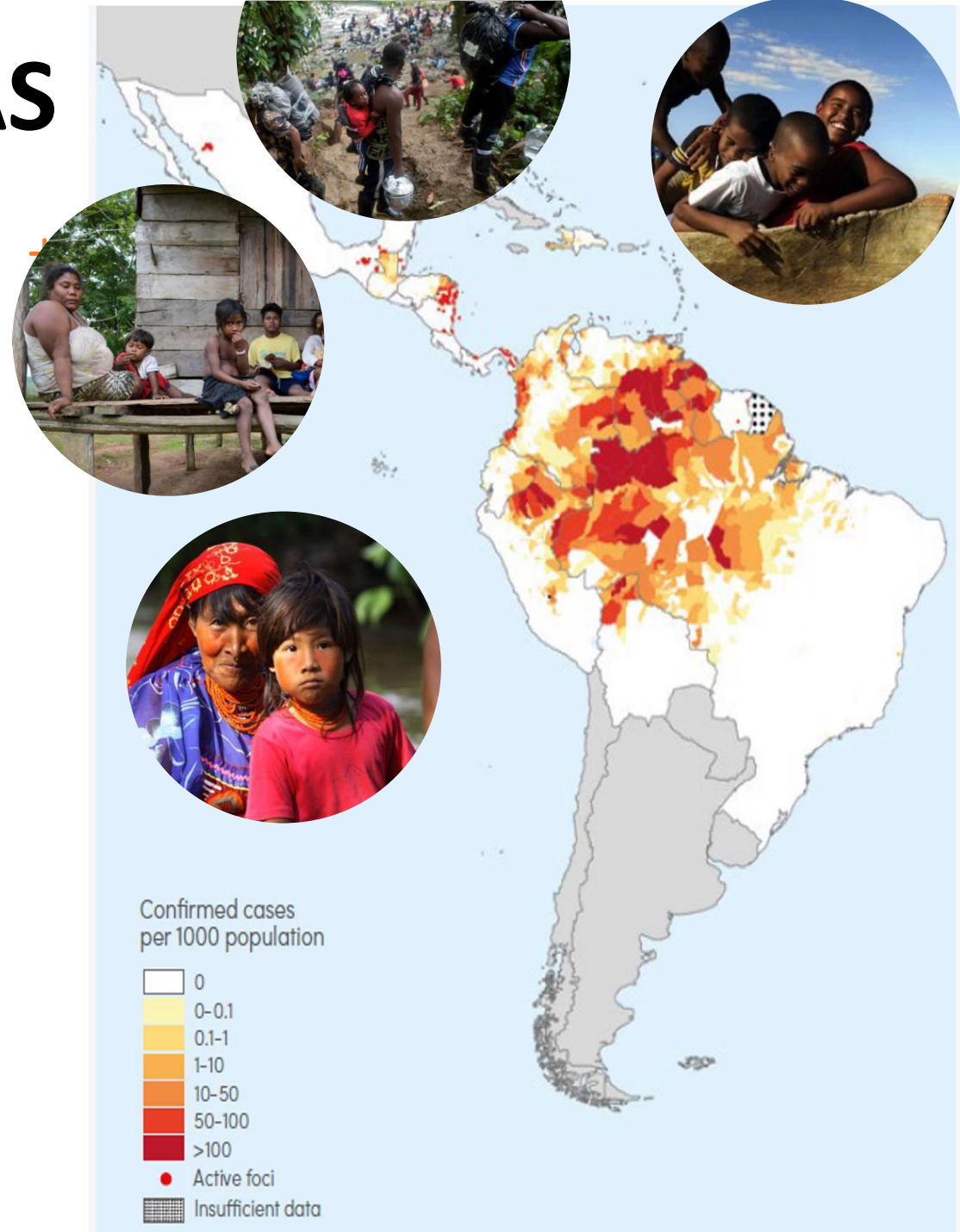


# Post-distribution monitoring of LLINs following Lot Quality Assurance Sampling (LQAS)



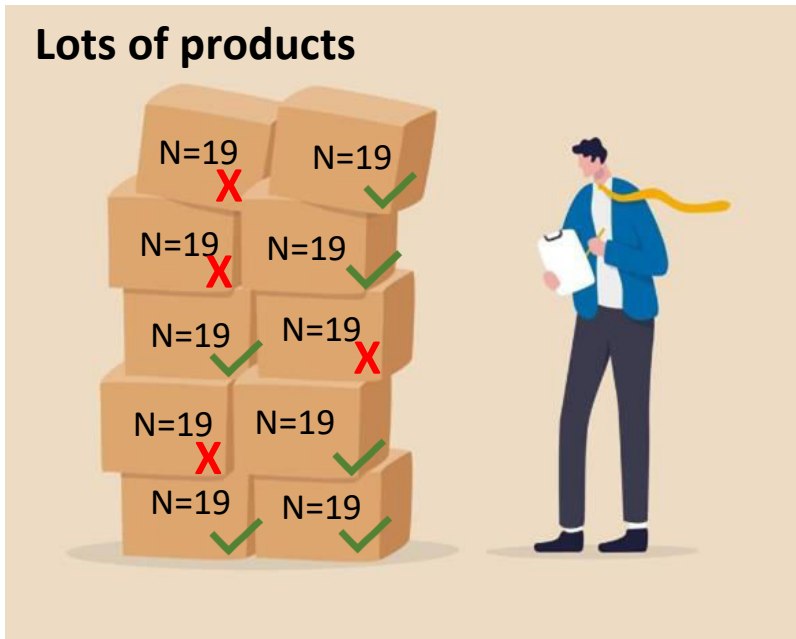
# MALARIA IN THE AMERICAS

- Decreasing and increasingly focalized transmission
- Countries increasingly using LLINs/LLINHs in very targeted campaigns
- Very diverse populations (indigenous groups, migrants) with different cultures and behaviors
- Lack of knowledge on their attitudes towards LLINs/LLINHs



# A cross-sectional LQAS-based method to monitor LLIN

**Goal :** To generate programmatic data to trigger actions, using a method easy to be adopted by local teams

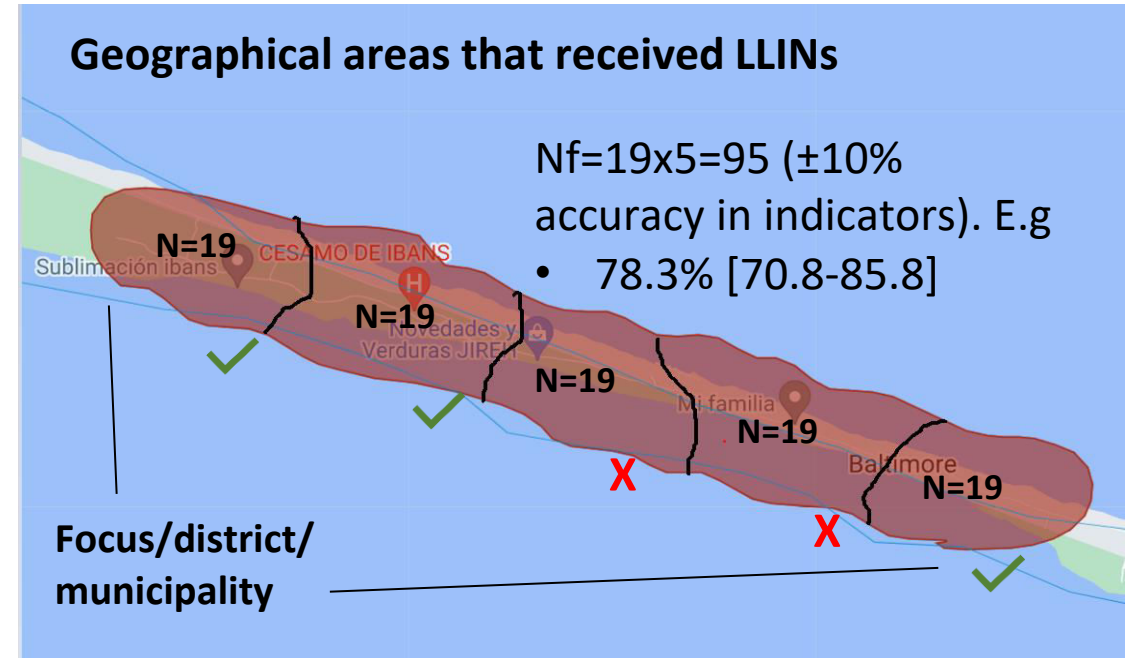


19 random samples gives managers high probability of **rejecting substandard lots**

Equivalence for LLIN monitoring



19 is the smallest sample size that allows at least 90% sensitivity and specificity for all targets from 10% to 95%



19 random people/HH gives managers high probability of **identifying underperforming areas (e.g. those with LLIN use below expectation) to focus their efforts**

# Indicators measured and process

Indicator	Definition	Target	Decision rule
Attrition	% of distributed LLINs that were lost		At focus level
Coverage	% of HH with enough nets to cover all sleeping spaces	80%	13
Usage	% of people that slept under a net last night	80%	13
Physical integrity	% of LLINs in serviceable condition	1 year: 80%	13
Washing	% of LLINs washed less than 20 times in three years (based on current washing frequency)	80%	13
Drying	% of LLINs dried in the shade	80%	13
Bioefficacy	% of LLINs that continue to kill 80% of the mosquitos (Yahe)		At focus level
Chemical content	average chemical conten in LLINs		At focus level

## Process:

1. Define indicators of interest
2. Set targets that will help identifying underperforming areas
3. Identify the decision rule for each indicator from reference tables

**LQAS Table: Decision Rules for Sample Sizes of 12-30 and Coverage Targets/Average of 10%-95%**

Sample Size*	Average Coverage (Baselines) / Annual Coverage Target (Monitoring and Evaluation)																		
	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%	
12	N/A	N/A	1	1	2	2	3	4	5	5	6	7	7	8	9	10	11	11	
13	N/A	N/A	1	1	2	3	3	4	5	6	6	7	8	8	9	10	11	11	
14	N/A	N/A	1	1	2	3	4	4	5	6	7	8	8	9	10	11	11	12	
15	N/A	N/A	1	2	2	3	4	5	6	6	7	8	9	10	10	11	12	13	
16	N/A	N/A	1	2	2	3	4	5	6	7	8	9	9	10	11	12	13	14	
17	N/A	N/A	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
18	N/A	N/A	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	16	
19	N/A	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
20	N/A	N/A	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17	
21	N/A	N/A	1	2	3	4	5	6	8	9	10	11	12	13	14	16	17	18	
22	N/A	N/A	1	2	3	4	5	7	8	9	10	12	13	14	15	16	18	19	
23	N/A	N/A	1	2	3	4	6	7	8	10	11	12	13	14	16	17	18	20	
24	N/A	N/A	1	2	3	4	6	7	9	10	11	13	14	15	16	18	19	21	
25	N/A	1	2	2	4	5	6	8	9	10	12	13	14	16	17	18	20	21	
26	N/A	1	2	3	4	5	6	8	9	11	12	14	15	16	18	19	21	22	
27	N/A	1	2	3	4	5	7	8	10	11	13	14	15	17	18	20	21	23	
28	N/A	1	2	3	4	5	7	8	10	12	13	15	16	18	19	21	22	24	
29	N/A	1	2	3	4	5	7	9	10	12	13	15	17	18	20	21	23	25	
30	N/A	1	2	3	4	5	7	9	11	12	14	16	17	19	20	22	24	26	

N/A: Not Applicable, meaning LQAS can not be used in this assessment because the coverage is either too low or too high to assess an SA. This table assumes the lower threshold is 30 percentage points below the upper threshold.  
 □: light-shaded cells indicate where alpha or beta errors are greater than or equal to 10%.  
 □: dark-shaded cells indicate where alpha or beta errors are greater than 15%.



# Results of implementation in Honduras

## Focus Ibans Cocobila

**WHEN:** 1 year after distribution

**SAMPLE:** 95 households in the focus

**INDICATORS:** LLIN coverage, use, physical integrity, bio efficacy, washing and drying practices



Subareas	Coverage	Use	Physical integrity	Washing	Drying	Bioefficacy	Chemical content
Area 1	Not acceptable	Acceptable	Not acceptable	Not acceptable	Not acceptable		
Area 2	Not acceptable	Acceptable	Acceptable	Not acceptable	Not acceptable		
Area 3	Not acceptable	No acceptable	Acceptable	Not acceptable	Not acceptable		
Area 4	Not acceptable	Acceptable	Acceptable	Not acceptable	Not acceptable		
Area 5	Acceptable	Acceptable	Not acceptable	Not acceptable	Not acceptable		
Results at focus level	52.2% [42.9-61.4]	78.3% [70.8-85.8]	63.2% [53.5-73.0]	19.1% [11.64-26.5]	30.2% [21.5-38.6]	75%	0.5 g/kg

### CONCLUSION for regional health managers:

- Ensure adequate coverage in areas 1, 2, 3 and 4
- improve use in area 3
- Investigate factors for reduction in physical integrity in area 1 and 5
- Improve washing and drying practices in all areas

# Results of implementation in Honduras

## Island: Roatan

**WHEN:** 1 year and 2 months after distribution and 2 months after a replacement campaign

**SAMPLE:** 288 households in the island

**INDICATORS:** LLIN coverage, use, physical integrity, bio efficacy, washing and drying practices



Subareas	Coverage	Use	Physical integrity	Washing	Drying	Bioefficacy
Area 1	No acceptable	No acceptable	Acceptable	Acceptable	Acceptable	
Area 2	No acceptable	No acceptable	Acceptable	No acceptable	No acceptable	
Area 3	No acceptable	No acceptable	Acceptable	Acceptable	No acceptable	
Area 4	No acceptable	No acceptable	Acceptable	No acceptable	No acceptable	
Area 5	No acceptable	No acceptable	Acceptable	No acceptable	No acceptable	
Area 6	No acceptable	No acceptable	Acceptable	No acceptable	No acceptable	
Results at focus level	22.2% [17.3-27.1]	38.5% [30-47]	77.3% [69.3-85.2]	45.3% [37.96-52.5]	35.6% [25.7-45.6]	Pending

### CONCLUSION for regional health managers:

- LLIN coverage and use is low in all localities despite a replacement campaign happening just few months before monitoring. Replacing strategies need to be revised.
- Washing and drying practices are poor in all localities. SBCC is urgently needed
- Intense efforts will need be made in this Island to ensure the success of nets, alternative other interventions should be considered

# Implementation in other countries and tool kit

## Central America



OPS Organización Panamericana de la Salud

OPS 120 ANIVERSARIO

Pan American Health Organization

Technical guidelines for monitoring and rapid assessment of the possession and use of long-

Resultados de la encuesta de monitoreo simplificado de m...

Área	Tamaño de muestra	Respuestas correctas	Viviendas
Betania + Piñales	19	12	145
Ibans (área 1)*	24	6	102
Ibans (área 2)*	19	9	102
Coyoles Ibans + Cocobila Barrio Sikia	19	R	130
Cocobila Barrio C...			
Coyoles Ibans + Cocobila Barrio Sikia	19	10	130
Cocobila Barrio Centro + Cocobila Barrio Castillo + Cocobila Barrio Raista	27	25	827
<b>Total (Sum)</b>	<b>108</b>	<b>98</b>	<b>3373</b>

SurveyCTO

dhis2

Secretaría de Salud de Honduras

Procedimiento Operativo Estandarizado (POE) para las operaciones en campo – Monitoreo del acceso, uso, integridad física y bioeficacia de MTILDs

	Nombre completo	Firma	Fecha (dd/mm/aaaa)
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Historial del documento:

Versión reemplazada/fecha de emisión	Revisiones y motivo del cambio	Versión actual y fecha de la versión	Nombre del revisor

Secretaría de Salud de Honduras

FORMULARIO DE MONITOREO DE ACCESO, USO, MANTENIMIENTO E INTEGRIDAD FÍSICA DE MTILDs

Fecha			Localidad	Departamento	Región de Salud	Responsable	Ronda de monitoreo
Día	Mes	Año					

1. PREGUNTAS AL JEFE O JEFA DE LA VIVIENDA

Nombre y apellido del jefe de familia	N° de personas que viven regularmente en la vivienda	N° de personas que durmieron en la vivienda la noche anterior	N°. de espacios para dormir	N° de mosquiteros en la vivienda

Nota: Si la respuesta a la pregunta sobre el número de mosquiteros en la vivienda es cero (0), pregunte al jefe de la vivienda ¿cuál la razón para que no tenga mosquiteros en la casa? y escriba la respuesta en el siguiente recuadro:

Importante: En caso de que no haya mosquiteros en la vivienda y ya sepa la razón, abandone la casa (sin hacer las demás preguntas) y vaya a la siguiente. Empiece nuevamente el cuestionario.

¿Cuántos MTILDs recibió en la última campaña de distribución?	N° de mosquiteros visiblemente instalados en los espacios para dormir	De los mosquiteros instalados, ¿cuántos son MTILDs?	N° de mosquiteros almacenados (no instalados)	De los mosquiteros almacenados, ¿cuántos son MTILDs?



# QUESTIONS?

