

MOMENTUM Routine Immunization Transformation and Equity

Targeted Assessment Methods to Identify Zero-dose Children

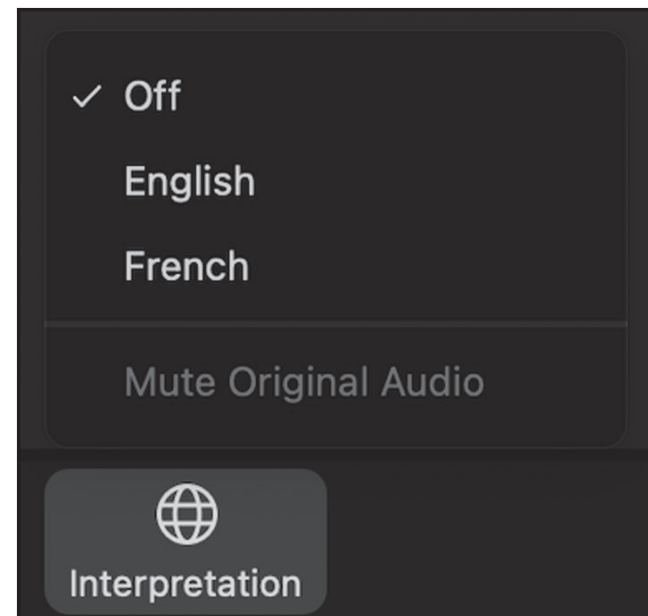
November 15, 2023



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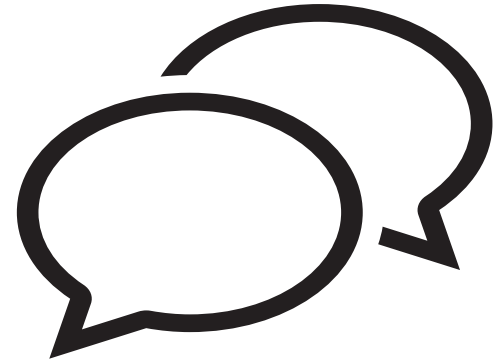
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Introductions

Learning Series Host



Dr. Chilunga Puta
Senior Immunization Data Advisor,
MOMENTUM Routine Immunization
Transformation and Equity

Presenter



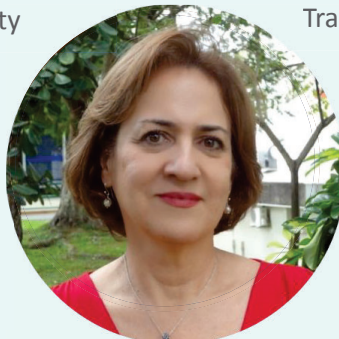
Dr. Jessica Shearer
Monitoring, Evaluation, Learning Lead,
MOMENTUM Routine Immunization
Transformation and Equity

Discussant

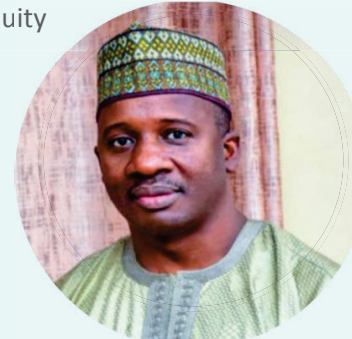


Dr. Sarah Wanyoike
Vaccine Preventable Diseases Team
Lead, WHO-IST-Eastern and
Southern Africa

Guest Speakers



Dr. Ana Morice Trejos
Medical Epidemiologist
and Pediatrician



Dr. Shehu Sambo
Director PHC, Jigawa State
Primary Health Care
Development Agency



Agenda

- MOMENTUM Routine Immunization Transformation and Equity Project
- Overview of the zero-dose child (ZDC) toolkit and learning exchange series
- Introduction to targeted survey methods to identify ZDC
- RCM & LQAS survey methods
- Discussion / Q&A

Our project

MOMENTUM Routine Immunization Transformation and Equity envisions a world in which **all people eligible for immunization**, from infancy throughout the life-course, and particularly underserved, marginalized, and vulnerable populations, are regularly **reached with high-quality vaccination services** and use them to protect their children and themselves against vaccine-preventable diseases.

Award Date: July 27, 2020
Period of Performance: 5 years
Country programs: 18





SECTION 01

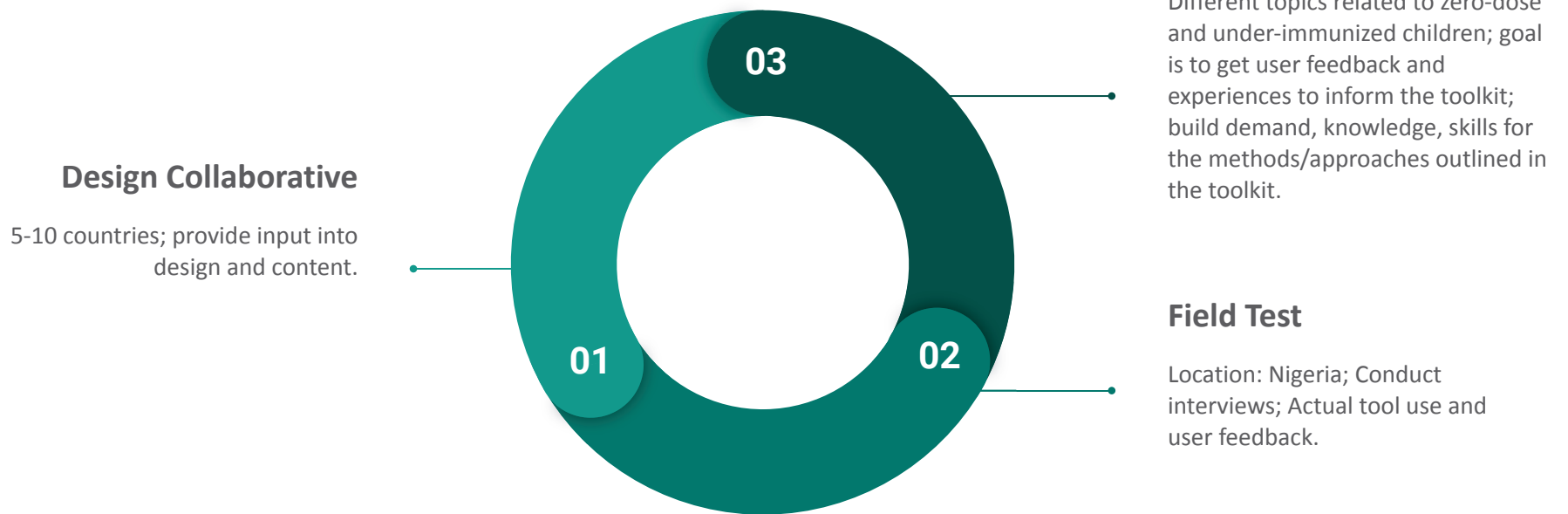
ZDC toolkit and learning exchange series

Background and purpose of ZDC toolkit

- Need for a one-stop-shop of resources to **identify, reach, monitor, measure, and advocate** for zero-dose and underimmunized children.
- Many tools and guidance documents exist. The forthcoming ZDC Toolkit aims to pull them together in a user-friendly way.
- Toolkit is linked & complimentary to already available manuals and guides.



Multi-method approach to refining the toolkit





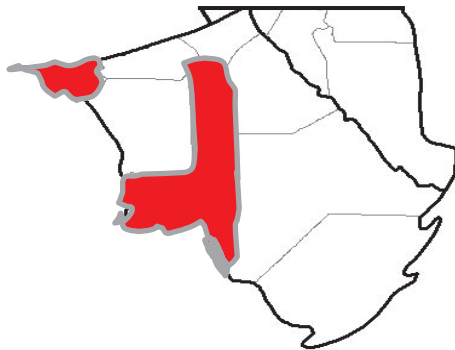
SECTION 02

Today's Topic:
Targeted Assessment Methods to Identify, Reach, and
Monitor Zero-Dose and Under-Immunized Children

Targeted assessments and surveys are a module in the toolkit

Triangulated analysis

to identify immunity gaps and define the areas to be targeted



Rapid field assessments / rapid convenience monitoring

to determine whether the expected vaccine coverage was reached in selected areas, identify unvaccinated groups and determine why they weren't reached and vaccinated.

Targeted surveys

INTENT TO VACCINATE
(Behavioural drivers of vaccination)

COMMUNITY ACCESS
(Geolocated facility lists and registries)

VACCINE COVERAGE AND ZERO DOSE CHILDREN PREVALENCE

FACILITY READINESS
(Vaccine stocks, equipment, staff, among others)

Take actions



Step 1.
Identify non and under-immunized communities that appear to have zero-dose children

Are ZD children wide-spread across the country?

No

Step 2.
Characterize the non and under-immunized communities and zero-dose children:
Who?, how many?, why?

Is it possible to characterize the zero-dose children in the under immunized communities?

No

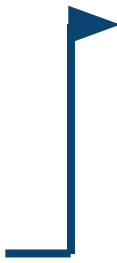
Step 3.
Define if a targeted survey is needed for taking actions

Step 4.
Implement the targeted survey

Step 5.
Interpret results for taking actions
Who?, how many?, why?

Step 6.
Monitor and assess the effect of the interventions

When is a targeted assessment/survey needed?
Decision tree from the draft toolkit





Targeted assessments & surveys: an overview

- An assessment where the study population is a *targeted subset* of everyone who should receive vaccination services, to identify, monitor, or reach
- Non-probabilistic sampling (e.g., rapid convenience monitoring) or probabilistic sampling (e.g., household surveys) depending on information needs; serology surveys are an option
- Should include questions to understand why children are un- or underimmunized (*see: Behavioral and Social Drivers (BeSD) questionnaire, WHO harmonized health facility assessment*)
- Targeted assessment results should enable immunization programmes to design, implement and evaluate interventions

Key questions to determine if a targeted assessment or survey is needed

Quality of existing data

Are existing data fit-for-purpose to identify where zero-dose children live, and why they are zero-dose?

Information needs

What information is missing to take programmatic action?

Would a targeted assessment fill those gaps?

Do the benefits outweigh the costs?

Probabilistic design?

Is a probabilistic sample required to gain the information needed?

Are there any upcoming household surveys planned?

Links to previous learning exchanges:

Health information systems to identify, monitor, and reach ZDC

Data triangulation

<https://usaidmomentum.org/webinar-series-identifying-zero-dose-children/>

Types of targeted assessments

	Probabilistic	Key characteristics	Lowest level of inference
Rapid convenience monitoring	No	<ul style="list-style-type: none"> • Easy to implement at a local level • Can quickly find people, and vaccinate them • Does not estimate coverage 	Local
Probability Proportionate to Estimated Size (PPES) sampling	Yes	<ul style="list-style-type: none"> • Requires detailed population data • Random selection of population based on size • Enables analysis of cluster level data 	Cluster
Lot quality assurance sampling (LQAS)	Yes	<ul style="list-style-type: none"> • Randomly selects lots • Determines whether a lot meets criteria, does not estimate coverage 	Local (the lot)
EPI 30 clusters survey	Yes	<ul style="list-style-type: none"> • Random selection of population • Better for homogenous clusters • Can be logistically challenging to implement 	Survey area
Gridded population surveys	Yes	<ul style="list-style-type: none"> • Sample frame based on modeled population data; useful in settings with outdated population data 	Survey area

STEP 3**Key questions to decide if a targeted survey is needed**

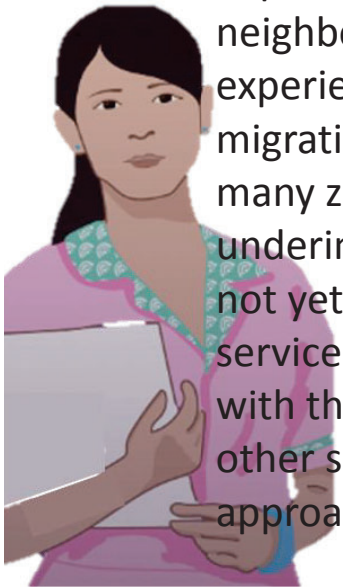
Key questions	Considerations
Is data quality good enough to identify and reach the "zero-dose children"?	Review the following: <ul style="list-style-type: none">• Completeness and timeliness of administrative data• Internal consistency of reported data: outliers, consistency over time and between related indicators• Consistency with external data sources: agreement with other sources of data such as surveys• Consistency of population data (denominator)
Is a probabilistic survey needed to estimate zero-dose, non and under-immunised communities and identify the behavioral and social drivers?	<ul style="list-style-type: none">• Would a Rapid Coverage Assessment be useful to address demand-side barriers?/ LQAS• Are there any upcoming household surveys that will provide coverage estimates?• Is the immunization program aware of this survey?• If yes, can the immunization program provide inputs of the upcoming survey regarding the current immunization schedule and recent changes to it, how the immunization questions are to be asked, the availability of different home-based records (HBRs) or vaccination cards, training and monitoring of the immunization aspects of the survey, etc.?• In light of the upcoming survey, is there a need to plan a separate vaccination coverage survey?
What does the immunization program need to know? By when? What happens if the program does not get this information?	<ul style="list-style-type: none">• Think critically about whether your survey would provide additional information needed vs. the costs and time investments required.• Will the results be used to improve programme performance?



Two (hypothetical) use cases

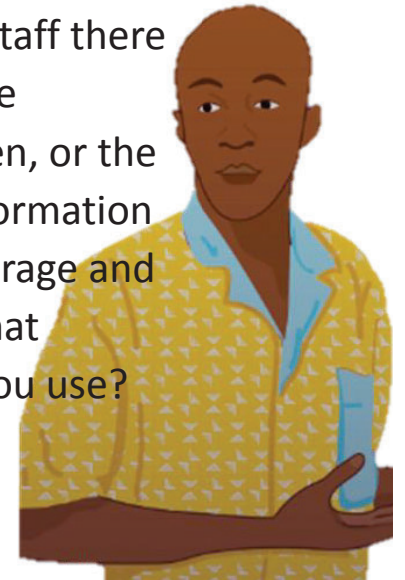
Example 1

You are a manager of a health facility in peri-urban Santiago, Chile. One neighborhood in your area has experienced rapid population migration and you suspect there are many zero-dose and underimmunized children who have not yet been linked with health services. Your team is ready to speak with them and bring vaccines and other services. What assessment approach should you use?



Example 2

You are the EPI focal point for a large state in Nigeria. Some of your LGAs have weak administrative data and staff there do not have a good sense of the prevalence of zero-dose children, or the root causes. More accurate information are needed for estimating coverage and planning tailored solutions. What assessment approach should you use?



STEP 4

Probabilistic sampling methods that could be used for targeted surveys

Methods	Key characteristics
Probability Proportionate to Estimated Size (PPES) sampling	<ul style="list-style-type: none">• Requires a list of all communities in the EU and the estimated population.• The sampling design is probabilistic, with random selection of the population.• Provide for statistical inferences of the Evaluation Unit.• Results in a similar sample size per cluster• Enables analysis of cluster level data
Lot quality assurance sampling (LQAS)	<ul style="list-style-type: none">• Randomly selects lots that are relatively uniform internally.• It establishes a minimum and a maximum value as criteria for acceptance.• It is not necessary to have information on all lots to make decisions; specific action can be taken for each lot as soon as results are available.
EPI 30 clusters survey	<ul style="list-style-type: none">• It's relatively simple to understand but moderate difficulty in implementing has been reported .• A direction is randomly selected from the centre of each one of 30 randomly selected clusters, one household is selected at random, and the next nearest household is visited until seven age-eligible children are found.• Selection procedure introduces bias towards the centre of the cluster, and produces unstable results in heterogeneous clusters

STEP 5

Interpreting results and taking action

Key questions	Specific questions
Who and how many zero-dose children were estimated in each targeted community?	<ul style="list-style-type: none">• Where are the under immunized communities / areas?• Do they belong to any specific/special sub-populations? Rural, slums, migrants or nomadic populations, refugees, ethnic minorities, religious closed communities?• How many and what proportion of ZD children you anticipate targeting in each community/ area
Why have zero-dose children and non and under-immunized communities not been vaccinated? What are the root causes?	<ul style="list-style-type: none">• Are they facing barriers related to the availability and readiness of immunization services?• Are they facing barriers related to social behavioral drivers of vaccination?
Would changes in those barriers improve coverage of those non and under immunized communities?	<ul style="list-style-type: none">• What would be the impact of those interventions on those barriers?• Has the barrier already been addressed by other programme interventions that appear to be working to improve coverage and equity?• Are there other key barriers that are having a greater impact on coverage and equity?
What interventions are needed to reduce zero dose children prevalence and under-immunized children?	<ul style="list-style-type: none">• How feasible is it to undertake those interventions?• What resources are needed in the short, mid and long term?• How can we ensure that that the impact of interventions will be sustainable?

Interpreting results and taking action

Who and how many?

Who and how many zero-dose children were estimated in each targeted community?

Why?

Why have zero-dose children and non and under-immunized communities not been vaccinated? What are the root causes?

What will work?

What interventions are needed to reduce the prevalence of zero dose and under-immunized children? What do families, communities, and health systems stakeholders need?

Who needs to be involved?

Who needs to be involved in next steps to ensure decisions are taken and implemented? Who beyond the usual actors can help drive change?

How to monitor and adapt?

How will you know if these actions are working? What is the process for learning and adapting?

Poll Question



SECTION 03

Rapid Coverage Monitoring: Why, When, and How?



What is Rapid Coverage Monitoring?

- It is a rapid monitoring method **recommended** by the Technical Advisory Group on Vaccine-preventable Diseases (TAG) in the Region of the Americas to rapidly **assess** the reported coverage based on administrative data and **guide** local vaccination activities.
- It is a **simple and low-cost tool** that quickly assesses the percentage of people vaccinated in a small area and provides information immediately.
- It is conducted by the **local health** team supported by subnational and national teams.
- It's used as a **supervision** tool and a good practice to assess program performance and to improve access to vaccination services.

PAHO. Tools for monitoring the coverage of integrated public health interventions. Module 3. Coverage Monitoring in the Field. <https://www.paho.org/en/documents/tools-monitoring-coverage-integrated-public-health-interventions-vaccination-and>



What Rapid Coverage Monitoring IS NOT?

- **It is NOT a probabilistic survey**, since it is not based on a statistical sampling design, nor does it apply methods to weigh the results during the data analysis process.
- The data obtained from RCM **are not representative** of the area and should not be aggregated to calculate coverage in the locality.
- **It does NOT allow one to draw inferences** from the data to the population, therefore its results do not estimate vaccination coverage.

Uses of RCM in the Region of the Americas

	Routine	Supervision	Outbreaks	Campaigns or catch up vaccination
PURPOSE	Improve performance of the program	Provide information to the supervisor on compliance with the manuals and procedures	To reach unvaccinated people in outbreak and risk areas	Verify whether the vaccine coverage goal was achieved at the local level
HOW TO SELECT THE AREAS?	Risk criteria or randomly , but this is not a probabilistic method	According to supervision findings or risk criteria	Areas where cases are detected and neighboring communities	Risk criteria or randomly , but this is not a probabilistic method
WHO IS RESPONSIBLE?	Local health unit team and the municipality	Supervisor supported by the local team	Outbreak response team	Local teams , with the participation of subnational staff . It can be conducted by teams working in other areas (cross monitoring



RCM can be used as a rapid tool to identify and reach Zero Dose and catch up under-immunized communities:

- It facilitates the **search for unvaccinated people**, affording an opportunity to reach them and increase coverage.
- It identifies the **reasons why** people are not vaccinated, and gives an opportunity to clarify misconceptions and reorient communication strategies, if necessary.
- It supports the updating and improved **quality of vaccination records**, both vaccination cards and vaccination registries in the health unit.
- It provides information to support **decision-making** on where to target interventions to achieve vaccination goals.
- It promotes better program **performance** at local level, through the use of information obtained in the field.



How to select the areas and assign the number of RCM at local level?

- The **selection criteria for areas** where RCM considers **risk factors** as: influx of tourism, heavy migration traffic, populations that face barriers in access to services, such as indigenous or urban fringe populations, etc.
- Once areas are selected based on risk criteria, the remaining areas could be selected **at random**
- Random selection **does not mean** that the **tool is probabilistic**, nor that the results have external validity, since it is just a means of selecting areas for conducting RCM
- The number of RCMs to be conducted in **each municipality** and **Health Unit** is assigned **based on the size of the target population**
- **20 children** are evaluated in each RCM

Reasons why a person was not vaccinated are assessed during RCM: ¿Behavioural & Social Drivers or Health Facility readiness?

Reasons attributable to the knowledge, attitudes, and practices of the population:

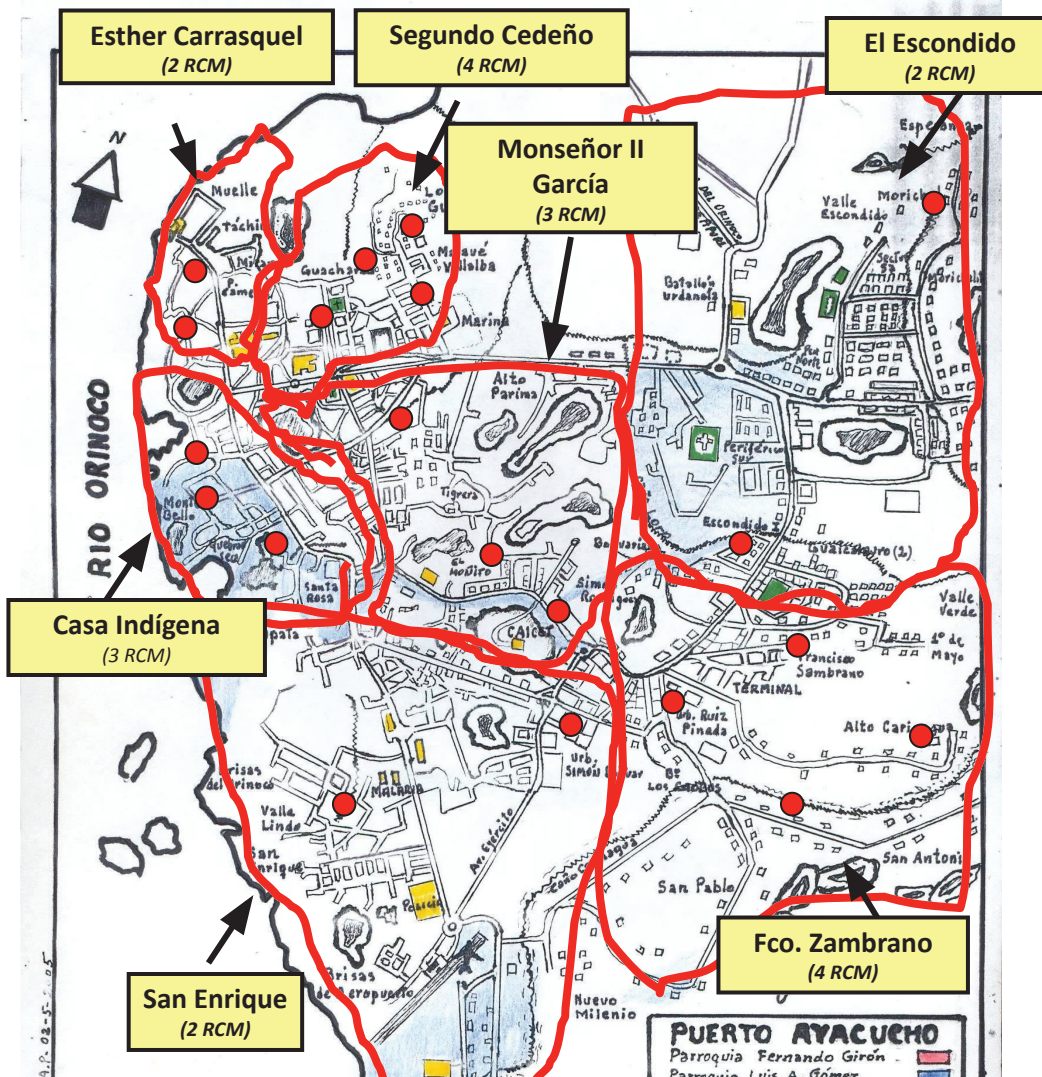
- I don't think it is necessary or I don't have time or I forgot.
- It can cause illness or discomfort.
- It's against my religion.
- I don't trust the people at the health facility.

Reasons attributable to the knowledge, attitudes, and practices of the health workers

- The health worker told me not vaccinate my child because he/she was sick.
- The health workers did not ask to me about it.

Reasons attributable to the immunization services

- The service site is too far away for me.
- The person in charge of vaccination was not available.
- There were no vaccine or supplies.
- The waiting time was too long.



EXAMPLE:

Assignment of RCM at the municipality level in Puerto Ayacucho, Amazonas, Venezuela

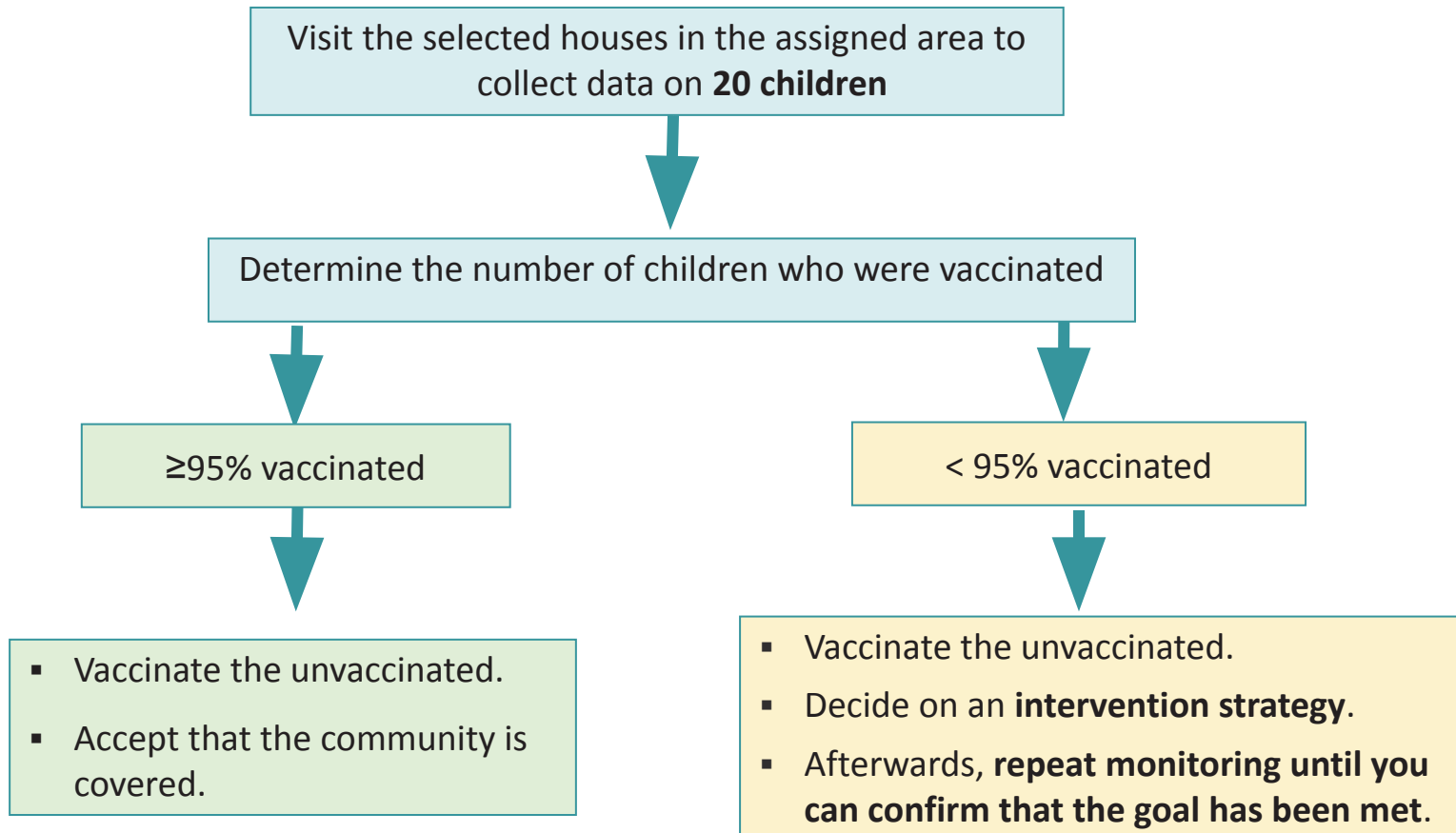
→ RCM after implementing vaccination activities to control a measles outbreak

EXAMPLE: RCM post MR campaign in Aysen, Chile

- Chile has an Immunization Electronic Registry, in this case, they carried tablets to verify vaccination status in the field
- Field teams take vaccine and supplies to vaccinate the non vaccinated children found during household visits
- A note is left in the household in case they need to revisit it or the children must visit the Health Centre



Interpretation of results of RCM and decision making criteria



Making decisions

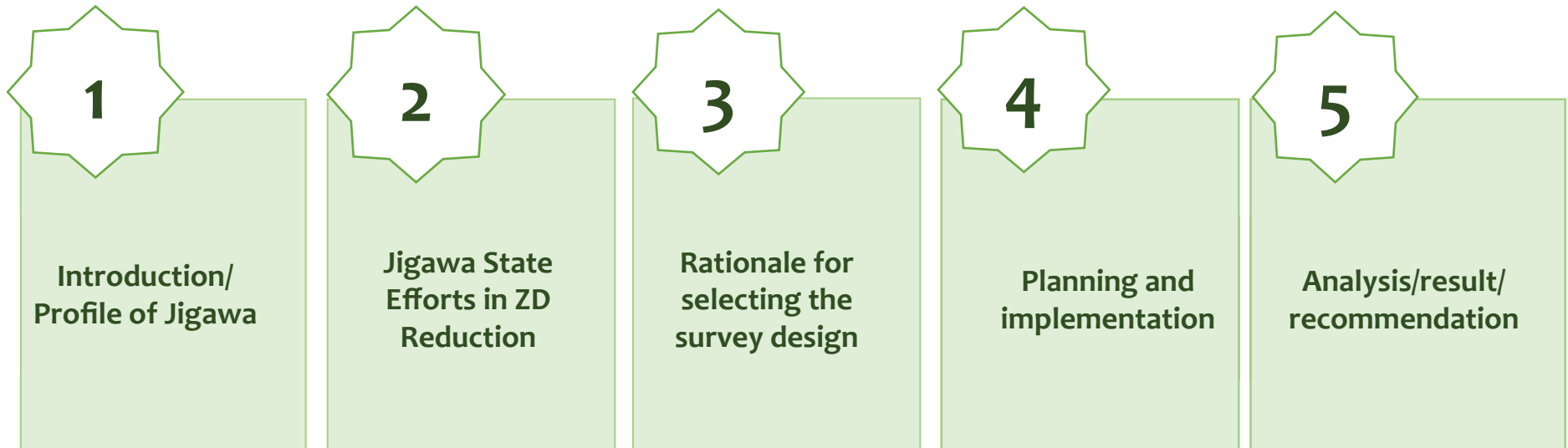
- Do the results of RCM show that $\geq 95\%$ of children have been vaccinated in the selected area?
- What is the administrative coverage of the areas evaluated?
- If such coverage levels were not achieved, what are the possible explanations?
- What reasons did parents or caregivers state for the target population not being vaccinated?
- Where may unvaccinated populations be located?
- What would be the most effective tactic to reach them and vaccinate them?
- What actions should we take?



SECTION 04

LQAS and other surveys related to ZDC
Jigawa State, Nigeria

PRESENTATION OUTLINE





Nigeria is committed to reducing zero-dose children by 30% in 2025



100 priority LGAs selected across 18 high-burden ZD states

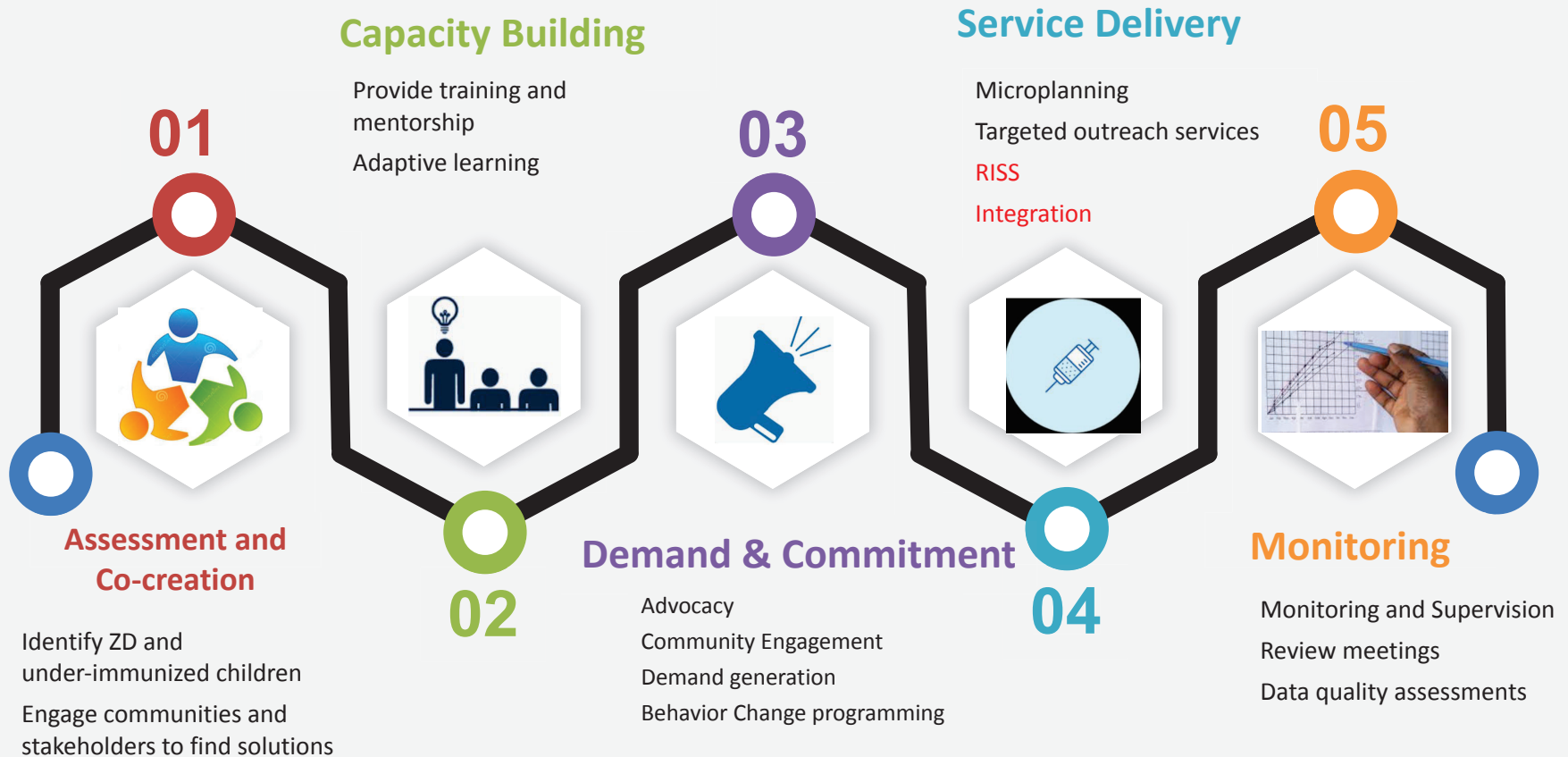
Zero Dose States



Nigeria's Strategy

- Nigeria Strategy for Immunization and PHC System Strengthening (NSIPSS) 2.0
 - Sustainable financing
 - Data management and Innovation
 - Human Resource and Institutional capacity
 - Leadership Management and Capacity
- One-team, one-budget, one plan approach – concerted donor efforts across prioritized areas

Strategies to address ZD and under-immunized children



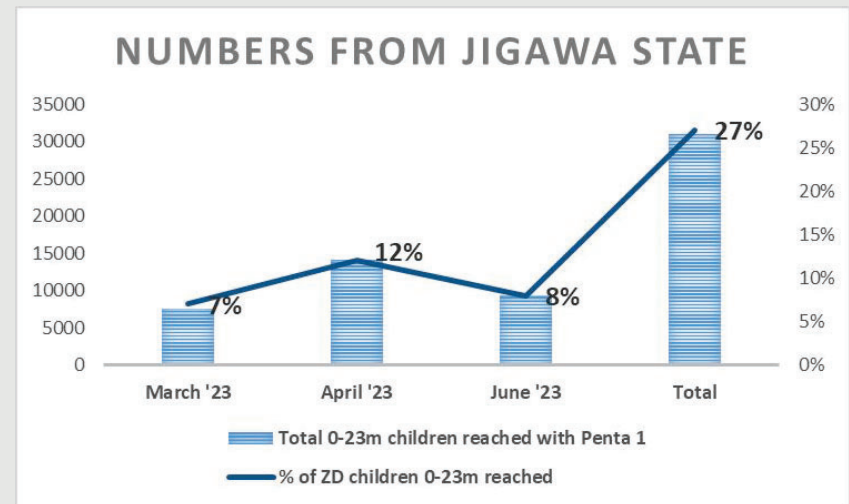
...in practical terms

01 – Service Delivery

- Iterative adaptations to meet community needs
 - Supportive Supervision
 - Triangulation of demand, service and commodity data
 - Community mapping & outreach planning
 - Provider behavior change

02 – Monitoring

- Community and Social listening, Feedback loops
- Collecting, analyzing and managing rumors
- AEFI reporting





JIGAWA STATE: Number of children 0-11 months un-immunized by LGA/State (LQAS)



State	LGA	Q4-2017	Q1-2018	Q2-2018	Q3-2018	Q4-2018	Q1-2019	Q2-2019	Q3-2019	Q4-2020	Q4-2021	Q4-2022	Q1-2023	Q2-2023
Jigawa	Auyo	40	24	45	4	29	1	10	6	12	13	9	12	9
Jigawa	Babura	37	32	12	18	9	6	11	5	8	6	15	1	1
Jigawa	Birnin Kudu	52	21	26	25	0	0	5	4	7	14	9	2	2
Jigawa	Birniwa	51	46	39	14	7	3	9	3	15	2	8	10	17
Jigawa	Buji	42	40	40	30	4	1	15	2	0	28	18	5	7
Jigawa	Dutse	26	32	21	4	4	8	3	5	6	13	21	3	3
Jigawa	Gagarawa	54	34	4	2	0	0	1	0	6	6	4	0	1
Jigawa	Garki	55	7	4	19	12	3	8	2	2	1	11	21	6
Jigawa	Gumel	46	24	41	2	3	5	0	0	5	24	5	4	2
Jigawa	Guri	38	50	38	12	17	13	8	9	11	11	23	2	10
Jigawa	Gwaram	54	41	39	42	26	12	15	5	4	2	2	6	5
Jigawa	Gwiwa	36	16	18	1	0	0	1	1	2	0	1	3	0
Jigawa	Hadejia	30	39	25	14	15	6	1	6	6	2	4	7	5
Jigawa	Jahun	47	40	42	35	5	2	2	3	11	4	12	1	10
Jigawa	Kafin Hausa	26	35	9	8	20	4	3	5	0	2	15	7	27
Jigawa	Kaugama	27	46	33	26	22	0	2	1	17	12	2	17	8
Jigawa	Kazaure	43	44	9	36	7	9	5	1	3	0	1	0	6
Jigawa	Kiri Kasama	27	10	26	55	5	4	0	1	10	8	2	5	2
Jigawa	Kiyawa	36	39	13	24	21	1	2	7	18	1	6	11	12
Jigawa	Maigatari	41	43	35	5	24	5	0	0	0	4	4	0	0
Jigawa	Malam Maduri	45	56	28	43	5	5	4	8	8	12	37	9	14
Jigawa	Miga	34	44	24	12	43	12	0	1	26	3	1	1	1
Jigawa	Ringim	35	44	52	5	4	7	6	2	2	26	20	5	1
Jigawa	Roni	55	26	40	11	2	3	1	0	0	0	2	0	5
Jigawa	Sule Tankarkar	31	9	28	10	6	3	2	0	3	9	1	3	0
Jigawa	Taura	28	21	16	7	5	7	6	0	16	2	4	0	2
Jigawa	Yankwashi	42	16	2	7	4	2	3	3	1	28	12	3	2
		Q4-2017	Q1-2018	Q2-2018	Q3-2018	Q4-2018	Q1-2019	Q2-2019	Q3-2019	Q4-2020	Q4-2021	Q4-2022	Q1-2023	Q2-2023
	LGA's surveyed	27	27	27	27	27	27	27	27	27	27	27	27	27
	0-8	0	1	3	10	16	23	22	26	18	16	15	21	20
	9-32	7	11	13	12	10	4	5	1	9	11	11	6	7
	33-56	20	15	11	5	1	0	0	0	0	0	1	0	0
	57-60	0	0	0	0	0	0	0	0	0	0	0	0	0

Embedding RCM in Supervision: RISS Community Survey

Use of the community survey component of routine immunization supportive supervision to identify and reach zero-dose and under-vaccinated children.

Identifying zero dose using RISS community survey in Jigawa State



- **5,303** partially vaccinated and **1,173** zero-dose children were identified during RISS community survey.
- All the unvaccinated and partially vaccinated were reached with antigens and linked up to service subsequently.
- REW microplans reviewed for **100** HFs supported.
- **Four** of the REW microplans reviewed incorporated the missed identified settlements and population.

On the methodology for identifying zero dose children and communities

Rationale for selection of methods

- Existing and already funded activities: RISS/RIRA.
- They are existing tools.
- Personnel trained to conduct the assessment.

Lessons learned from planning and implementation

RISS Community survey/RIRA:

- Tools already exist for community survey to identify and reach ZDC.
- Cheaper to deploy and more sustainable.
- Healthcare providers have been trained on deploying these tool.
- This approach enhance linkage between health facility and the community.

Recommendations

- Increase sample of children surveyed from 10 to 30.
- Timely release of backend data for decision and action.
- Improve monitoring and mentoring on the conduct of RISS.
- Improve accountability measures.

Poll Question



Discussant



Sarah Wanyoike,
Vaccine Preventable Diseases Team Lead,
WHO-IST-Eastern and Southern Africa

Panel Discussion / Q&A

Evaluation

Please scan the QR code below
to share your feedback on
today's webinar.



THANK YOU

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