

Convening on Measurement and Monitoring of Multiple Micronutrient Supplementation (MMS)



Day 2: 22 April 2026

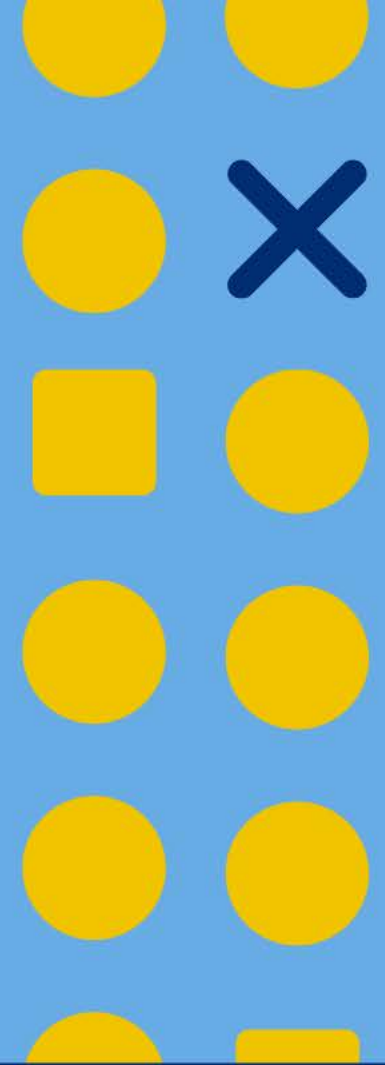
555 Pennsylvania Ave, Washington DC

Pre-recorded

Anemia Monitoring in India: Prevention and treatment

Narendra Patel

IEG India





Anemia Monitoring in India: Prevention & Treatment

Networking introductions

What is one thing from yesterday that you are still thinking about this morning?

- *What was the most interesting or surprising thing you heard yesterday?*
- *What is one idea from yesterday that you want to learn more about?*
- *What is one question you wish someone had asked yesterday?*

- 3 rounds of 1:1 'networking'
- Try to meet new-to-you people





Country Spotlight

Indonesia & Philippines

Audience question: 1-2-4-ALL

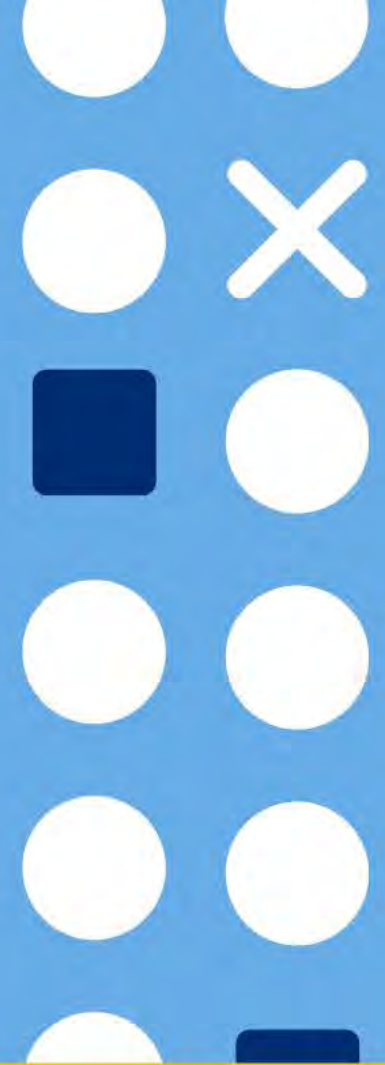
- 1 = 1 min of individual reflection
- 2 = 2 min talking in pairs
- 4 = 2 min to talk with another pair at your table

Agree on 1 question to submit & write it on
the index card

- Designate whether it is for one or both speakers

Session 3

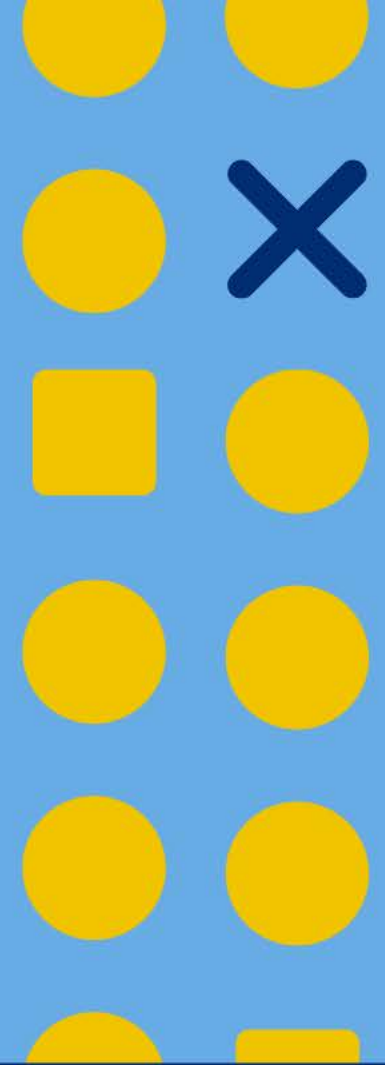
Specific Topics in MMS Measurement



Day 1 Recap

Sunny Kim
IFPRI

Melinda Munos
JHU



RECAP: Quality & Coverage

Quality

- To our knowledge, limited work on quality (counseling)
- **Needs:** Indicators, questions, methods
- Previous validation work on recall of counselling messages received in ANC suggests limited ability to recall counselling in household surveys

Coverage of any MMS

- Is it important to measure coverage of MMS vs. any iron-containing supplement?
- If we want to measure MMS specifically, attention is needed to branding and terminology

RECAP: Adherence

- Women don't conceptualize adherence quantitatively
- Easier for women to estimate adherence over shorter reference periods
- In Ethiopia: **Moderate to poor validity of 30 day recall** among pregnant women (caveat – issues with gold standard measure)
- In Jordan and Nepal: **Good validity of 30 day recall** among pregnant women (Jordan: number missed; Nepal: number consumed)
- In Nepal: **Poor validity of recall over the whole pregnancy**
- **Moving forward: How should this be asked in surveys? Routine data collection?**

Indicator	Logistics MIS	HMIS	HH Survey	Facility Survey
Provision: receive IFA vs. MMS			<i>Issue: MMS vs. IFA vs. iron-containing supplements</i>	
Provision: Receive 180 bottle				
Adherence: start in 1 st Trimester				
Adherence: across pregnancy				
Adherence: previous ~30 days			<i>Among currently pregnant women</i>	
Counseling: Any received				
Counseling: Quality				

Maximizing measurement resources

Topic Introductions

Sunny Kim
IFPRI

Melinda Munos
JHU

Session 3b: Maximizing measurement resources

Methods, tools, and initiatives

- Coverage analysis and communication
- M&E costs for national roadmaps
- ACTION: Collective Action Plan for Nutrition Data
- LSMS priorities for innovations
- DHS looking forward

Discussion

Maximizing measurement resources

Coverage Analysis & Communications

Rebecca Heidkamp
JHU



Data for Decisions to Expand
Nutrition Transformation

Intervention coverage analysis & communication

22 April 2026

Data Use

Drive evidence-based program & policy decisions

Communication

Spotlight & share key messages from data in accessible ways

Analysis

Use different analytical approaches to extract insights

Prioritization

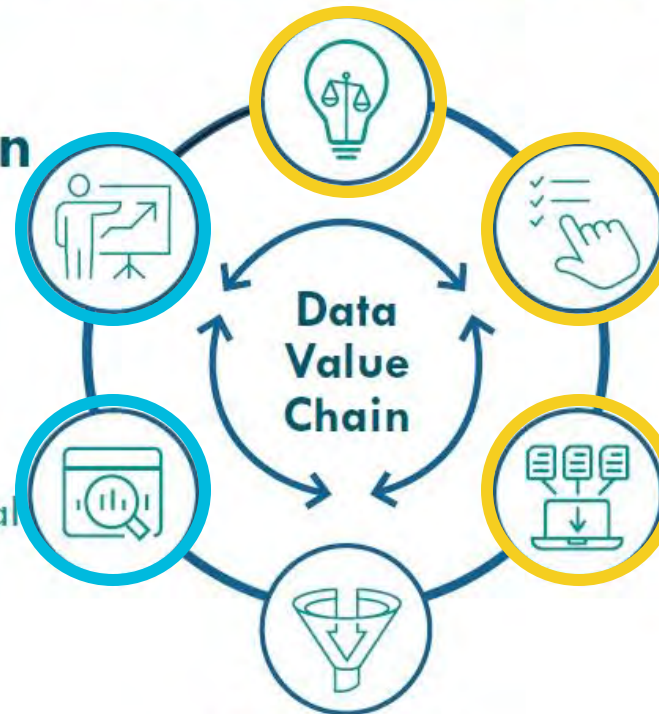
Identify & define priority issues & indicators

Collection

Capture high-quality national & subnational data

Curation

Process, store & share data

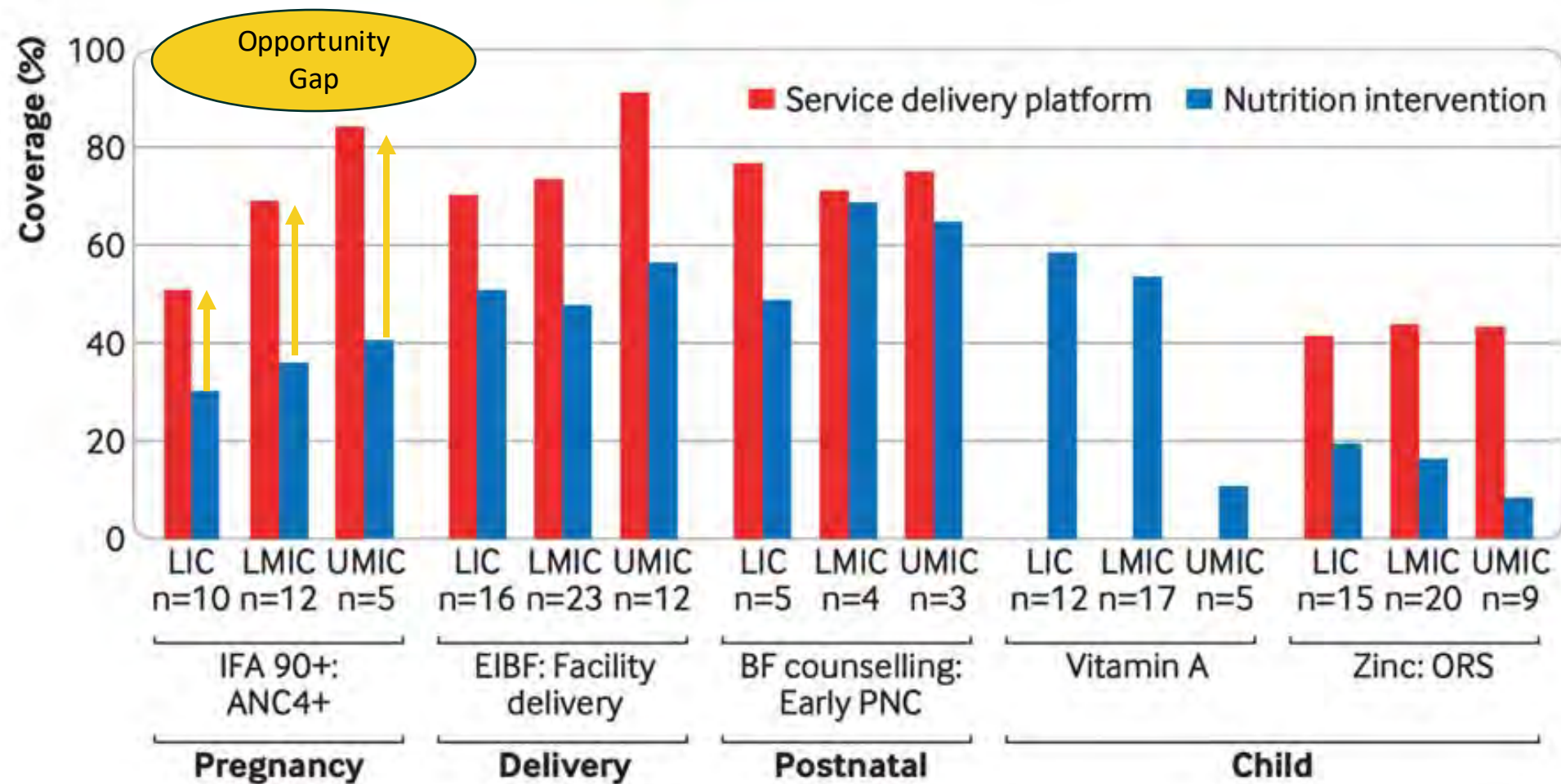


DATA VALUE CHAIN FOUNDATION

Strategy • Capacity • Governance • Financing



“Opportunity Gap” Analysis



Co-coverage analysis

Nigeria DHS 2024 (DHS-8)



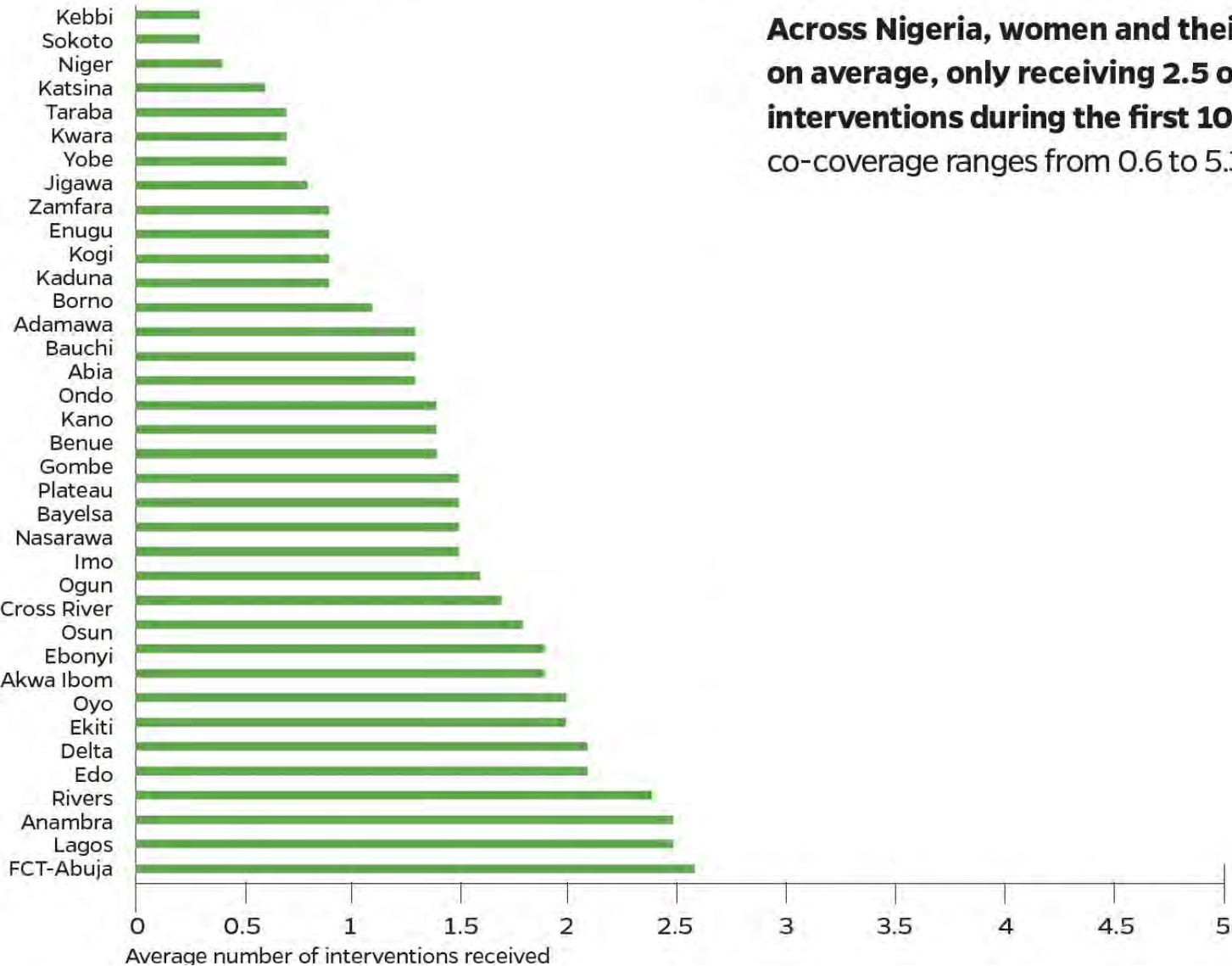
- Co-coverage reflects whether target groups are being reached with multiple interventions
- Collaborative process to design indicators – what is meaningful to country data users / decision makers? How can analysis reflect priorities (e.g. indicators selected, weighting, etc)

Co-coverage of 5 core “1,000 day” interventions in mother-child pairs

- reflect different service delivery platforms (i.e. facility-level, community-level, MNCH Week)

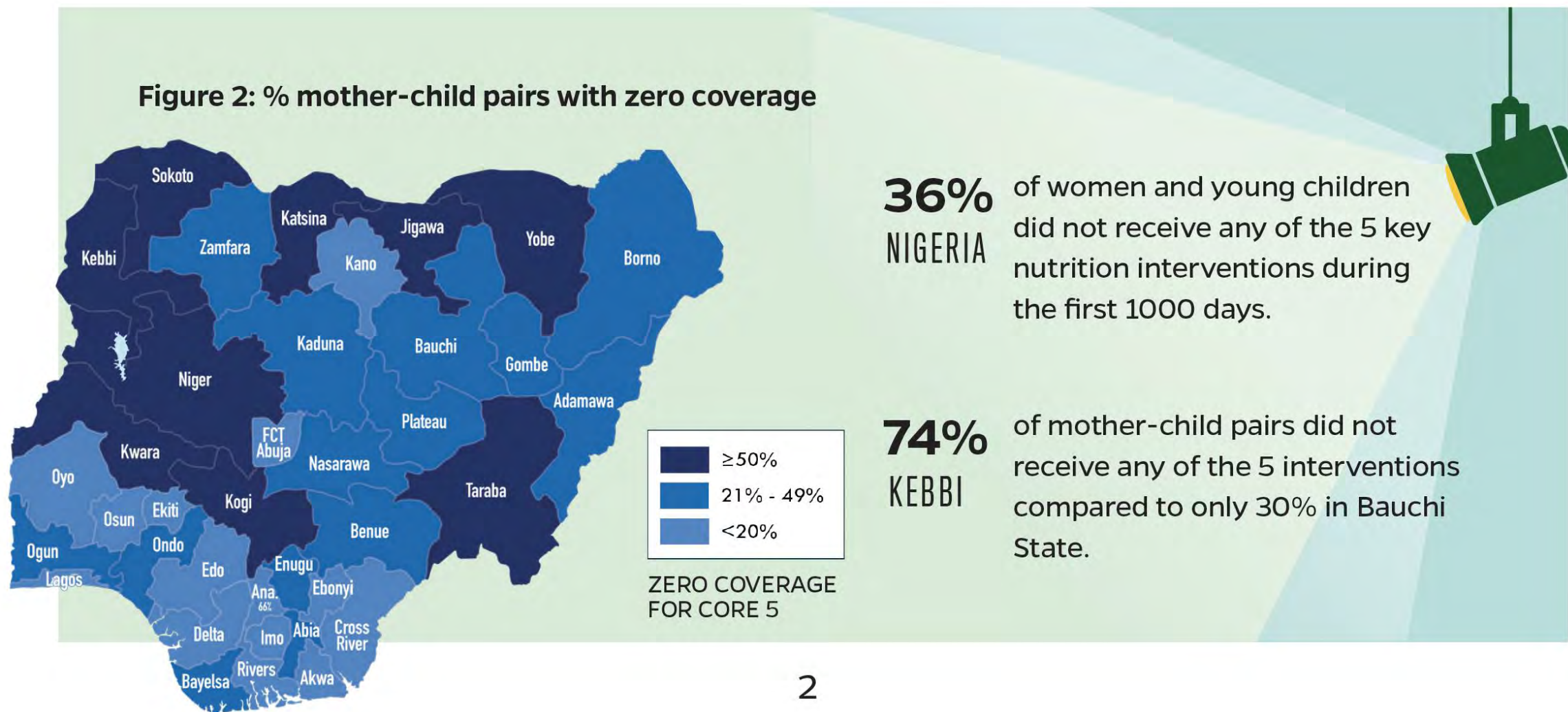


Figure 1: How many key interventions are received by mother and child during 1,000 days? (by State)
(10,317 mother-child pairs)



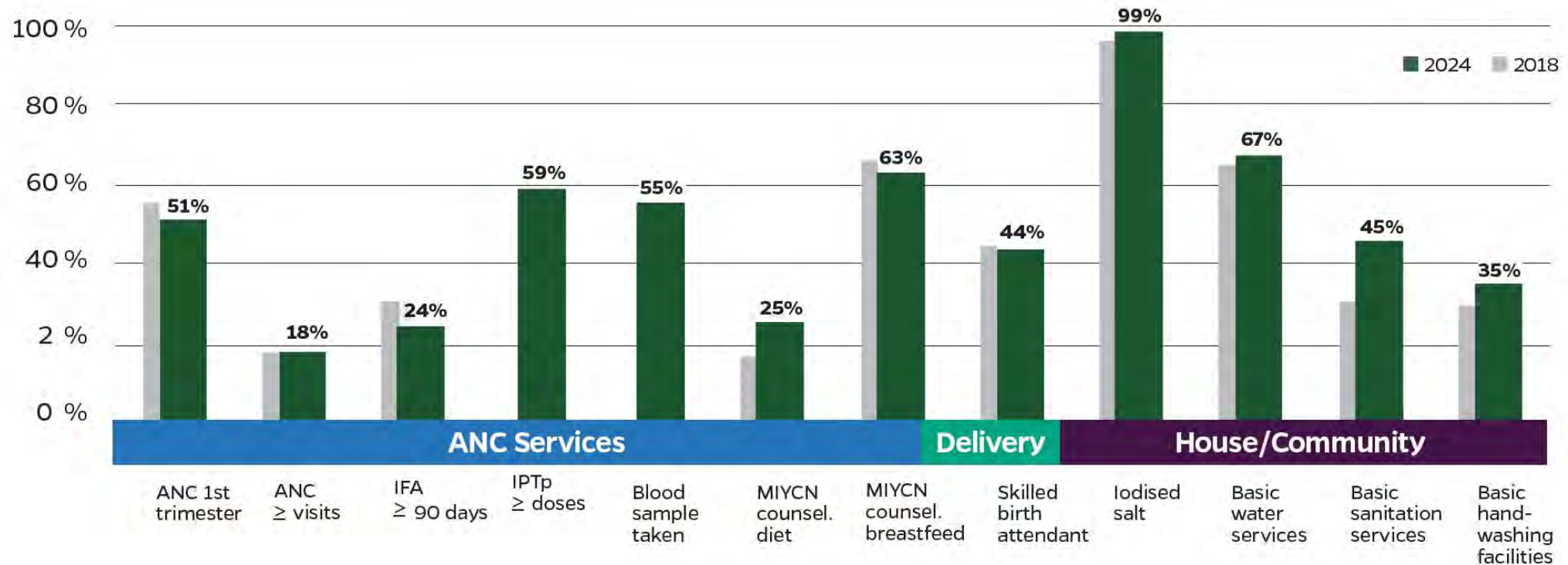
Across Nigeria, women and their young children are, on average, only receiving 2.5 of the 5 key nutrition interventions during the first 1000 days. Across states, co-coverage ranges from 0.6 to 5.3 (see Figure 1).

“zero coverage” is a meaningful indicator in Nigeria - but may not be in all countries



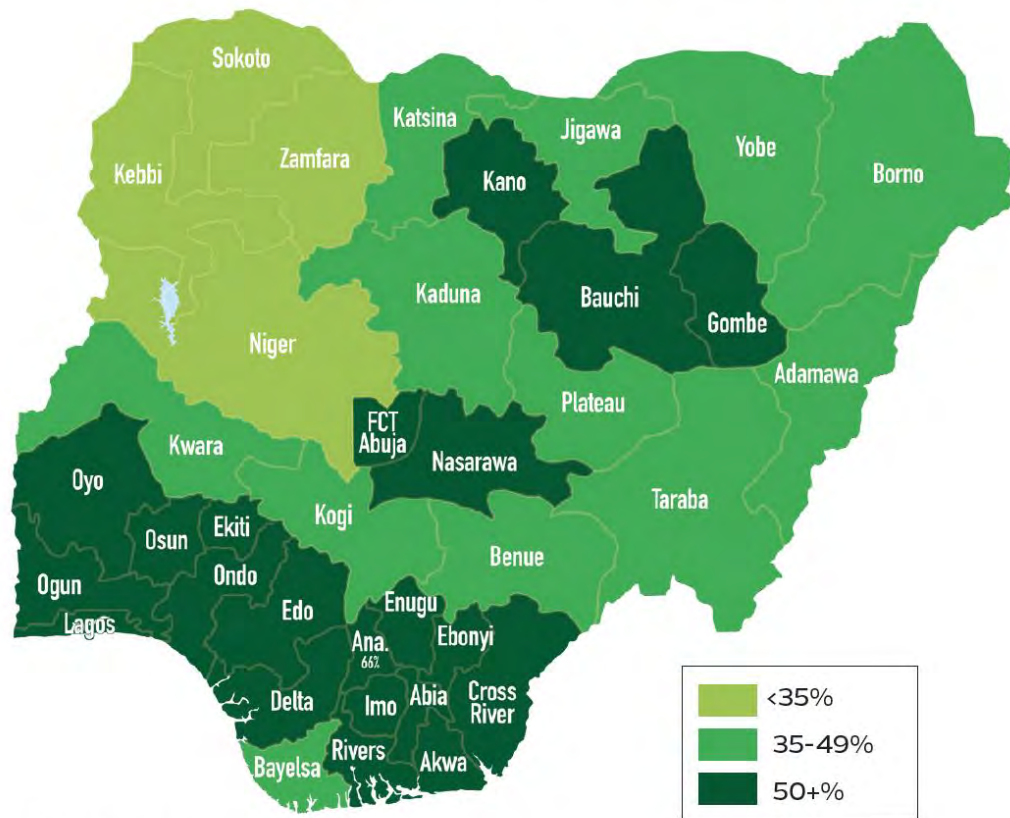
Expanded analysis: co-coverage during pregnancy

Figure 4: Coverage for individual interventions during pregnancy



Expanded analysis: co-coverage during pregnancy

Figure 3: Co-coverage for women during pregnancy



SPOTLIGHT: Opportunity Gap

Prioritize delivering nutrition interventions to those already accessing ANC. In 2024,

51% of women were reached with ANC in the first trimester

24% consumed iron supplements for at least **90 days**.

Focusing on these women could increase IFA coverage by **27 percentage points**.



Learn more: www.data4dent.org



Maximizing measurement resources

Costs for M&E in National Roadmaps

Bree Morgan

R4D

Costing MMS Monitoring & Evaluation Plans: Where We Are and Where We Need to Go

JHU Convening on Measurement & Monitoring of MMS

22 April 2026

Washington, DC

Bree Morgan, Program Officer

Market Shaping Practice, R4D



RESULTS FOR
DEVELOPMENT

Context: Where are we now?

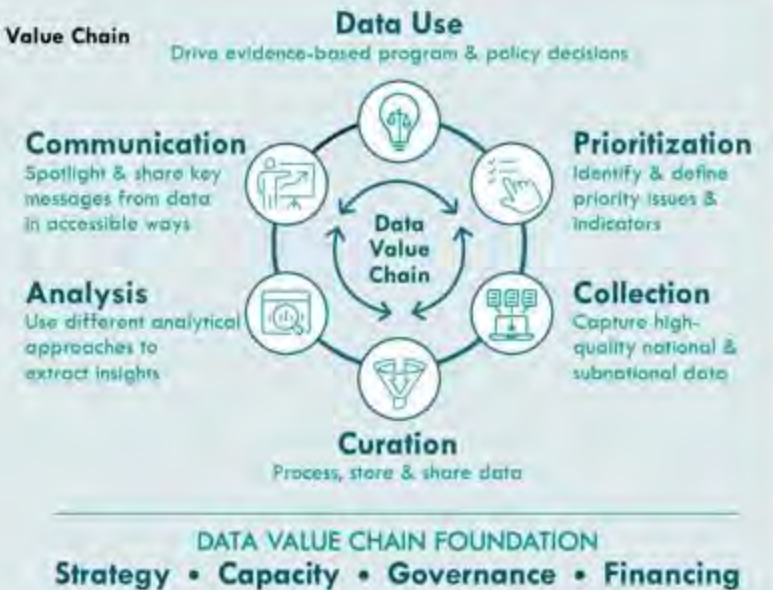
- There are systems level measurement and monitoring systems that we would like to see countries have in place; however, often, medium and long-term considerations for monitoring progress toward scale-up are often underdeveloped
- Partners have generated resources to support countries in developing and costing M&E plans, but countries may still require support to action these plans



Data for Decisions to Expand
Nutrition Transformation



Figure 1.
DataDENT Value Chain



What's usually top of mind for governments as they think about MMS introduction and scale-up plans?

Financing (e.g., how to leverage donor funding mechanisms like the CNF)

Service delivery & training

Policy & treatment guidelines

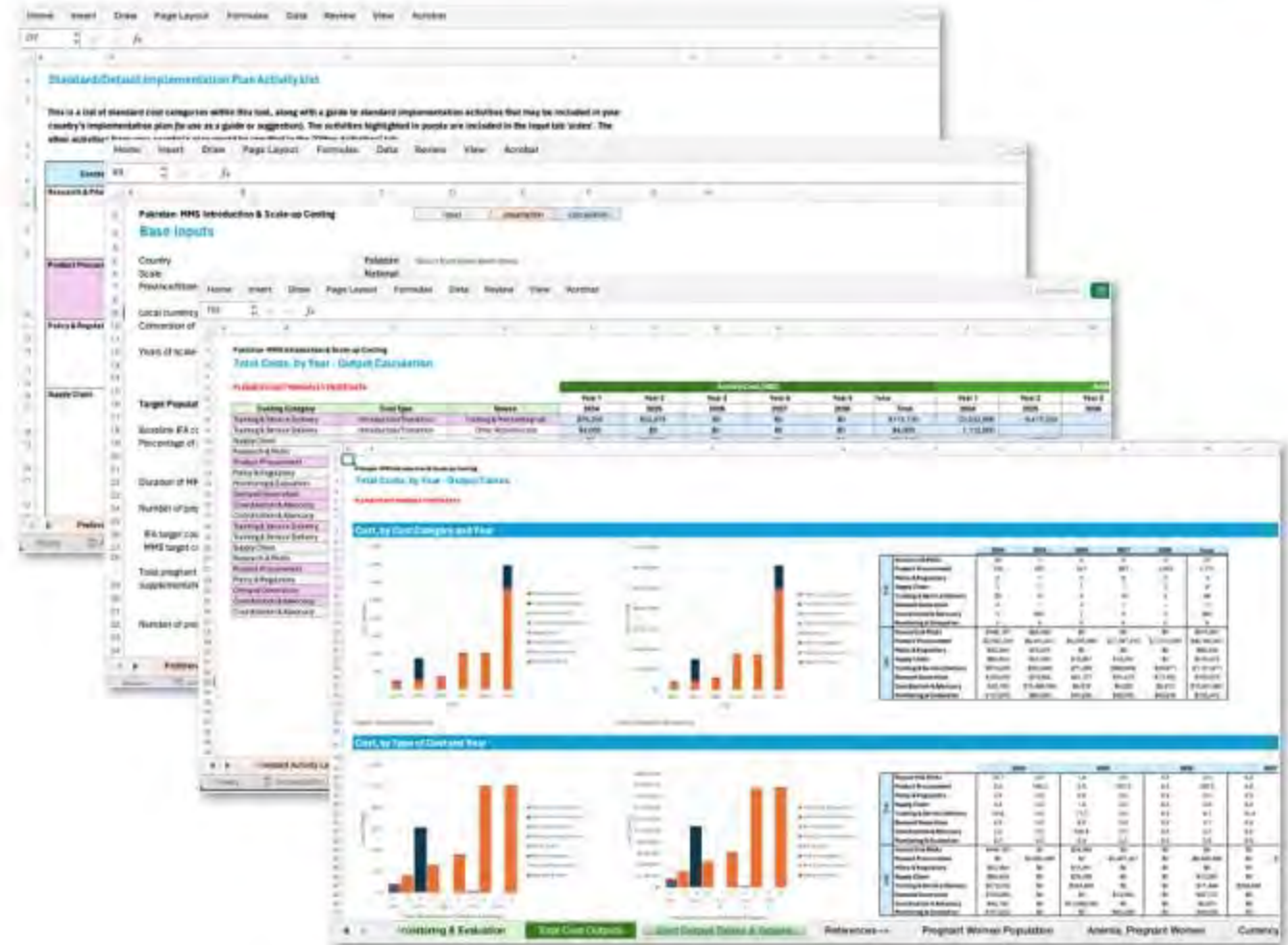
Rollout plan (i.e., annual coverage targets & regions)



Planning for long-term monitoring and measurement often takes a backseat to these more immediate priorities

R4D developed an MMS roadmap costing tool to help countries think through market introduction and scale-up activities and their related costs

- As part of a Gates-funded project (2023 - 2026), R4D developed an **adaptable roadmap costing tool** for gov'ts transitioning to MMS and used this tool to cost roadmaps in Ethiopia and Nigeria
- R4D also provided in-person costing support in Tanzania and Rwanda and light-touch support in 6 additional countries



The MMS costing tool includes a section for costing activities related to monitoring and measurement

The tool contains the following resources to support costing M&E plans:

- **Suggested/example activities** (e.g., inclusion of indicators into HMIS, training of M&E officials, materials/supplies for reporting, annual revisions, research studies, etc.) with high-level suggested time frames (e.g., Years 1-2)
- **Template to input costs** of meetings and other activities (Figure 1)
- **Output tables and graphs** to displaying total costs for M&E by activity, year, and type of cost (Figure 2)

Figure 1. Inputs Table: M&E

Activity Description	Type of Cost	2026	2027	2028	2029	2030	# of meetings in the year	# of days of meeting	# of travel days	Participants per meeting (#)	Per diem per person	Local transportation per person	Local accommodations per person	Food cost per person	Materials /supplies per participant	Venue Rental Cost	Other Activity Costs	Description of other costs	Total ActivityCost (USD)
Review and upgrade maternal nutrition indicators reporting within existing health information systems to appropriately capture demand generation, delivery/coverage, uptake, and compliance/adherence to maternal nutrition services, including KAPC	Introduction/Transition	Yes	No	No	No	No	3	2	3	25	\$11	\$48		\$8	\$4	\$24			\$9,182

Figure 2. Outputs Table: M&E

Total Health Information Cost

PLEASE DO NOT MANUALLY ENTER DATA IN THIS TABLE

	Year 1 2026	Year 2 2027	Year 3 2028	Year 4 2029	Year 5 2030	Total
Total Health Information Costs (USD)	\$72,643	\$204,869	\$201,322	\$51,322	\$251,322	\$781,478
Introduction/Transition	\$51,393	\$183,619	\$180,072	\$30,072	\$230,072	\$675,228
Ongoing	\$21,250	\$21,250	\$21,250	\$21,250	\$21,250	\$106,250
Total Health Information Costs (ETB)	10,020,917	28,261,351	27,772,048	7,079,788	34,669,468	107,803,571
Introduction/Transition	7,089,513	25,329,947	24,840,644	4,148,384	31,738,064	93,146,553
Ongoing	2,931,404	2,931,404	2,931,404	2,931,404	2,931,404	14,657,018

Categories	Year 1 2026	Year 2 2027	Year 3 2028	Year 4 2029	Year 5 2030	Total
Activity 4.1	\$12,729	\$3,547	\$0	\$0	\$0	\$16,276
Activity 4.2	\$0	\$0	\$0	\$0	\$0	\$0
Activity 4.3	\$59,914	\$201,322	\$201,322	\$51,322	\$251,322	\$765,202
Activity 4.4	\$0	\$0	\$0	\$0	\$0	\$0
Activity 4.5	\$0	\$0	\$0	\$0	\$0	\$0

When it comes to monitoring and measurement, countries have included items such as logical frameworks, M&E frameworks, and costed activities

Figure 1. Excerpt from Ethiopia MMS Roadmap Log Frame

INTENT	RESULT	INTERVENTION LOGIC	OBJECTIVELY VARIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS
Workforce Development: Improve the capacity of the health workforce to deliver MMS and ANC services.	OUTCOME	- Improve the capacity of the health workforce to deliver MMS. - Strengthen healthcare institutional capacity to implement MMS demand creation activities at key contact points at healthcare facility and community levels. - Capacity building at all levels in evidence generation, translation and use for decision making.	% of health facilities with at least one staff member trained in MMS service delivery.	Survey	MMS integrated into existing health system training packages.
	OUTPUT		- Number of health professionals trained on MMS service delivery. - Number of health professionals trained on MMS counseling and adherence monitoring.	Government reports.	
Quality Service Delivery: Enhance coverage and uptake of MMS and improve quality of and access to ANC services.	OUTCOME	- Improve effective coverage and uptake of ANC and MMS services. - Improve quality of maternal nutrition and MMS services. - Improve access to ANC and MMS services in variety of settings.	% of health facilities providing MMS as part of routine ANC. % of pregnant women receiving MMS during ANC visits. % of women completing the recommended MMS regimen (50+ tablets intake).	Survey	MMS road map implemented according to expansion and scale-up plan.
	OUTPUT		- Number households targeted with ANC/MMS counselling. - Number supportive supervision at facility level.	- Government reports. - Facility registry.	

Figure 2. Excerpt from Ethiopia MMS Roadmap M&E Framework (Annex)

Annex 3 Monitoring and evaluation framework for MMS expansion and scaleup

Table 9: MMS monitoring and evaluation framework

OBJECTIVES	RESULT	INDICATORS	BASLINE	SOURCES OF DATA	FREQUENCY	RESPONSIBLE
Enhance coverage and uptake of MMS and improve quality of and access to ANC services.	OUTCOME	% of health facilities providing MMS as part of routine ANC. % of pregnant women receiving MMS during ANC visits. % of women completing the recommended MMS regimen (50+ tablets intake).	-	- Survey - Government reports.	Annually	MOH/RHB/W HB
	OUTPUT	- Number of pregnant women who received MMS as part of routine ANC. # of pregnant women with 8 ANC contacts.	-	- Government reports. - Facility registry.	Quarterly Annually	MOH/RHB/W HB
	INPUTS	- Number households targeted with ANC/MMS counselling. - Number pregnant women targeted with ANC/MMS education at health facility. - Number supportive supervision at facility level.	-	- Government reports. - Facility registry.	Quarterly	MOH/RHB/W HB

Figure 3. Excerpt from Nigeria's National MMS Roadmap

Component	10	 Rollout-Roadmap Monitoring & Evaluation
10.1	Develop and implement a comprehensive Monitoring and Evaluation (M&E) framework for MMS rollout at national and subnational levels to track coverage, access, and outcome indicators, ensuring effective implementation and impact assessment.	
10.2	Collaborate with the National Population Commission to include MMS data in the National Demographic Health Survey (NDHS) and other national/state-level surveys such as the Multiple Indicator Cluster Survey (MICS), National Food Consumption and Micronutrient Survey, and National Nutrition Survey (NNS) for informed decision-making and policy formulation.	
10.3	Monitor key indicators, including MMS coverage among pregnant women, MMS accessibility, outcomes such as Low Birth Weight (LBW), the number of states procuring MMS under BHCPF, and the number of Primary Healthcare Centres delivering MMS as part of the ANC standard of care.	
10.4	Conduct landscape analysis and adherence studies to evaluate the rollout phase comprehensively, ensuring evidence-based adjustments and documentation of best practices for sustainability and scale-up.	

Costed roadmaps set countries up for successful measurement and monitoring of MMS scale-up – now it's time to ensure their plans are realized!

- **Summary Context:** costed MMS scale-up roadmaps are young. A few countries launched roadmaps last year, while many others are still in the development process
- **Recommendation:** Governments, donors, and partners should prioritize realistic conversations about how to utilize – and strengthen – existing country information systems to monitor MMS scale-up, rather than building parallel reporting structures
- This means assessing what current HMIS and M&E platforms can realistically absorb, identifying targeted investments to close gaps, and embedding MMS indicators into systems that stakeholders already use and trust

Morning Break

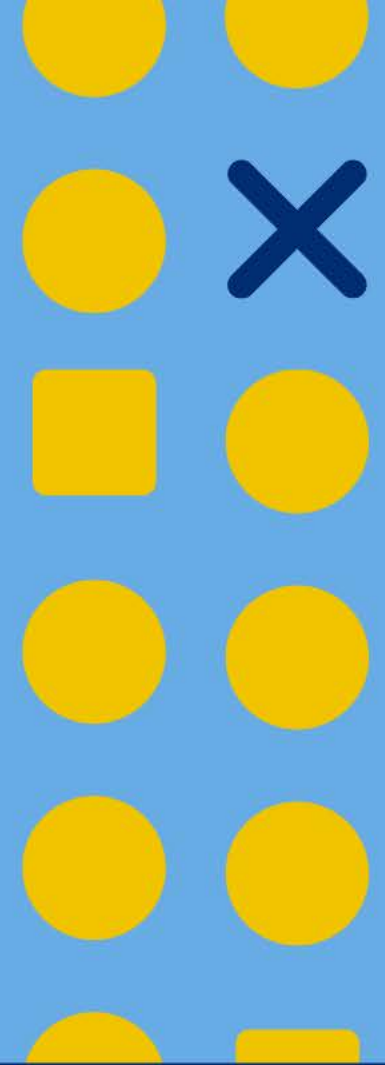
Please help yourself to refreshments in Room 955.



Maximizing measurement resources

ACTION: Collective Action Plan for Nutrition Data

Sorrel Namaste
MNF-HMHB



Collective ACTION Plan for Nutrition DATA ACTION DATA



**ACTION
DATA**

COLLECTIVE ACTION PLAN FOR NUTRITION DATA



WHY THIS PLAN

Ensure a responsive, country-owned, and user-centric nutrition information system to support data-driven solutions and action.

WHY NOW

Withdrawal of development funding threatens already fragile nutrition information systems in LMIC.

WHAT LED US HERE

Stakeholder meetings on impact of donor funding cuts resulted in consensus to develop a collective action plan (DataDENT-MNF, June2025; MNF, August2025).

SCOPE AND AUDIENCES

**PLAN
OBJECTIVES**



**WHAT WE ARE
DOING**



**TARGET
AUDIENCES**



SCOPE AND AUDIENCES

PLAN OBJECTIVES

Support stakeholders to work together more efficiently, align actions, and foster innovations to accelerate the strengthening of nutrition information systems in LMICs.

WHAT WE ARE DOING



SCOPE AND AUDIENCES

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WHAT WE ARE DOING

Providing a forum to identify priority actions, coordinate responses, facilitate knowledge exchange and mobilization, and track progress.

TA
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SCOPE AND AUDIENCES

WHAT WE ARE DOING



TARGET AUDIENCES

National policymakers and program managers, inter-governmental organizations, international and national development partners and public health and research institutes, donors, and private sector.



**ACTION
DATA**

COLLECTIVE ACTION PLAN FOR NUTRITION DATA

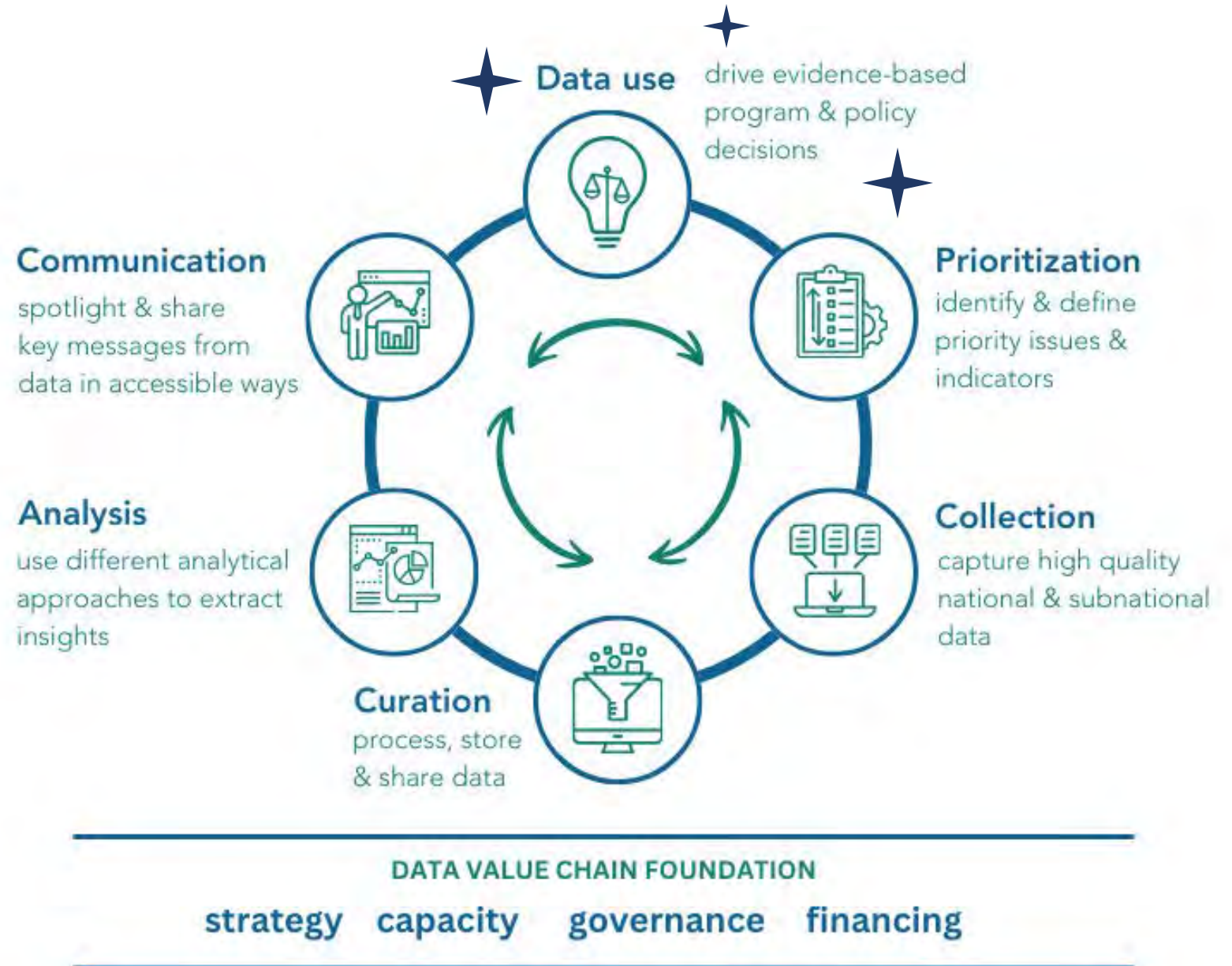
NUTRITION DATA VALUE CHAIN FRAMEWORK



It's cyclical.

The framework describe the steps of an effective nutrition information system

It begins and ends with data use.



RANGE OF INFORMATION

included in a nutrition
information system

- 1.** Population descriptive data used to interpret or act on nutrition data
- 2.** Diet quality, nutrition practices, and food environment, and other risk factors
- 3.** Nutrition status (anthropometric, biochemical, clinical)
- 4.** Program coverage and service delivery
- 5.** Data on governance, regulations, and enforcement
- 6.** Enabling environment factors (policies, strategies, financing)



**ACTION
DATA**

COLLECTIVE ACTION PLAN FOR NUTRITION DATA

Expected Outputs

Landscape Mapping

Analysis of global and regional nutrition data availability as a basis for assessing vulnerabilities in information systems and identifying opportunities to close data gaps.

Rapid Review

Along the nutrition data value chain identify data sources and tools, examining their use in decision-making, and synthesizing documented gaps, constraints, and innovations in LMIC contexts.

Collective Plan

Consensus on priority actions that will strengthen nutrition information systems across the nutrition data value chain to facilitate stakeholder coordination & collaboration, & foster innovations.

Briefs

World Bank Statement
Other partners (e.g. Global Nutrition Report, EU-JRC)

APPROACH TO STAKEHOLDER ENGAGEMENT

Core working group

Key informant interviews

Online survey

Regional and country consultations

FOCUS AREA CONTENT

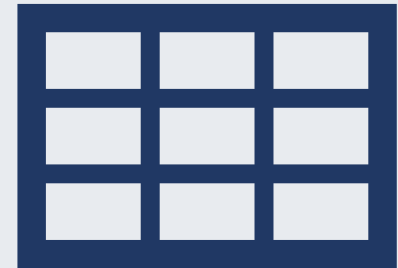
FOUNDATIONAL INFORMATION



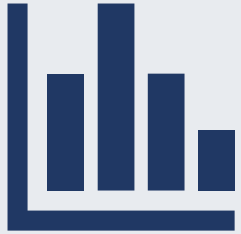
CASE STUDIES



PRIORITY ACTION TABLE



FOCUS AREA CONTENT



FOUNDATIONAL INFORMATION

Describes the current situation and opportunities.

CASE STUDIES



FOCUS AREA CONTENT

IONAL
ATION



CASE STUDIES

Provide examples of country experiences and promising innovations.

PR
ACTIO



**ACTION
DATA**
COLLECTIVE ACTION PLAN FOR NUTRITION DATA

FOCUS AREA CONTENT

CASE STUDIES



PRIORITY ACTION TABLE

Sets out specific actions to strengthen and address the short- and long-term needs.



PRIORITY
ACTION
TABLE
STRUCTURE

for all focus areas

Focus Area 1: Data Prioritization				
	<i>Level (global, regional, national)</i>	<i>Funding (fully, partially, none)</i>	<i>Organization(s), if any</i>	<i>Timescale for initiation</i>
Objective 1.				
Action 1.1				
Action 1.2				
etc.				
Objective 2.				
Action 2.1				
Action 2.2				
etc.				
Focus Area 2: Data Collection				
Objective 1.				
Action 1.1				
Action 1.2				
etc.				
Objective 2.				
Action 2.1				
Action 2.2				
etc.				

EXAMPLE: PRIORITY ACTION TABLE

for data communication and use

Objective: Improve the availability and increase the use of dashboards and scorecards

Action	Level (global, regional, national)	Funding (fully, partially, none)	Organization(s), if any	Timescale for initiation (short, medium, long term)
Assess the need for country specific dashboards and scorecards and/or how to better use them for decision making	National	TBD	TBD	Short
Develop curriculum and provide cross-country training on use of dashboards and scorecards	Regional	No	No	Short
Assess the need for new or modifications to existing dashboards and scorecards	Global	No	No	Short
<i>etc.</i>				

EXAMPLE OF INNOVATIONS INCLUDED IN THE PLAN

DATA PRIORITIZATION

- Establish a formal nutrition data governance structure at national level
- Develop guidance on how frequently different data types are needed for decision making

DATA COLLECTION

- Validate use of phone surveys against traditional household surveys for select indicators
- Analysis of nutrient biomarkers using blood repositories from surveillance systems (e.g., Micronutrient Biomarker Initiative)
- Develop best practices on a modular approach to collecting different types of nutrition data

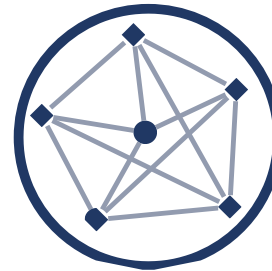
DATA CURATION AND ANALYSIS

- Apply AI to improve efficiency of data processing
- Validation of existing nutrition models and develop new modeling tools
- Establish an approach for triangulating administrative and survey data

DATA COMMUNICATION AND USE

- Develop administrative data dashboards at global and country levels
- Create scorecards assessing how effectively countries use data for decision-making

THANK YOU



ACTION
DATA

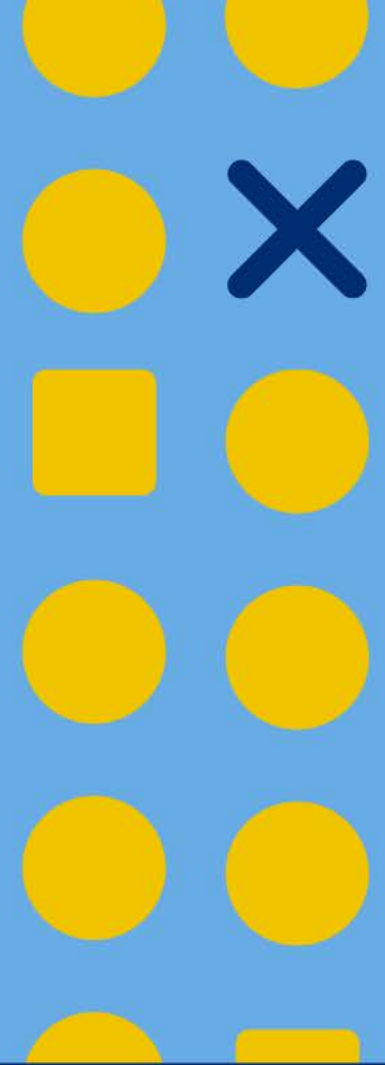
COLLECTIVE ACTION PLAN FOR NUTRITION DATA

Maximizing measurement resources

Living Standards and Measurement Study (LSMS) Program: Priorities for Innovation in multi-topic household surveys

Ivette Contreras

World Bank



LSMS

Living Standards Measurement Study



The LSMS website

Living Standards Measurement Study (LSMS) Program: Innovations in Multi-Topic Household Surveys

Ivette Contreras

Economist

Survey Unit | World Bank Development Data Group

Convening on Measurement and Monitoring of Multiple
Micronutrient Supplementation (MMS)

April 21-22, 2026



Agenda

Section 1

Overview of the Living Standards Measurement Study (LSMS)

Section 2

Value of Nutrition Data in Multi-Topic, Longitudinal Surveys

Section 3

LSMS Priorities in Innovations in Survey Measurement

1. Overview of the LSMS



THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP



LSMS
Living Standards Measurement Study

Living Standards Measurement Study (LSMS)

OBJECTIVE

Strengthen the availability, quality, relevance, and timeliness of household surveys implemented in low- and middle-income countries, for improved policymaking and better lives



**Data Production &
Advisory Services**



Survey Methods



Policy Research



Training

Advisory Services & Training Activities



2025/26 Highlights :

- **60 countries** received technical assistance for face-to-face and phone surveys
- **5 training courses** delivered through the World Bank Data Academy – both internally and to external clients
 1. Designing and Implementing Household Surveys from a Gender and Jobs Perspective
 2. Mastering the Design & Implementation of Surveys
 3. Introduction to Sampling: Theory & Applications
 4. Advanced Sampling Techniques
 5. Using Survey Solutions to Design, Conduct and Manage Surveys

Data Production: Flagship Longitudinal Surveys

**8 Partner
National Statistical Offices
(2008-Present)**



**Burkina Faso
Ethiopia
Malawi
Mali
Niger
Nigeria
Tanzania
Uganda**

Open-Access Data:

- 35 face-to-face surveys
- 124 phone surveys
- 4 harmonized datasets
- 126,000+ microdata library downloads
- 7,200+ publications
- 3,500+ citations
- 35% by African researchers

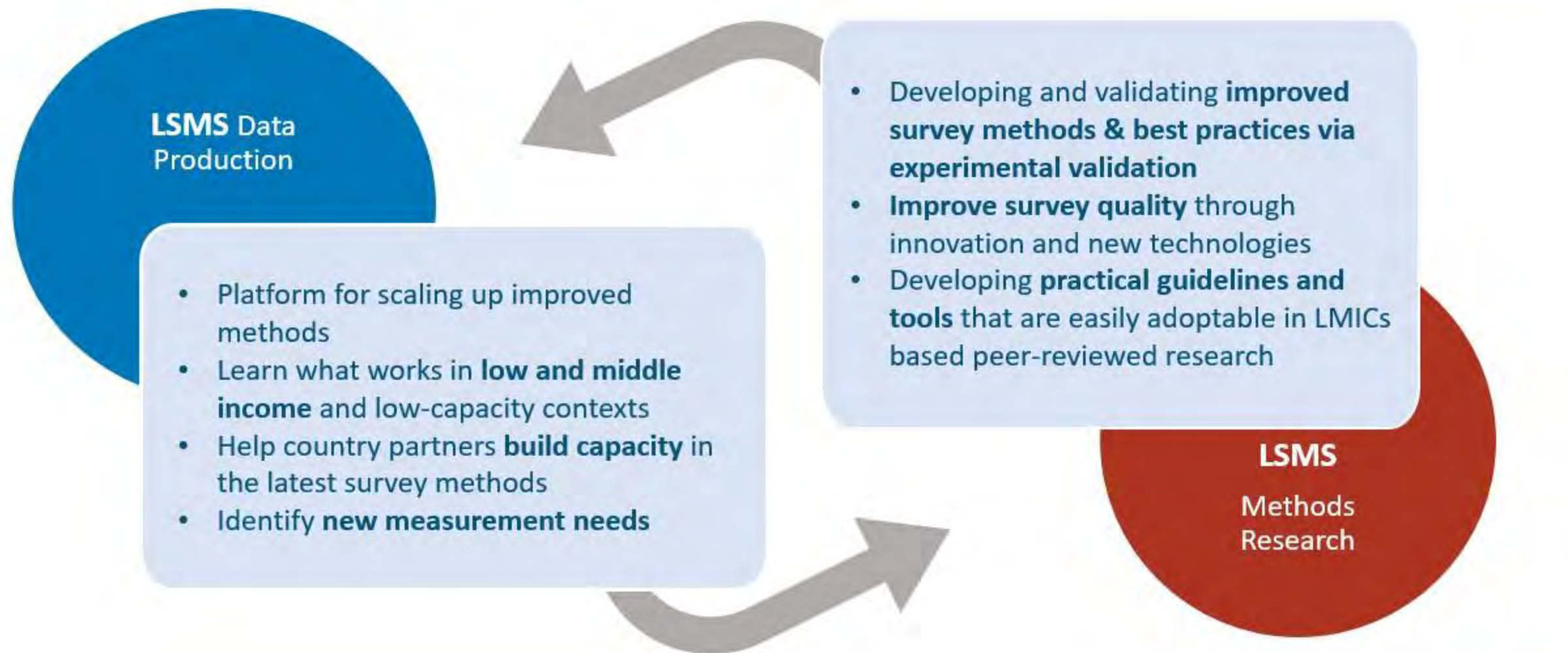
101 World Bank projects informed by LSMS-supported longitudinal face-to-face and phone surveys (2008-2024)



Survey Methods

- Challenges and opportunities
 - Survey data remain the backbone of development statistics in LMICs, yet persistent measurement gaps undermine data quality, comparability, inclusiveness, and policy relevance.
 - National statistical offices face high survey costs (under a more constrained budgets) and long delays in data validation, processing, and dissemination.
 - Rapid shifts toward phone, mixed-mode, and digital surveys, but without clear understanding of potential measurement errors.
 - AI-powered tools offer promise, but lack rigorous, responsible integration into official statistics.
- Objective
 - Develop and validate innovative survey methods and tools across the full survey lifecycle, towards the publication of **peer-reviewed research**, formulation of **guidelines and international practices**, and **downstream diffusion** of innovations in LMIC survey systems.

Data Production and Survey Methods Synergies



LSMS 2.0: Our New Blueprint for Multi-Topic Surveys

- Building on 40 years of LSMS experience and 15 years of longitudinal survey focus, the LSMS is developing the "**Light Standardized Modular Survey of Living Conditions (LSMS 2.0).**"
- The LSMS 2.0 aims to build longitudinal survey systems to boost crisis preparedness and strengthen resilience of vulnerable populations in low- and middle-income countries (LMICs).

LSMS 2.0 will be:

- ✓ Nationally-representative
- ✓ Mixed-mode (in-person & phone)
- ✓ Longitudinal
- ✓ Standardized
- ✓ Multi-topic
- ✓ Interoperable
- ✓ Open-access

LSMS 2.0 – Core Household Questionnaire (In-Person)

Household Questionnaire

- 1.** Household Roster
- 2.** Education
- 3.** Health
 - 3.1** Child Health and Immunization
 - 3.2.** Family Planning and Pregnancy Care
 - 3.3.** Child Anthropometry
- 4.** Labor
- 5.** Access to Digital Technology
- 6.** Dietary Diversity
 - 6.1.** Women's Dietary Diversity
 - 6.2.** Children's Dietary Diversity
- 7.** Food Away From Home
- 8.** Food Consumption
- 9.** Non-Food expenditures

Household Questionnaire

- 10.** Food Insecurity Experience Scale (FIES)
- 11.** Housing
- 12.** Energy
- 13.** Water, Sanitation and Hygiene (WASH)
- 14.** Durable Goods
- 15.** Household Enterprises
- 16.** Other Income
- 17.** Shocks, Coping, Climate
- 18.** Social Assistance and Protection
- 19.** Access to Financial Services

LSMS 2.0 – Core Household Questionnaire (In-Person)

Household Questionnaire

1. Household Roster
2. Education
3. Health
 - 3.1 Child Health and Immunization
 - 3.2. Family Planning and Pregnancy Care
 - 3.3. Child Anthropometry
4. Labor
5. Access to Digital Technology
6. Dietary Diversity
 - 6.1. Women's Dietary Diversity
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Household Questionnaire

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17. Shocks, Coping, Climate
18. Social Assistance and Protection
19. Access to Financial Services

2. Value of Nutrition Data in Multi-Topic, Longitudinal Surveys



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The Long Shadow of Stunting in Nigeria

- We explore the linkages between nutrition, education and labor markets by analyzing the children included in the General Household Survey – Panel (GHS-Panel).
- The GHS-Panel is **Nigeria's only nationally representative panel survey**, allowing researchers to track the same households over time.
- To date, five waves of the GHS-Panel have been conducted:



Literacy in W5 by stunting status in W1

Share of individuals aged 0–5 in Wave 1 by their stunting status per wave.



Note: This table presents literacy rates measured in Wave 2 (2012–2013), Wave 3 (2015/2016), Wave 4 (2018/2019) and Wave 5 (2023/2024) for individuals who were aged 0–5 in Wave 1 (2010/2011), disaggregated by their stunting status in early childhood (Number of observations: 1,845 for W2, 1,601 for W3, 418 for W4 and 311 for W5). Differences in literacy rates by stunting status are statistically significant at the 1% level for the national sample in waves 3, 4, and 5 (***), while differences in wave 2 are not statistically significant. For males, the differences are statistically significant at the 1% level in wave 3 (***), at the 5% level in wave 4 (**), and at the 10% level in wave 5 (*), whereas no statistically significant differences are observed in wave 2. For females, the differences are statistically significant at the 1% level in waves 2, 3, and 4 (***), and at the 5% level in wave 5 (**).

Children who were stunted at ages 0–5 have persistently lower literacy rates in later survey waves than those who were not stunted, with statistically significant gaps emerging from adolescence onward.

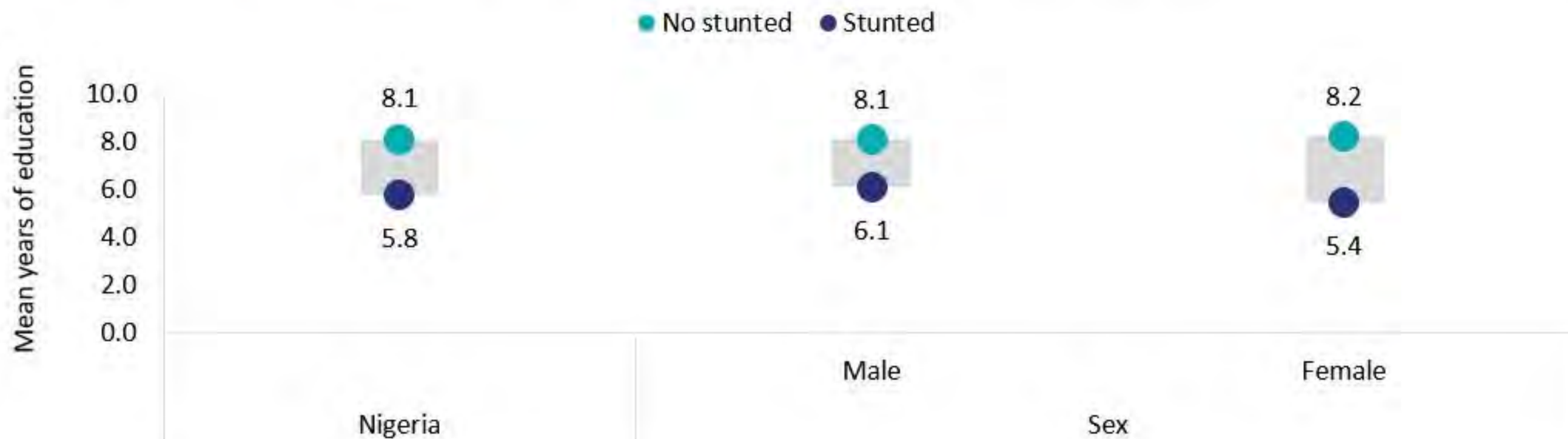


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Nutrition and Education Linkages

Average for individuals aged 0-5 years old in Wave 1 by stunting status (individuals aged 13-19 in Wave 5)

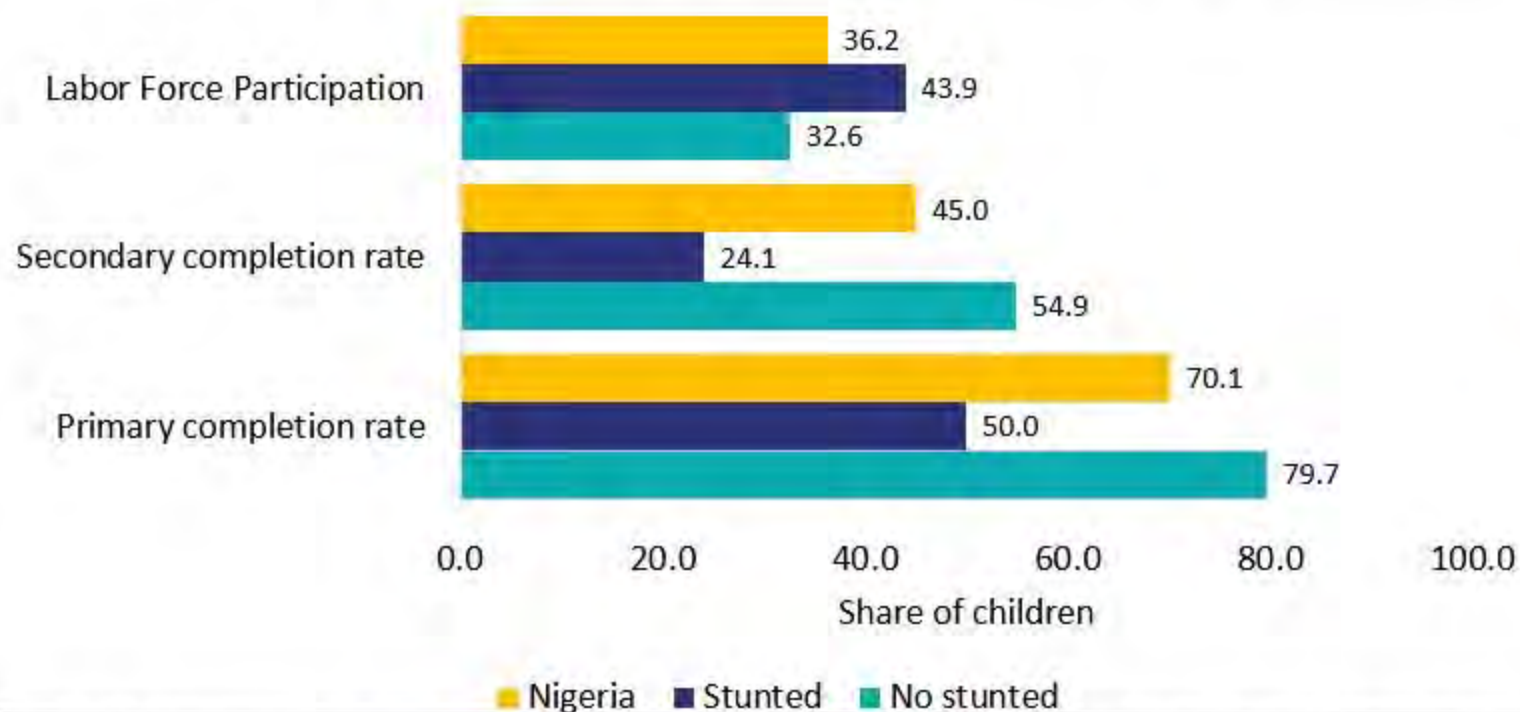


Note: This table presents average years of education measured in Wave 5 (2023/2024) for individuals who were aged 0-5 in Wave 1 (2011/2011), disaggregated by their stunting status in early childhood (N=311). Differences in mean years of education by stunting status are statistically significant at the 1% (***) level for Nigeria, male and females.

Adolescents who were stunted in early childhood have significantly lower years of completed schooling and lower primary and secondary completion rates compared to those who were not stunted.

Nutrition and Labor Market Linkages

Share of individuals aged 0–5 in Wave 1 by their stunting status (individuals aged 13–19 in Wave 5)



Early-childhood stunting is associated with lower educational attainment and earlier entry into the labor force in adolescence

Notes: This figure presents the stunting status of children aged 0–5 in Wave 1 (2010/2011) and still lived in the household in Wave 5. The labor force participation represents the share of individuals who have participated in the labor force at any point from wave 2 to wave 5, disaggregated by their stunting status in wave 1. The primary / secondary completion rates were measured in Wave 5 (2023/2024) for individuals who were aged 0–5 in Wave 1 (2010/2011), disaggregated by their stunting status in early childhood.



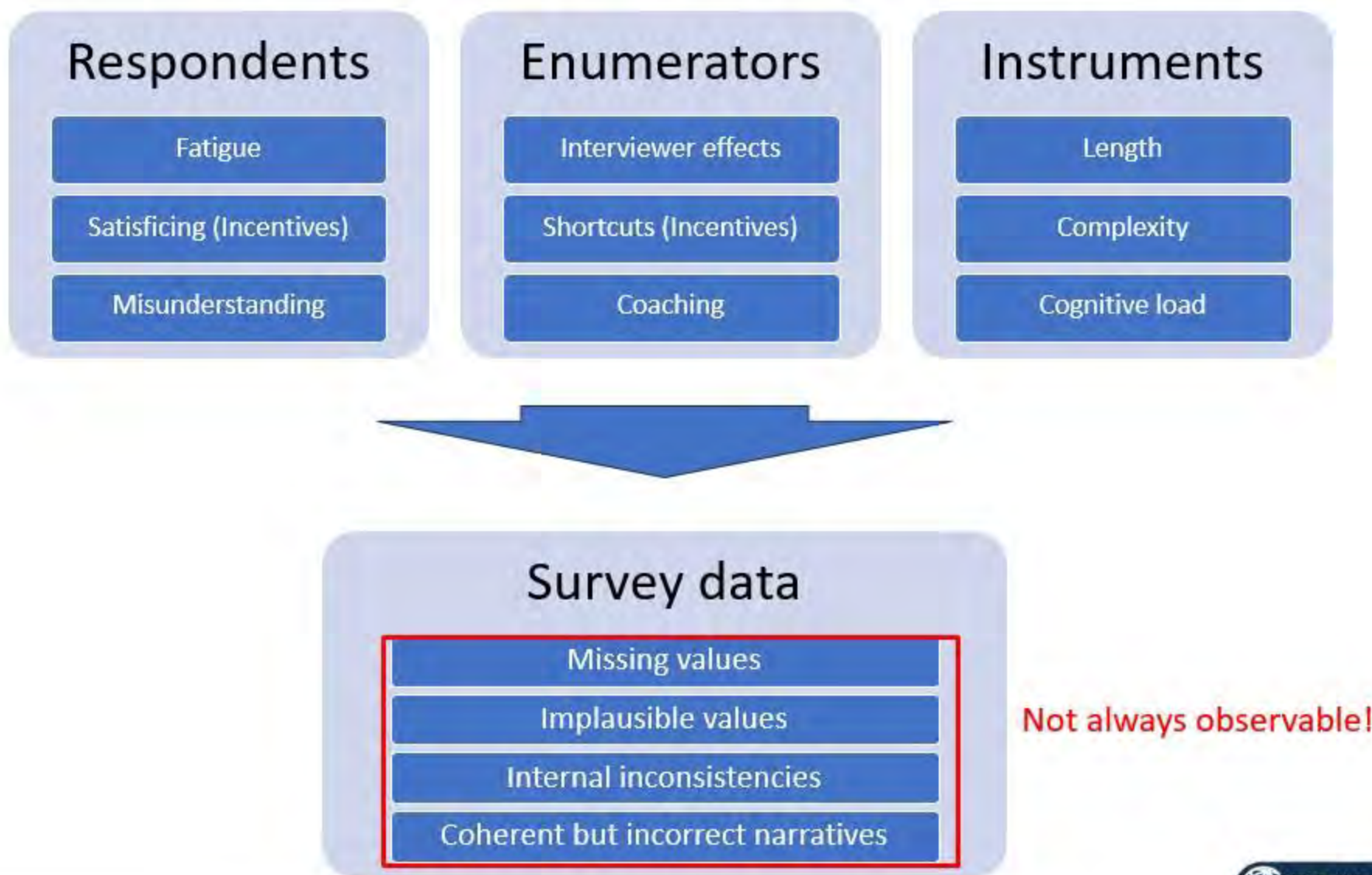
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3. LSMS Priorities in Innovations in Survey Measurement



Data Quality Challenges in Surveys



Priorities in Innovations in Survey Measurement

Building the infrastructure, methods and evidence for the next generation of household surveys



Innovation Pipelines

Infrastructure for experimentation - in
nine countries and counting



Thematic Focus

Priority measurement
domains



Methodological Focus

Priority research
domains



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Priorities in Innovations in Survey Measurement

Building the infrastructure, methods and evidence for the next generation of household surveys



Innovation Pipelines



Thematic Focus



Methodological Focus

Infrastructure for experimentation - in
nine countries and counting

We have been building a unique operational infrastructure across 9 partner countries — a living lab for testing and validating new survey approaches under real field conditions.

This pipeline enables the program to:

- Design new instruments and protocols grounded in frontier research
- Test them rigorously in diverse country contexts, capturing what works and what doesn't
- Promote the adoption of validated innovations by National Statistical Offices and partners worldwide

Countries: Bangladesh, Burkina Faso, Ethiopia, Kenya, Malawi, Nepal, Nigeria, Tanzania, and Uganda.



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Priorities in Innovations in Survey Measurement

Building the infrastructure, methods and evidence for the next generation of household surveys



Innovation Pipelines



Thematic Focus



Methodological Focus

Priority measurement
domains

Work & Employment

Improving the measurement of **household enterprises** (identification, labor inputs, profits and productivity); **casual and seasonal labor** activities; **labor market transitions**

Unpaid Care & Domestic Work

Advancing hybrid time-use approaches that better capture **domestic and care work**, to account for “systematically undercounted work”

Agriculture & Rural Development

Strengthening scope and accuracy of survey methods to enhance the quality, timeliness and disaggregation of agricultural surveys.



Climate Adaptation & Resilience

Refining the measurement of **climate risk perceptions, adaptive behaviors, and resilience**, particularly for deployment in longitudinal, mixed-mode survey systems



Health & Nutrition

Advancing methodological research to inform the design of mixed mode survey systems to collect data on **reproductive, maternal and newborn, child health and nutrition (RMNCH-N)**.



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Priorities in Innovations in Survey Measurement

Building the infrastructure, methods and evidence for the next generation of household surveys



Innovation Pipelines



Thematic Focus



Methodological Focus

Priority research
domains

Mode Effects

Quantifying and correcting for measurement differences between in-person and phone data collection to ensure comparability and inform the design of mixed mode survey systems

Imputation

Leveraging model-based imputation and data integration to estimate indicators at higher spatial- and temporal resolution, and under partial/complete missingness

Hard-to-Reach Populations

Advancing techniques to improve coverage of groups systematically underrepresented in standard household surveys

Objective Measurement

Field testing and validating new technology-based and objective measurement approaches, reducing systematic measurement error and respondent burden

Respondent Selection

Establishing evidence-based principles for respondent selection choices to minimize measurement erroring individual-level data collection under budget constraints

Artificial Intelligence

Building AI pipelines to detect survey error, code open-ended responses, and automate key operations including validation, translation, classification, and reporting

AI for Better Surveys: The LSMS Agenda

Rigorous, responsible integration of AI into the survey life cycle.

Our Approach: Validate, Then Scale

AI methods are developed experimentally, benchmarked against traditional instruments, and only scaled once their performance is empirically demonstrated.

The Scope: Across the Full Survey Life Cycle

From instrument design and translation to data collection, processing, and reporting — AI has the potential to reduce costs, improve consistency, and capture data previously unobservable.

Currently piloting and validating these approaches in **Bangladesh** and **Nepal**

On-Going Workstreams Enabled by AI

Workstream 1: Detecting and Reducing Survey Error

Objective: Catch errors that standard quality control misses

- Combines structured responses, interview transcripts, and paradata to surface quality issues arising during the interviewer–respondent interaction
- Identifies patterns linked to interviewer behavior (shortcuts, coaching) and respondent misunderstanding (fatigue, satisficing)
- Produces actionable quality signals during and after fieldwork — enabling real-time course correction

Workstream 2: Simplifying & Enriching Questionnaires

Objective: Reduce respondent burden without sacrificing analytical depth

- Uses AI to structure and code open-ended narrative responses at scale, consistently across countries
- Reduces questionnaire length and cognitive load by replacing rigid closed-ended batteries with shorter, AI-processed open questions
- Benchmarks AI-based measures against traditional instruments to empirically validate performance before scale-up

Living Standards Measurement Study (LSMS) Program: Innovations in Multi-Topic Household Surveys

Ivette Contreras

Economist

Survey Unit | World Bank Development Data Group

Convening on Measurement and Monitoring of Multiple
Micronutrient Supplementation (MMS)

April 21-22, 2026



LSMS

Living Standards Measurement Study



The LSMS website



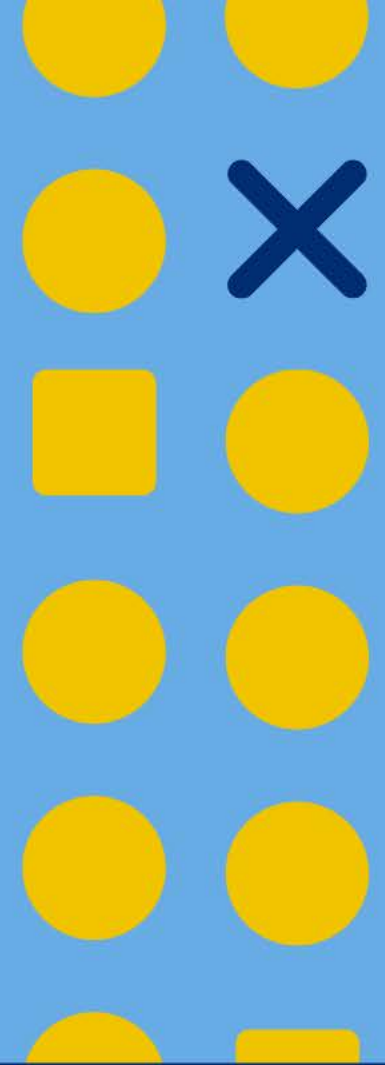
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Maximizing measurement resources

The DHS Program: What is on the horizon?

Madeleine Short Fabic
The DHS Program, ICF





➤ The Demographic and Health Surveys (DHS) Program: *Current Status and Future Directions*



Madeleine Short Fabic, Senior Strategy & Technical Advisor
The DHS Program
ICF, Rockville MD

April 22, 2026

Presentation Overview

- **DHS Program Current Status**
 - Surveys
 - Archive
 - Funding
- **Future Directions**
 - Innovations
 - Partnerships
 - Visioning



DHS Announces Continuation, Revitalization (01/2026)



SEARCH

LOGIN

Select Language



COUNTRIES

DATA

PUBLICATIONS

METHODOLOGY

RESEARCH

TOPICS

📢 New surveys are underway | New datasets are available | Data from all 470+ DHS Program surveys are accessible. For more information, [click here](#).

Announcing the continuation and revitalization of The Demographic and Health Surveys (DHS) Program! Our mission remains steadfast: to deliver high-quality, accessible, actionable data that inform health and development efforts locally and globally.



A mother and daughters in Jimma, Ethiopia work with coffee beans after their house has received Indoor Residual Spraying (IRS) to reduce malaria transmission. Photo Credit: AIRS Ethiopia PMI.

DHS Program Survey Updates

Surveys

Ongoing Surveys

- Burkina Faso MIS 2026
- Congo DHS 2025
- Ethiopia DHS 2024-25
- Guinea DHS 2024-25
- Indonesia DHS 2023-24
- Kenya DHS 2025
- Niger DHS 2026
- Nigeria DHS 2025
- Nigeria VASA 2024
- Rwanda DHS 2025
- Rwanda MIS 2023
- Sierra Leone DHS 2026
- Timor-Leste DHS 2025
- Togo DHS 2026
- Zimbabwe DHS 2023-24

[Refine survey search](#)

Datasets

Datasets Recently Released

- Angola DHS 2023-24
- Malawi DHS 2024
- Mali DHS 2023-24
- Nigeria DHS 2024
- Uganda MIS 2024-25
- Zambia DHS 2024

[View all datasets](#)

Datasets Expected Soon

- Congo DHS 2025
- Guinea DHS 2024-25
- Indonesia DHS 2023-24
- Kenya DHS 2025
- Nigeria DHS 2025
- Nigeria VASA 2024
- Rwanda DHS 2025
- Rwanda MIS 2023

Publications

Publications Recently Released

Final Reports

- Angola DHS, 2023-24 - Final Report
- Malawi DHS, 2024 - Final Report
- Mali DHS, 2023-24 - Final Report
- Nigeria DHS, 2024 - Final Report
- Uganda MIS, 2024-25 - MIS Final Report
- Zambia DHS, 2024 - Final Report

Other Publications

- Angola DHS, 2023-24 - Summary Report
- Angola DHS 2023-24 - Survey Presentation
- Angola DHS 2023-24 - Infographic
- Angola 2023-24 DHS - National Fact Sheet
- Angola DHS 2023-24 - Regional Fact Sheets

[Congo DHS 2025 - Survey Presentation](#)

The DHS Archive Remains Open



450+ surveys across 90+ countries

- a. **Microdata archive** (released recode files in Stata/SPSS/SAS/flat).
- b. **Knowledge products** (final reports, manuals, methods, etc.).
- c. **Indicator database** (powering STATcompiler + API; 4,000+ indicators).
- d. **API endpoints** (aggregated, open indicator data used by STATcompiler, Mobile App, and external tools).
- e. **Spatial Data Repository** (boundaries, tiles, COGs, covariates).
- f. **Legacy & related properties** (e.g., WFS archive, User Forum)



Funding is Flowing, though Gaps Remain

Components	Description	Funding
Individual Surveys	Country-specific, nationally representative data on population, health, nutrition, and more.	Partner Countries, Global Fund, World Bank, UNICEF, UNFPA, FCDO, Gates Foundation, others
The DHS Program (platform)	Platform that provides the technical standards, quality assurance, cross-country and cross-temporal comparability, and broad data access that allow individual surveys to serve a global public good.	Gates Foundation, other donors

Largest Donor (current): Gates Foundation (3-year, \$39M grant for individual surveys and the Program)

*Note: When we speak about the future of the Program, we are referring both to individual surveys and to the shared infrastructure that enables their collective value. In this context, the surveys themselves will not necessarily be “narrower”; rather, **the broader Program has a narrower scope than pre-2025**, albeit one still firmly centered on rigorous data collection and sustained data availability.*

The Future: Innovations

Focus: Intentional Evolution

Reduce cost; improve timeliness; preserve quality, comparability, accessibility; continue to respect and reflect country-ownership.

Currently testing three AI innovations:

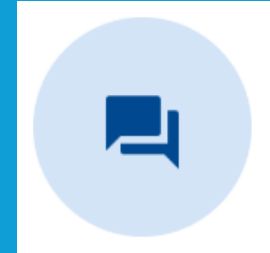
Data Quality
Data Processing



Data Availability
Report Writing



Data Use
Natural Language Data Analysis



The Future: Partnerships

1. Forge new partnerships to further safeguard the DHS Archive.

- Build intentional redundancy.

2. Strengthen relationships with partner countries.

- Elevate country needs and priorities.

3. Strengthen and build relationships with existing and new funders.

- Expand support for new surveys + for the Program's evolution– the what (e.g., technical innovation) and the how (e.g., leadership / management / operations).

Map. The DHS Program has implemented surveys in 90+ countries over 40 years.



The Future: Visioning, Intentional Evolution

As the DHS Program evolves, five key features must be preserved for the “global good” to be maintained:



Closing, Questions, and Discussion

The DHS Program is stabilized and change continues.

Stability gives us the opportunity to vision and act as we collectively create the next iteration of the global good—preserving those elements that make DHS so valuable, while evolving to better reflect data needs, local capacities, technological advances, and financial constraints.

It's a period of individual and collective agency!

Group Discussion

Sunny Kim
IFPRI

Melinda Munos
JHU

Lunch Break



*Please join us for a group
photo on the terrace*

Country Case Discussion Assignments

Philippines

- Jennilyn Ygaña
- Ootty Escubil
- Masako Horino
- Saskia Osendarp
- Kristen Hurley
- Nkeiru Enwelum
- Madison Sullivan

Indonesia

- Hera Yusuf
- Lovely Daisy
- Otte Santika
- Sorrel Namaste
- Rajiv Rimal
- Melinda Munos
- Madeleine Short Fabic

Nepal

- Akriti Singh
- Manish Guatam
- Sasmita Poudel
- Sunny Kim
- Chika Hayashi
- Ivette Contreras

Rwanda

- Stephen Rulisa
- Keith West
- Sara Beth Riese
- Anne Provo
- Jennifer Busch-Hallen
- Filomena Gomes

Ethiopia

- Atkure Defar
- Kenda Cunningham
- Louise Mwirigi
- Rolf Klemm
- Bree Morgan
- Zeina Sifri

Uganda

- Monica Fox
- Rebecca Nerima
- Robert Black
- Monica Kothari
- Martin Mwangi
- Cassandre Bechoua
- Katie Stevenson

Proposal: what needs to be done in countries

- ✓ Add monitoring & measurement to the national MMS roadmap – put on agenda
- ✓ Identify & advocate for feasible & impactful *long-term* changes to national information systems
- ✓ Adopt cost-effective approaches to collect & share timely prioritized data *during the transition (short-medium term)*

What is needed to support these actions?

tools | guidance | advocacy materials | TA | research

PART 1: What needs to be done in specific countries?

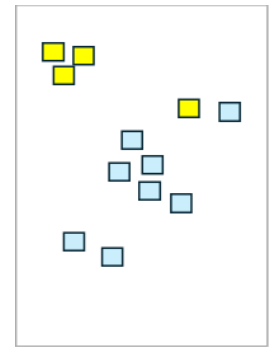
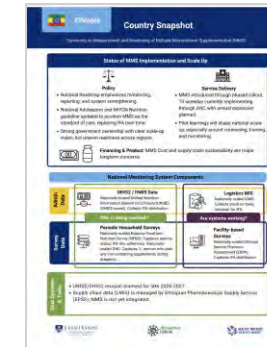
Get situated (10 min)

1. Introductions (as needed)
2. *Individual*: review the country snapshot
3. *Group*: country representative(s) briefly answer clarifying questions

Frame the issue/need/goal (5 min)

1. Country representative(s) share what they want to discuss given where country is in M&M
2. *Group*: specify the issue/need/goal :
How might we..... get more regular data on [adherence]?
How might we.... advocate for resources for data collection?
3. Write topic at top of the flip chart

Materials for Groups



- ✓ Add monitoring & measurement to the national MMS roadmap – put on agenda
- ✓ Identify & advocate for feasible & impactful *long-term* changes to national information systems
- ✓ Adopt cost-effective approaches to collect & share timely prioritized data *during the transition (short-medium term)*

PART 1: What needs to be done in specific countries?

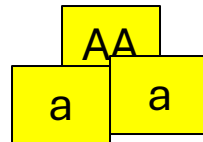
Discuss/brainstorm how to address issue/need/goal (10-30 min)

1. Capture ideas on sticky notes & post on white board

ONE
idea per
note!

Follow the “rules” of brainstorming!!

Group similar ideas & label



Repeat with other issue/need/goal as time allows.... (10-20 min)

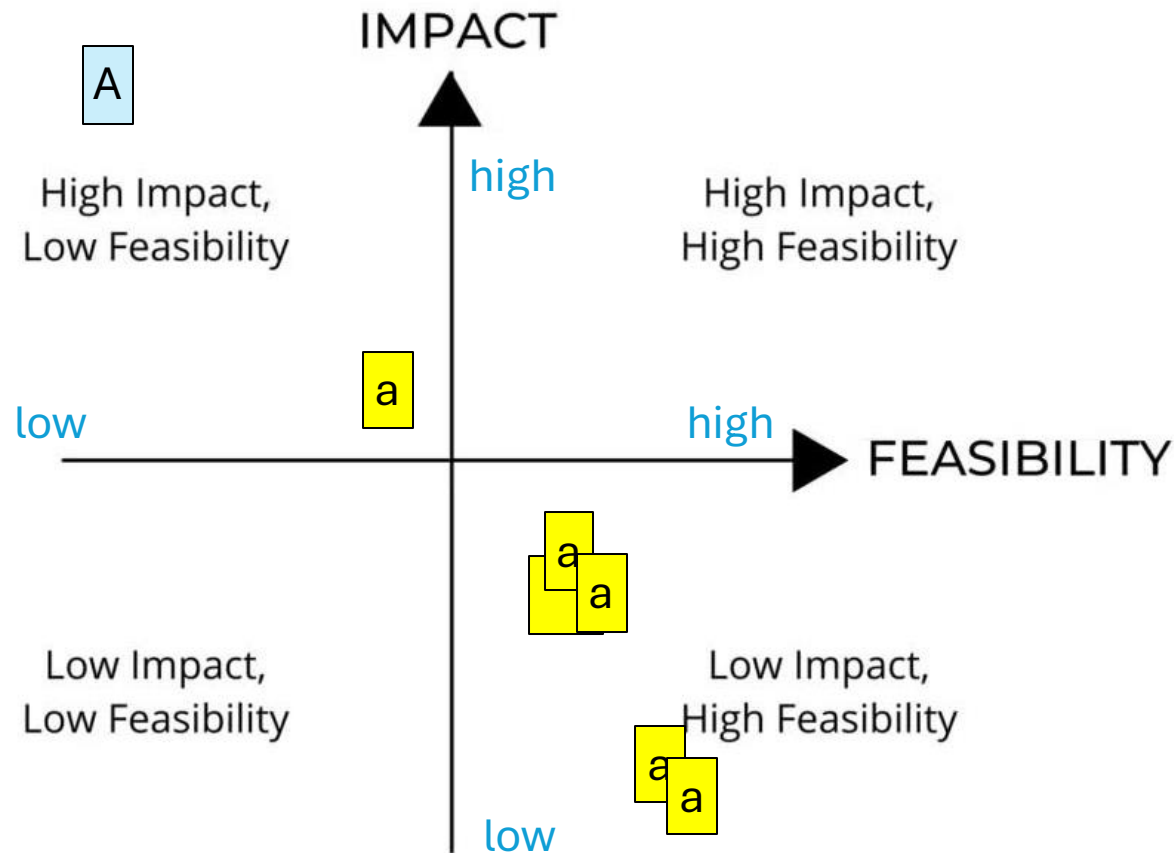
- ✓ Add monitoring & measurement to the national MMS roadmap – put on agenda
- ✓ Identify & advocate for feasible & impactful *long-term* changes to national information systems
- ✓ Adopt cost-effective approaches to collect & share timely prioritized data *during the transition (short-medium term)*

IDEO 

Rules of Brainstorming

-  Defer Judgment
-  Encourage Wild Ideas
-  Build on the Ideas of Others
-  Stay Focused on the Topic
-  One Conversation at a Time
-  Be Visual
-  Go for Quantity

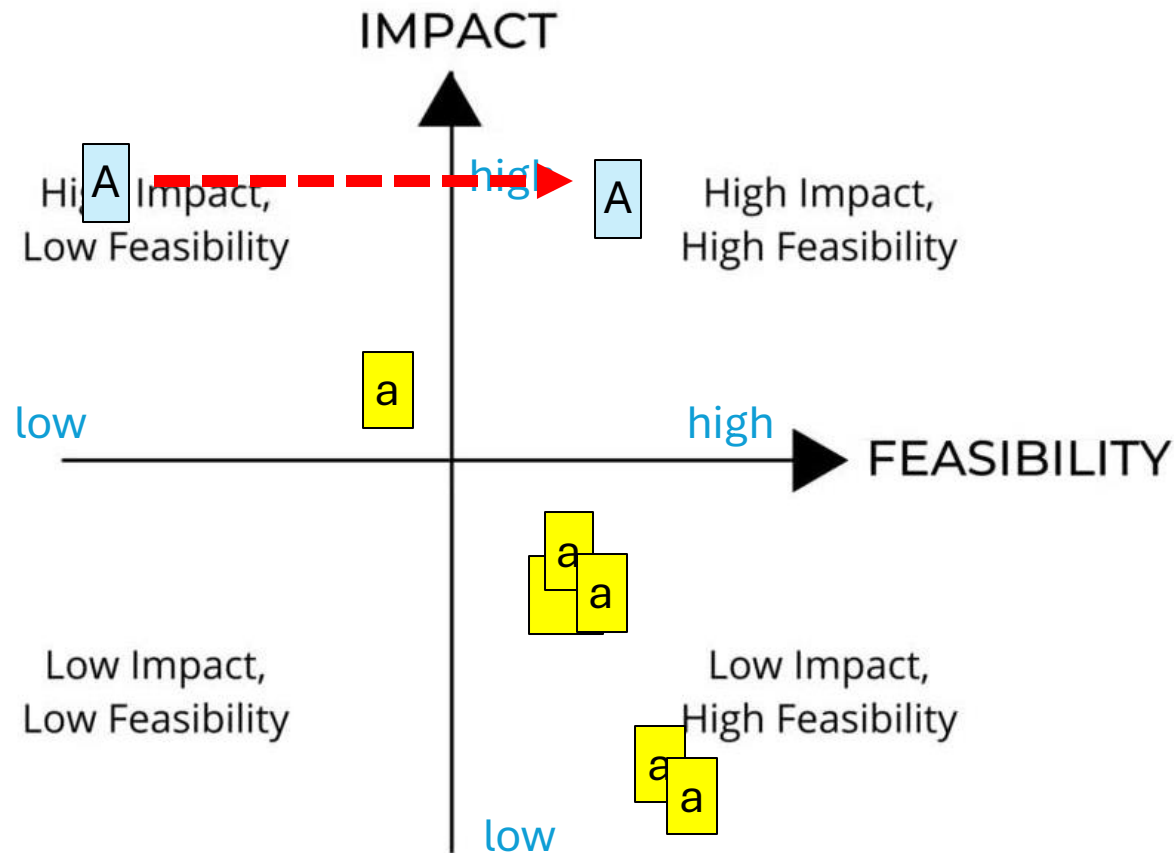
PART 2a: Prioritize ideas by impact vs. feasibility



IMPACT on issue/need/goal

FEASIBILITY given current knowledge, capacity & other resources

PART 2b: What is needed to increase feasibility?



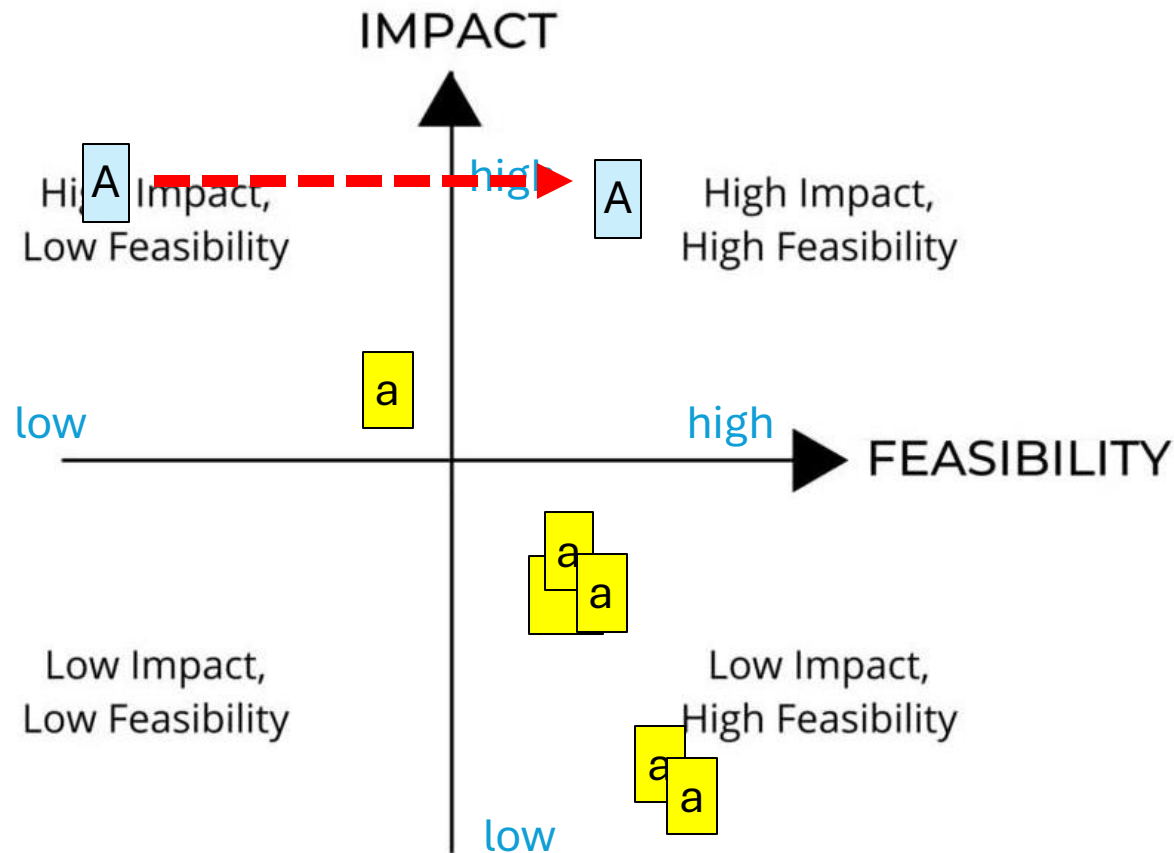
What is needed to make it feasible?

tools | guidance | advocacy
materials | TA | research

If possible, give some details:

- *what core content / advise?*
- *who is positioned to provide it?*
- *when is it needed?*

PART 2b: What is needed to increase feasibility?



What is needed to make it feasible?

tools | guidance | advocacy
materials | TA | research

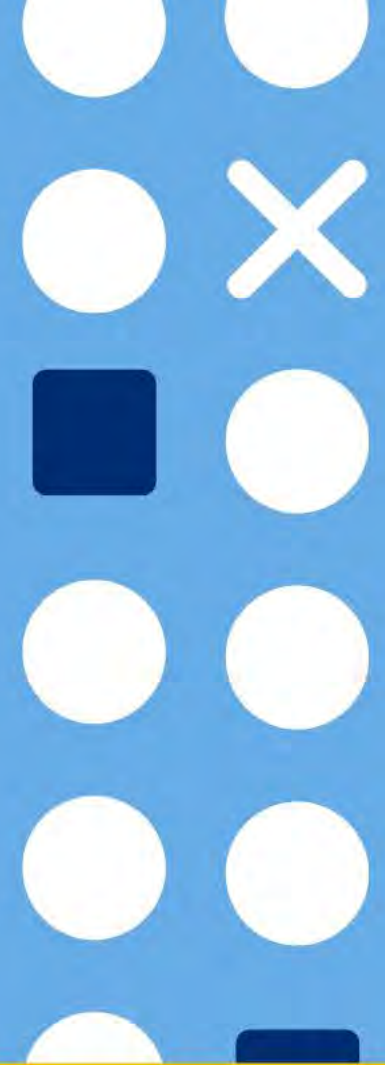
If possible, give some details:

- *what core content / advise?*
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- *when is it needed?*

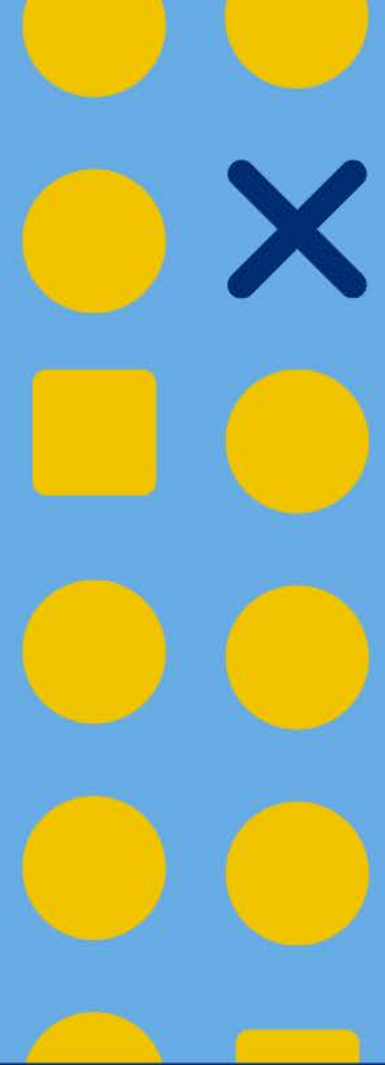
5 min to report out : issue & "what is needed?"

Session 4

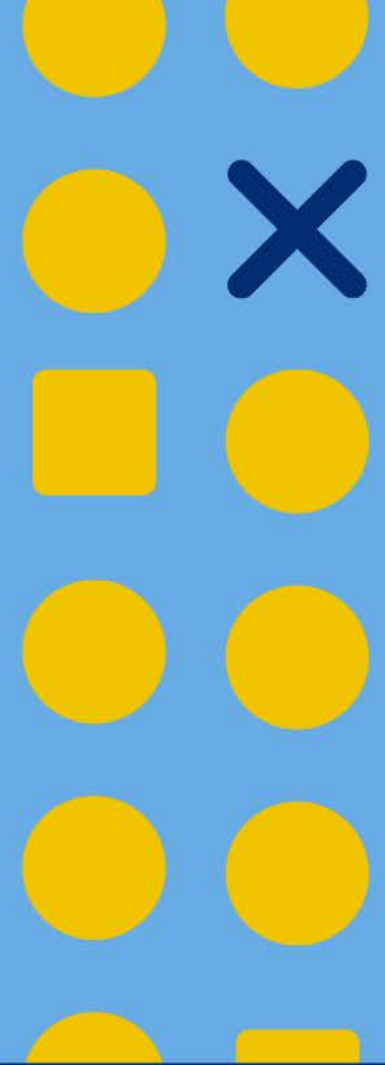
Country Applications & Priorities



Country Case Discussion

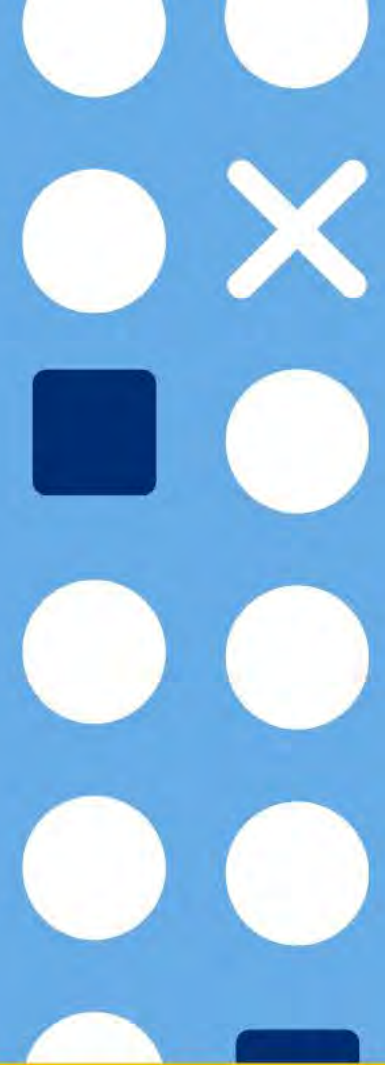


Country Case Discussion: Priority Setting



Session 5

Synthesis of Priorities for Advocacy & Action



Review of Priorities Identified Across Meeting

Shelley Walton

JHU BSPH

Rebecca Heidkamp

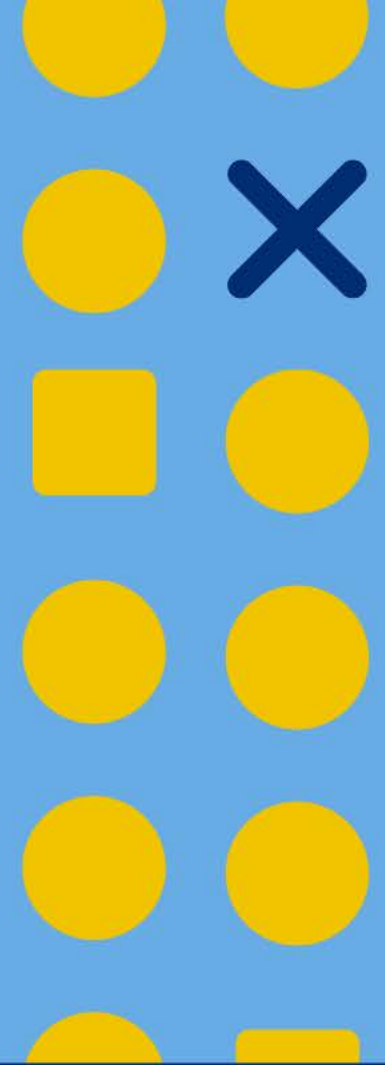
JHU BSPH

Synthesis Panel

Integrating Monitoring Systems into MMS Scale-up Framework: What are common priorities & next steps?

Rolf Klemm

KHI | BSPH

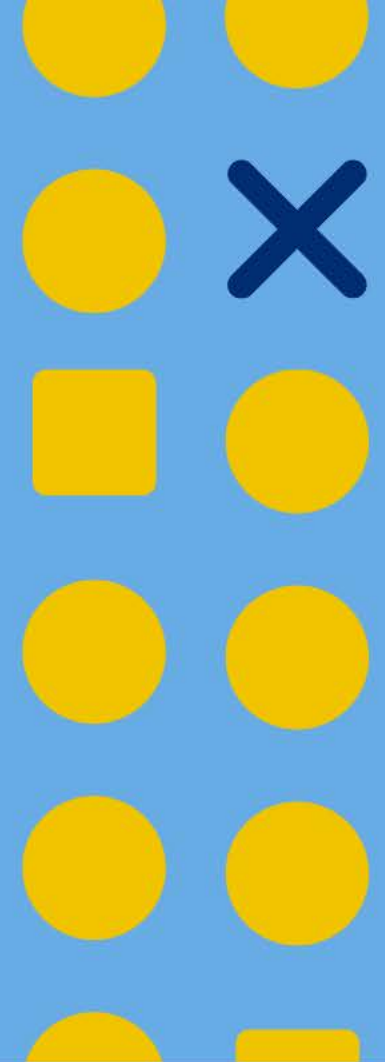


Synthesis Panel

Financing MMS Monitoring and Measurement Priorities

Saskia Osendarp

MNF



Closing Remarks

Martin Mwangi
MNF-HMHB

Rebecca Heidkamp
JHU BSPH

Thank you!



**Please take 5 minutes
now to fill out evaluation**