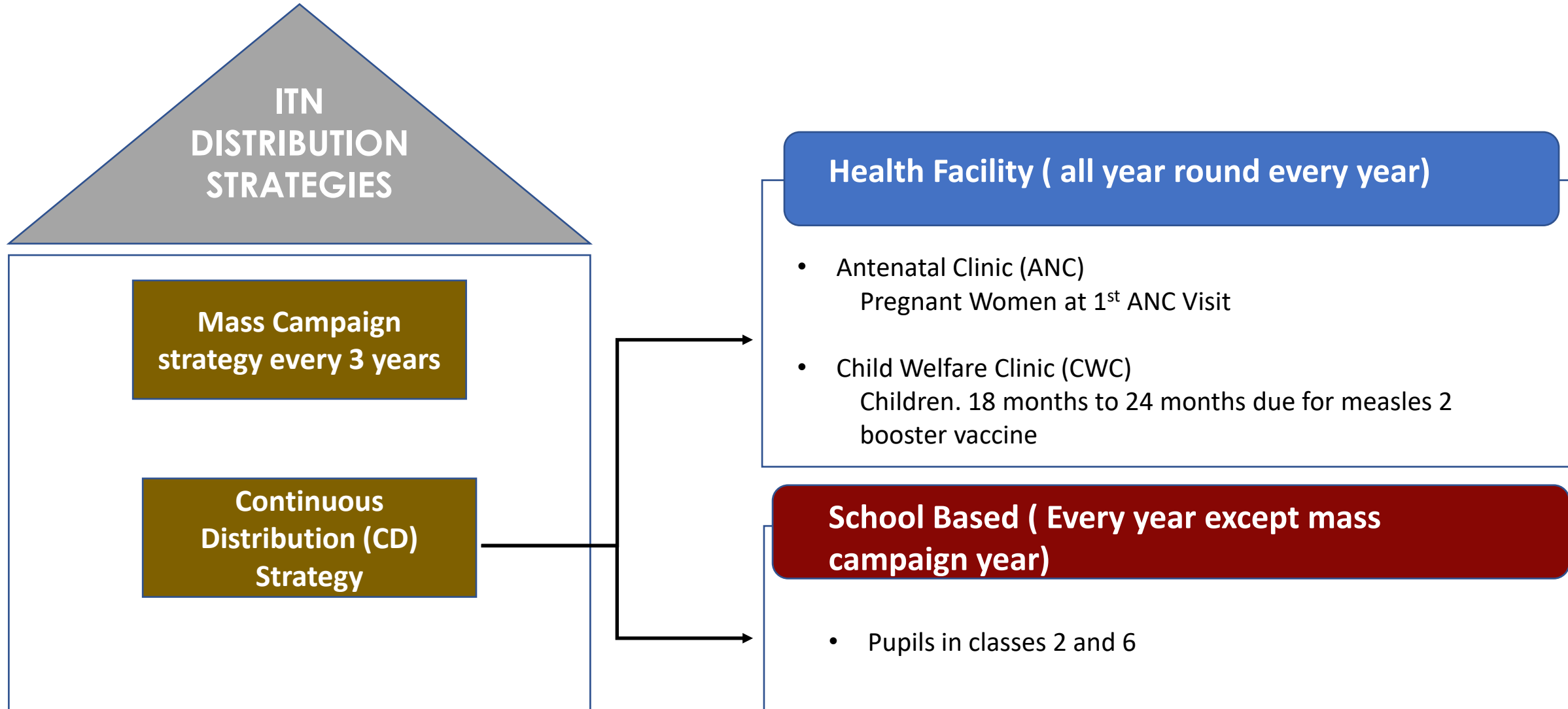








# Distribution



# MASS CAMPAIGN GENERAL PLAN FOR IMPLEMENTATION

## MASS CAMPAIGN

- Is a strategy adopted by the country to 'push' as many LLINs to households at a time with the aim of achieving universal coverage
- Ghana has conducted four (4) mass campaigns (*including 2021 campaign*) since 2010 towards achieving universal coverage

### PRE CAMPAIGN

- Develop implementation plan
- Area Identification and Population estimates
- Estimate needs and timelines
- Regional Briefing Meetings

### CAMPAIGN

- Micro-planning
- Trainings
- Registration
- Data review/Validation
- Transportation of LLINs
- Distribution

### POST CAMPAIGN

- Evaluation meetings
- Reverse Logistics
- End-User Survey
- Reporting

Social & Behaviour Change Communication (SBCC)



# SBCC for Multi-product ITN distribution

SBCC activities run through all phases of the campaign using multiple channels of communication

- Pre-distribution (*to create awareness about the campaign and need for registration*)
- Distribution (*to get registered households redeem their LLINs at designated distribution points*)
- Post distribution (*to promote consistent use and care for the LLINs*)

## Key messages for campaign included

- All types of nets to be distributed regardless colour, textile or packaging are effective for malaria prevention
- Registration & Distribution Modalities (*requirements, date, place and time*)
- Benefits of sleeping under LLINs
- Continuous education on LLIN use and care
- Proper disposal of LLIN package







1 Remove LLIN from wrapper and air for 48 hours (2 day) or more in the shade before hanging over sleeping space and sleeping under it.



2 Sleep under LLIN every night and all through the night with net tucked under mattress or mat.



3 Tie or roll LLIN during the day to prevent damage.



4 Wash LLIN gently with mild or bar soap when dirty. The LLIN can be washed up to 20 times during its 3 year life span. Do not wait till the net becomes too dirty before washing.



5 Hang the washed LLIN in the shade or under trees.



6 Sew up every small hole you find in the LLIN. Care properly for your LLIN to make it last the whole 3 years

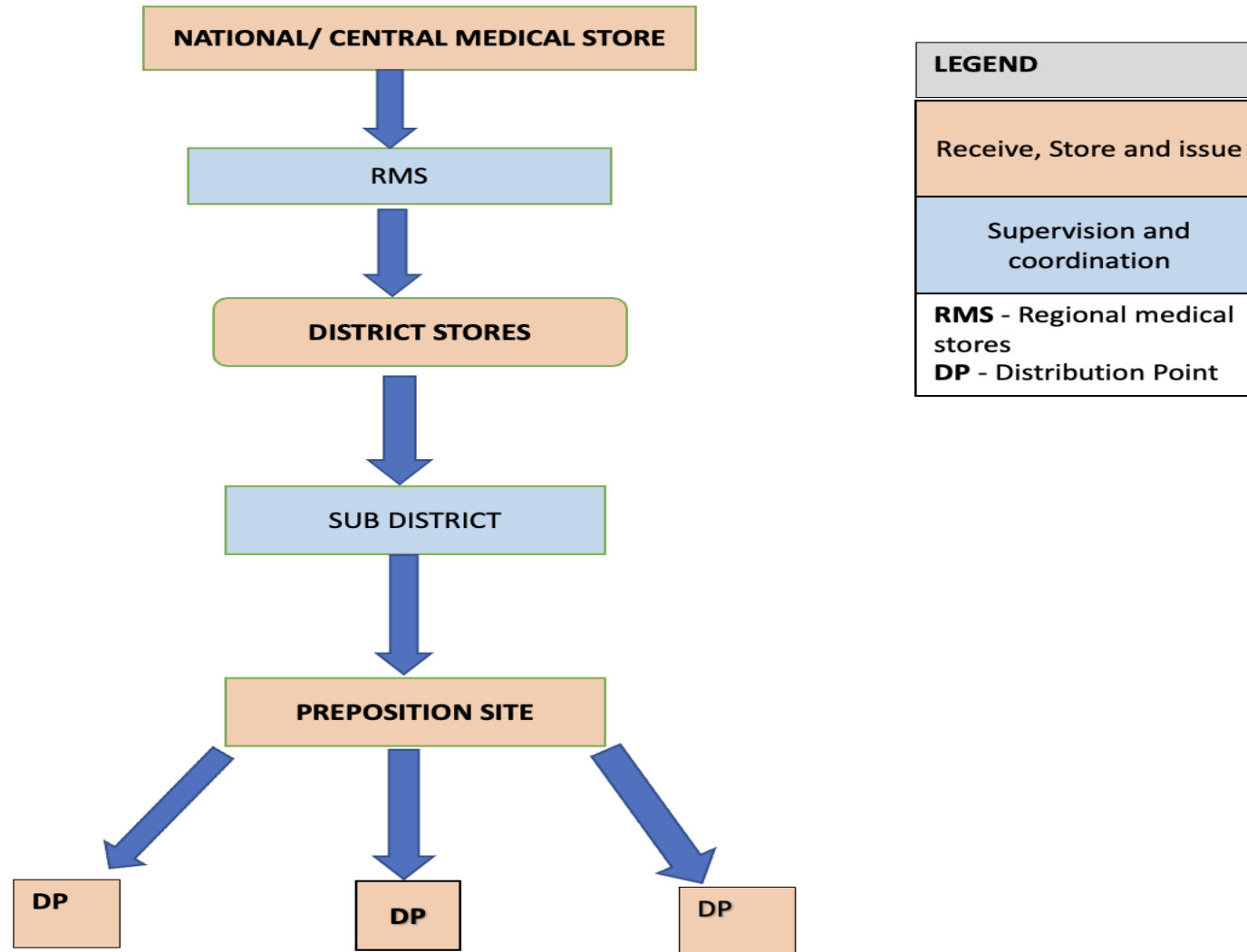
## KEY FACTS ABOUT LLIN (TREATED NETS)

**GOOD LIFE**  
Prevent malaria





# Flow of Campaign Commodities









# 2021 MASS CAMPAIGN SUMMARY RESULT

PMD REGISTRATION AND DISTRIBUTION DATA PER REGION						
REGION	REGISTERED POPULATION	NUMBER OF REGISTERED HOUSEHOLDS	ALLOCATED NETS (FROM REGISTRATION)	QTY OF NETS SUPPLIED (PCS)	DISTRIBUTED NETS	% Coverage
AHAFO	816,420	170,476	458,239	433,850	432,335	99.7
ASHANTI	6,478,890	1,377,449	3,617,710	3,069,600	2,805,345	91.4
BONO	1,339,973	296,552	756,929	695,600	682,463	98.1
BONO EAST	1,342,662	291,266	757,300	716,150	705,259	98.5
CENTRAL	3,217,711	729,556	1,817,480	1,685,000	1,612,592	95.7
EASTERN	3,026,313	736,426	1,731,809	1,618,200	1,592,595	98.4
GREATER ACCRA	5,744,504	1,301,005	3,215,214	2,749,350	2,362,723	85.9
NORTH EAST	92,476	17,173	51,137	51,150	51,022	99.7
NORTHERN	2,184,602	422,851	1,221,499	1,153,500	1,131,085	98.1
OTI	907,188	190,970	508,165	507,050	498,571	98.3
SAVANNAH	695,341	137,923	386,260	382,900	379,315	99.1
UPPER EAST	1,279,300	261,572	724,519	715,650	709,146	99.1
VOLTA	2,024,355	473,670	1,157,053	1,129,650	1,084,532	96.0
WESTERN	2,754,866	581,437	1,537,355	1,390,600	1,381,222	99.3
WESTERN NORTH	1,364,923	246,599	744,445	726,900	711,297	97.9
<b>TOTAL</b>	<b>33,269,524</b>	<b>7,234,925</b>	<b>18,685,114</b>	<b>17,025,150</b>	<b>16,139,502</b>	<b>94.8</b>



# Challenges/ Lessons for MultiProduct ITN Distribution) 1/3

- ITN needs gap after HH registration( *Significant variance between macro/microplan figures compared with registration*) affecting available types of nets for implementation eg New nets and PBO
  - Compare multiple population data sources(including previous campaign, recent census, other interventions data) to arrive on microplan population
  - Set margin of error for contract arrangement eg. Up to 10% excess to hold without altering contract arrangement
  - Regular monitoring of stocks of LLIN remaining for regions/districts yet to implement
  - Use previous campaign distribution/coverage trends to inform actual LLINs sent to districts



# Challenges/ Lessons for MultiProduct ITN Distribution) 2/3

- ITN preference affecting redemption (*Preferred is polyester which usually PBO and new nets*)
  - If possible, plan and allocate polyester based ITNs for Urban areas
  - If possible do not mix nets of different texture in same district
- Warehousing arrangement for different nets affecting movement
  - Carefully store different net types in separate areas in warehouse for easy identification and movement
- Shipment Delays nets affecting implementation schedule
  - Track Shipment and be ready to engage other regions to prepare for implementation where delays will be prolonged
  - Move implementation of specific types of nets e.g. new nets to a later time where all batches have not been received



# Challenges/ Lessons for Multiproduct ITN Distribution) 3/3

- Managing continuous distribution stock for different types of nets;  
Possible stockout of new nets and PBO which will not be replaced by standard nets if there are delays in shipment
  - Engage Donors early for procurement plans
  - Right Quantification for CD nets especially new and PBO





# ACKNOWLEDGEMENT

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- The Global Fund
- USAID and Presidents Malaria Initiative (PMI)
- Vectorlink Project
- WHO



**Thank you**