

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

21–22 April 2026 • MEETING REPORT

Johns Hopkins Bloomberg Center, Washington, D.C.



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Acronyms

AI	Artificial Intelligence
ANC	antenatal care
CHW	community health worker
CNF	Child Nutrition Fund
DHIS	District Health Information System
DHS	Demographic and Health Survey
DInA	[Micronutrient] Data Innovation Alliance
EPHI	Ethiopia Public Health Institute
FASTR	Frequent Assessments and Systems Tools for Resilience
HMIS	health management information system
HKI	Helen Keller International
IFAS	iron and folic acid supplements/supplementation
JHU	Johns Hopkins University
LMIS	logistics management information system
LSMS	Living Standards Measurement Survey(s)
MMS	multiple micronutrient supplements/supplementation
R4D	Results for Development

Executive Summary

• Meeting purpose

On April 21–22, 2026, by the Johns Hopkins Bloomberg School of Public Health with Healthy Mothers Healthy Babies (HMHB), a program of the Micronutrient Forum (MNF) convened more than 50 technical experts, implementing partners, national government stakeholders, researchers and donors at the Johns Hopkins Bloomberg Center in Washington, D.C. to discuss how to address monitoring and measurement issues related to country-level transitions from iron folic acid supplements (IFAS) to Multiple Micronutrient Supplements (MMS) for anemia prevention and to support a healthy pregnancy. Meeting objectives included: 1) to build consensus that monitoring and measurement should be recognized as a core pillar of the MMS introduction and scale-up; 2) to examine information, monitoring actions, and systems integration needed across the introduction and scale-up process; 3) to identify and prioritize needs for guidance, technical assistance, and implementation research; and 4) to strengthen stakeholder alignment around an actionable agenda for MMS monitoring and measurement.

• Day 1 & 2 proceedings

Day one focused on building shared understanding. Meeting organizers made the case for elevating monitoring systems in the global MMS introduction and scale-up framework to be on par with policy, financing, product quality, and delivery. Participants from Nepal, Ethiopia, and Rwanda presented their monitoring system challenges and opportunities related to the transition from IFAS to MMS. Data experts explained potential implications of the transition for four complementary national information systems data sources: logistics management information systems (LMIS), health management information systems (HMIS), periodic household surveys, and facility surveys. Then specific issues related to monitoring of supply chain, implementation (coverage, quality, adherence), and anemia treatment were each addressed. Research findings from Ethiopia, Bangladesh, and Nepal supported new approaches to survey-based monitoring and reinforced the importance of distinct MMS product branding in countries.

On day two, the focus shifted to action. Participants from Indonesia and the Philippines shared how they are integrating MMS into national data systems, facing similar data-linkage and data quality obstacles. There was a series of presentations about data analysis, costing, and the status of global data initiatives and innovations. Participants were then divided into six country case groups to identify technical support priorities. To end the meeting, two panels converged on common themes: need for harmonized monitoring standards, stronger technical guidance, and dedicated financing to support monitoring systems. Donor representatives identified the Child Nutrition Fund as the most likely channel for country-level monitoring investment.

• Action Priorities

Participants called for pragmatic, country-led investments that strengthen — not duplicate — existing information systems. They recognize that many of the challenges around monitoring of MMS introduction and scale-up reflect wider issues with national information systems (e.g. lack of digitization).

Prioritized guidance, technical assistance, and implementation research needs include:

Measurement guidance & tools

- **Monitoring framework:** description of what data to collect across phases of MMS introduction and scale-up and recommended data sources; including interim methods
- **Standard indicators:** set of prioritized indicators to monitor MMS stocks, MMS provision, timing of initiation, and adherence for both routine and survey data sources.
- **Data quality assessment:** Tools for conducting data quality audits, data tracing and resources for data quality assessment and data quality assurance.

Technical assistance & capacity strengthening

- **Country case studies:** Documentation of successful monitoring system models and measurement innovations that can be applied in other contexts.
- **Inclusion of monitoring systems in MMS roadmap & costed plan:** Guidance that builds from country experience on how to capture and cost monitoring systems investment priorities in roadmaps.
- **Data literacy:** Increase people's capacity to interpret and apply data for planning and program improvement.
- **Coordination and oversight:** Continued investment in global coordination mechanisms and expanding to include partners that can support measurement and monitoring.

Implementation research

Implementation Research can be used to inform all guidance and TA priorities listed above. Topic areas include designing and/or testing the acceptability, fidelity, feasibility, validity, and usability of:

- Core indicator sets that provide actionable information to decision makers
- Recall-based methods for assessing adherence to IFAS/MMS
- Data registers and reports for providers/program leadership and maternal health cards for women
- Branding strategies that increase women's ability to recognize MMS as distinct from IFAS and other micronutrients
- Approaches for improving use of data to inform implementation

Strategic financing: Countries should include costs related to measurement and monitoring in Child Nutrition Fund applications. It is less clear how global coordination and technical support partners can access funding to respond to country demands for technical support. MMS donors need to address this unmet need.

Overall, participants agreed monitoring must be built into MMS scale-up from the start and that MMS stakeholders must actively advocate for their measurement priorities within their country's systems. Converting that consensus into funded, coordinated action is the work that remains.

Background

- MMS is a high-impact, cost-effective intervention to reduce adverse birth outcomes. More than 30
- countries are exploring a transition from iron and folic acid supplementation (IFAS) to MMS as the standard of care for iron-containing supplements during pregnancy. As the transition accelerates, countries need to monitor whether MMS is reaching facilities, being delivered as part of quality antenatal care (ANC) and whether women are consuming sufficient MMS throughout their pregnancy for impact.

Roll out of new interventions can advance faster than the national information systems needed to monitor their performance. Data collection and reporting tools, such as health management information system (HMIS) registers and national survey questionnaires, are updated during brief windows of opportunity that may only come once per decade. The nutrition community must be ready to recommend and advocate for feasible changes to these information systems to meet the data needs of evolving MMS programs. This requires guidance and, in some cases, applied research to identify the best approaches to obtain reliable, accurate and actionable data.

Global partners have adopted a common framework that defines stages of MMS introduction and scale-up across four pillars / domains: 1) policy and regulation, 2) financing, 3) quality product, and 4) delivery channels. Elevating monitoring systems as a fifth pillar in the framework will reinforce the importance of assessing information needs early in the process, planning, testing, and advocating for changes to existing systems, and justify resource mobilization.

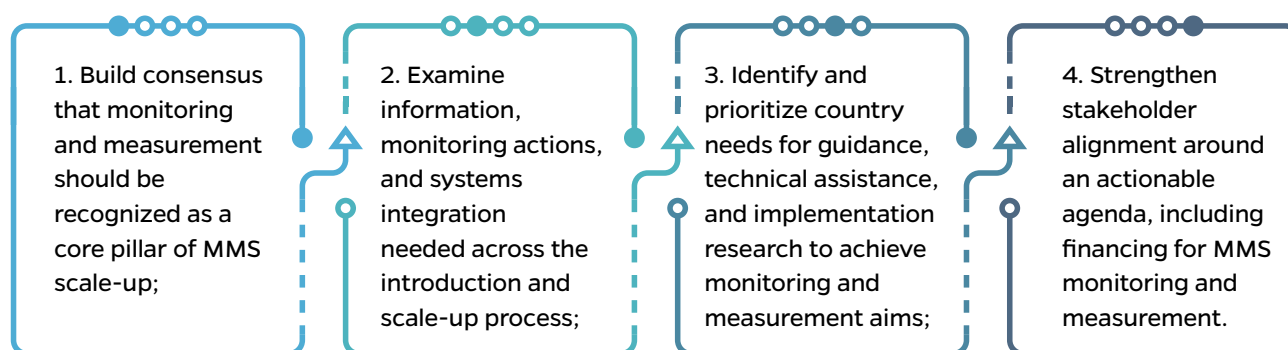
Now is the time opportunity to learn from IFAS monitoring experiences and work to strengthen the national information systems that countries and partners use to measure stock availability, delivery, coverage, adherence, equity, and program quality.



Meeting Description

The two-day meeting was convened by the Johns Hopkins Bloomberg School of Public Health with Healthy Mothers Healthy Babies (HMHB), a program of the Micronutrient Forum (MNF). Core funding was from Johns Hopkins University (JHU). Eleanor Crook Foundation (ECF) and Vitamin Angels contributed to participant travel costs.

The four meeting objectives were to:



During the meeting, approximately 50 participants came together representing national and global perspectives. Participants included:

- technical experts in maternal nutrition, implementation, and measurement;
- implementing partners supporting MMS introduction and scale-up;
- government stakeholders responsible for nutrition, antenatal care, and routine information systems;
- researchers focused on indicators, surveys, and learning agendas; and
- donors investing in maternal nutrition and health systems strengthening

Annex 1 is the meeting agenda. Annex 2 is the full participant list

Day 1 Proceedings

Day 1 of the convening focused on the first two meeting objectives. The day began with introductory presentations. This was followed by presentations on the building blocks of national monitoring systems. The remainder of the first day was spent presenting and discussing specific topics related to monitoring of MMS supply chains, implementation, and anemia treatment.

Session

1

Setting the Stage

The goal of session 1 was to lay out the motivation and objectives for the convening and, by featuring multiple country presenters, to reinforce that country perspectives will be at the center of defining monitoring and measurement needs and priorities.



KEY POINTS FROM SESSION PRESENTATIONS

Rebecca Heidkamp (JHU) and **Martin Mwangi (MNF/HMHB)** opened the two-day meeting by reviewing the agenda and describing the meeting objectives. They made a case for elevating monitoring systems to a “5th pillar” of the 2024 Common Framework for MMS Introduction & Scaling (figure 1). This requires supporting full integration of MMS into national information systems while also investing in strengthening the underlying information systems.

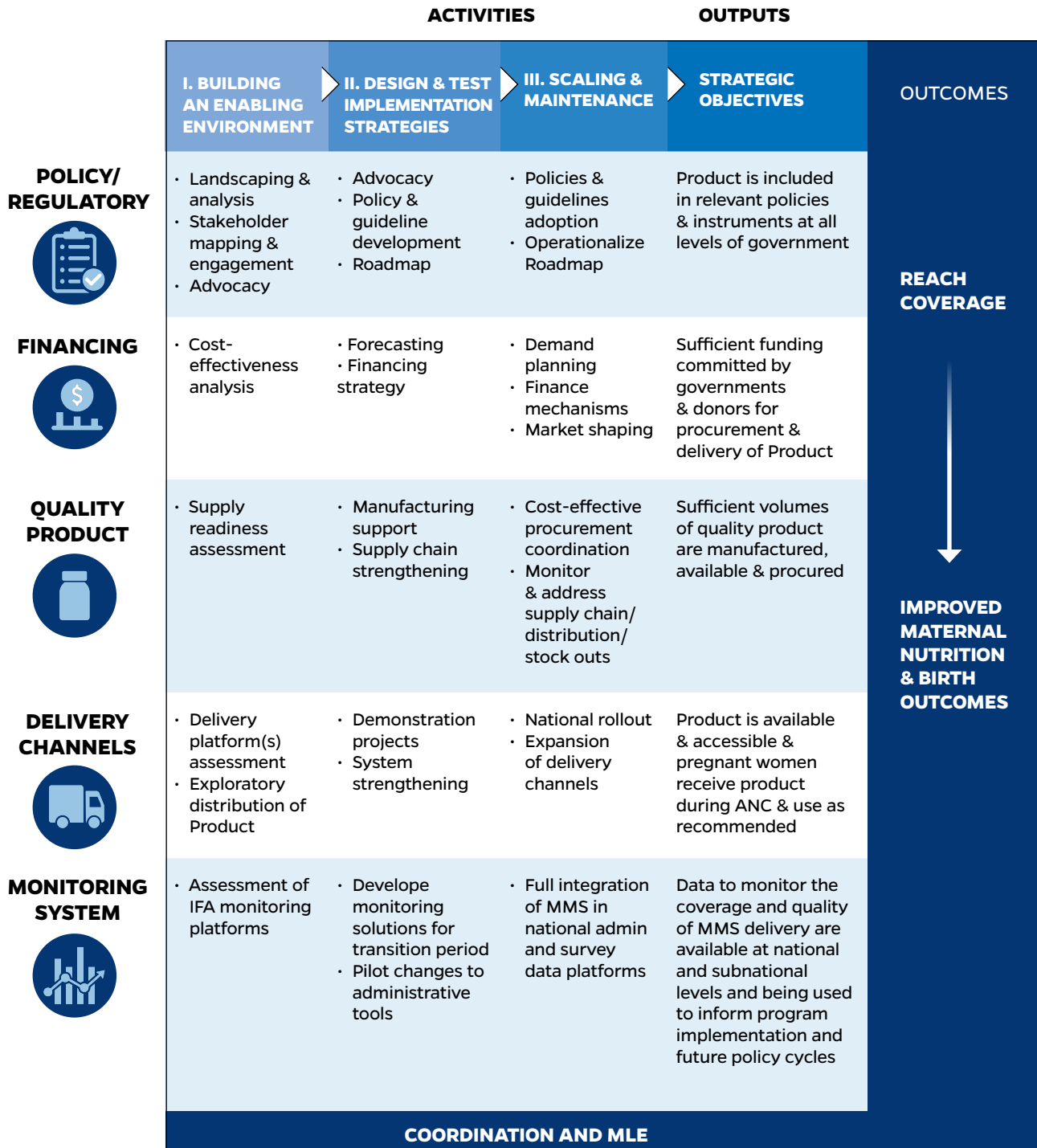


Figure 1 Common framework for MMS introduction and scaling with monitoring systems added as pillar

Robert Black (JHU), Lisa Rogers (WHO), and Saskia Osendarp (MNF) provided snapshots of relevant global evidence, policy process and data systems advocacy. R. Black presented current evidence about MMS effectiveness with potential implications for cut-off values used for monitor initiation of and adherence to iron-containing supplements. Impact on low birthweight and preterm births is greater among women who initiate MMS before 20-weeks gestation and those who consume at least 180 tablets throughout pregnancy ([Smith, 2017](#) and [Smith, 2025](#)). Benefits on birth outcomes are more pronounced among pregnant women who are anemic or underweight ([Smith, 2017](#)). L. Rogers highlighted the timeliness of the meeting topic for global policy and the potential for applying learning from MMS monitoring to other supplementation strategies including calcium. Finally, S. Osendarp shared about ongoing global initiatives to build consensus on micronutrient data, including the Collective ACTION Plan for Nutrition Data.

Nepali colleagues **Manish Gautam (Anweshan)** and **Sasmita Poudel (HKI)** shared about efforts to include monitoring systems in their country's [national MMS roadmap](#). M. Gautam presented findings from a landscaping of Nepal's information systems for monitoring IFAS and S. Poudel shared about successful efforts to include monitoring system changes in the national MMS roadmap. Nepal is considering multiple options for how to integrate MMS into HMIS tools including adding a unique column for MMS alongside IFA; stakeholders hope to test options through implementation research. It may take several years before all HMIS tools are updated and distributed.

This was followed by a country spotlight interview moderated by **Rolf Klemm (HKI)** with participants from Ethiopia (**Atkure Defar, Ethiopia Public Health Institute, EPHI**) and Rwanda (**Stephen Rulisa, University of Rwanda**) (in place of Alice Nyamwiza of Eagle Research who was invited but unable to attend). A. Defar, shared that Ethiopia is actively scaling MMS and using a parallel system to track MMS delivery. They are facing challenges with collecting data on adherence and integrating the MMS data into their unified nutrition information system. According to S. Rulisa, Rwanda has a nationwide MMS program and has a largely digitized HMIS with capacity for individual-level tracking. The Rwanda Medical Supplies manages the LMIS to monitor stockouts and prevent wastage, while CHWs monitor the number of women who receive supplements and the number of tablets distributed. Despite the digitized system in Rwanda, human resource capacity constraints remain a barrier to data quality and use of data.

While wrapping up this session, R. Heidkamp proposed three actions that countries could take to strengthen MMS monitoring including 1) add monitoring and measurement to MMS Roadmaps 2) identify and advocate for long-term changes to national information systems and 3) adopt cost-effective interim approaches to collect and share data during the introduction and scale-up period. The subsequent sessions addressed whether these are valid priorities for countries and if so, what is needed to support their implementation.

KEY DISCUSSION POINTS & TAKE AWAYS



Adding monitoring as a “Fifth Pillar” within the Common Framework for MMS Introduction & Scaling is expected to give it more visibility and encourage investment. Guidance for MMS may be revisited again and it is likely that more countries will transition from IFAS to MMS.

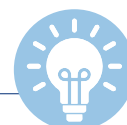
The implementation and monitoring lessons from countries that have already begun that transition will be valuable as other countries begin that process. For example, Rwanda has an advanced HMIS (e.g. able to track individuals) and was a model throughout the meeting.

Session 2

Building Blocks

The primary purpose of Session 2 was to support technical discussions in subsequent sessions by ensuring meeting participants had common core knowledge about 1) MMS implementation approaches 2) stakeholder information priorities and 3) national information systems. The session was moderated by **Monica Fox (JHU)** and **Kenda Cunningham (International Food Policy Research Institute, IFPRI)**.

KEY POINTS FROM SESSION PRESENTATIONS



Jennifer Busch-Hallen (Nutrition International, NI) provided her perspective on information needs and what should be monitored during each phase of the MMS scale-up. She presented on the range of delivery platforms for MMS across country contexts (e.g. private or public providers, ANC at facility, post and community level, private pharmacies) and considered how information systems might vary based on delivery strategy and utilization by women, particularly those who access ANC from multiple providers. She shared examples of information system tools from Pakistan, Nigeria & Rwanda.

Stephen Rulisa (University of Rwanda) reflected on the information priorities of ANC actors, stressing that information should flow between administrative levels related to financing, the product, and the service delivery system. At community level, data systems should be routine and sustainable, in that they do not overly burden health workers to collect or use data.

Data system experts provided overviews of four data sources common to most national information systems: 1) logistics management information systems (LMIS), critical for managing the supply chains and preventing stockouts; 2) HMIS/DHIS-2, which countries use for continuous monitoring of service delivery; 3) periodic household surveys to obtain population-level coverage and outcome level data; and 4) facility surveys to periodically measure facility readiness and quality of care.

Barb Knittel (JSI) described LMIS as product-focused systems used for forecasting and supply management that are unique from the patient-focused HMIS. Key indicators include average monthly consumption (e.g. distribution or use of commodity), months of stock on hand, inventory thresholds and stock status (e.g. expiration). LMIS can adopt innovations such as predictive forecasting, automated alerts, AI-assisted analysis of seasonal trends that flag stockouts or expiries before they occur. Donors have historically driven LMIS design and there is a need for domestic investment, better integration with HMIS, and digitization.

Chika Hayashi (UNICEF) offered a broad definition of HMIS as routine administrative data collected across delivery platforms (e.g., facility, community events, campaigns, surveillance, civil registries and vital statistics). HMIS are complex and often do not integrate across platforms. Adding data for a new program or intervention often requires updating multiple data collection and reporting tools (e.g. health cards, registers,

reporting forms) at different levels of the health system; many countries use a mix of digitized and paper-based tools. There is significant competition for limited space in the tools and, historically, nutrition has been less well represented in HMIS content than more-resourced areas such as AIDS, tuberculosis and malaria. Nutritionists must be prepared to advocate for changes and UNICEF has flagged 38 countries with upcoming opportunities to inform their HMIS design. HMIS innovations include digitizing patient contacts, use of unique identifiers, longitudinal monitoring of mother-child pairs, automated insights for data use, and integrating citizen data and community information.

Sorrel Namaste (MNF-Micronutrient Data Innovation Alliance, DInA) emphasized unique advantages of household surveys including that they capture data on people who do not access health systems and can collect standard, methodologically consistent data over time and across countries. Challenges include frequency, cost and potential recall bias on accuracy. Best practices for collecting survey data on IFAS/ MMS include: limiting the recall period to a current pregnancy or a past pregnancy within the last two years; showing examples of the supplements/packaging; and, ideally, asking questions in ways that differentiate between use of supplements for prevention vs. treatment. She also provided an overview of countries with current data on IFAS coverage from global survey programs.

Sara Beth Riese (World Bank Global Financing Facility, GFF) presented several global survey platforms for measuring health systems quality of care including WHO's Service Availability and Readiness Assessment (SARA), the DHS Program Service Provision Assessments (SPA), the World Bank's Service Delivery Indicator (SDI) surveys, and the GFF's Frequent Assessments and Systems Tools for Resilience (FASTR) health facility assessments. All of these measure elements of service availability and readiness. The SPA and SDI also include observations of client-provider interactions. The FASTR is administered by phone with good validity. Investment in national facility surveys is declining; while phone surveys are cost effective, they do not allow for observation of care.

KEY SESSION DISCUSSION POINTS & TAKE AWAYS



In summary, S Riese reminded participants that the four data sources complement each other to fully monitor MMS programs. It is not feasible to get all prioritized data from only administrative or only survey data sources.

A common limitation highlighted across presenters is the lack of distinction between MMS and IFAS in current data sources. Survey indicators and questionnaires refer to “iron-containing supplements”; most HMIS and LMIS systems do not track the supplement types separately. In most contexts information systems will need to distinguish between them because IFAS will continue to be used for anemia treatment alongside MMS use for prevention.

New digitization and AI tools are available or under development for all four types of data sources. It will be important to leverage and reinforce these wider system innovations as part of the transition to MMS monitoring.

Session 3

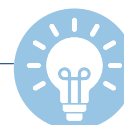
Specific Topics in MMS Measurement

Session 3 covering specific topics in MMS measurement was split across the two days and was moderated by **Melinda Munos (JHU)** and **Sunny Kim (IFPRI)**.

On Day 1, session 3 opened with a brief presentation by the moderators followed by two examples of monitoring systems currently being used to track MMS at scale. This was followed by technical presentations and discussions for three measurement sub-topics: 1) supply chains; 2) implementation (coverage, quality, adherence); and 3) anemia treatment.

KEY POINTS FROM SESSION PRESENTATIONS

To start the session, the moderators provided an overview of the impact pathway for MMS/IFAS delivery and the data sources that commonly collect data for different steps along the pathway (figure 2).



Quality of Care

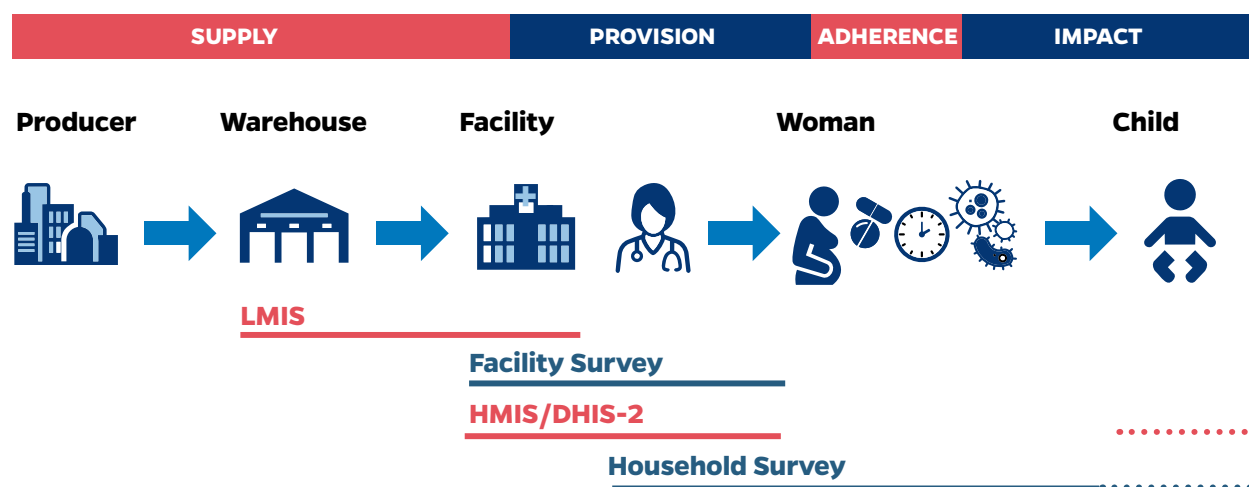


Figure 2 Data sources commonly used to capture data on stages of IFA/MMS delivery in national information systems

Louise Mwigiri and **Nkeiru Enwelum (UNICEF)** shared how UNICEF's [NutriDASH](#) maternal nutrition module is used to track country data on delivery of MMS, IFAS, and related counseling. Data are reported by UNICEF country offices using available data sources (e.g. HMIS/DHIS2, national nutrition information systems, implementing partners) and are validated with the government. In 2024, 47 of the 123 countries that completed the maternal nutrition module reported MMS programs; DRC and Uganda are examples of countries that have transitioned from reporting partner data to government data. A second UNICEF platform, the [Nutrition Market Dashboard](#), is being used to monitor global MMS supply; it is also used for global ready-to-use therapeutic foods (RUTF) supply.

Masako Horino (UNWRA/JHU) shared about a robust MMS monitoring system, which was developed by UNWRA Jordan during implementation research and is now also used in UNWRA clinics in Syria and Lebanon. It uses tally sheets to track MMS inventory, an MMS eHealth module, and monthly reporting of MMS coverage by facility. The system originally captured adherence at each clinic visit, but this was discontinued because midwives found data capture too time consuming.

● Sub-topic Supply Chain

● **Otte Santika (Vitamin Angels)** and **Hera Yusuf (Ministry of Health, Republic of Indonesia)** described Indonesia's national MMS program. Since it launched in October 2024, it has reached 2.5 million women across 208 districts. MMS and IFAS are both captured in the HMIS, but only IFAS is currently included in the e-LMIS. Procurement of MMS commodities is transitioning from donor-led to government-led with local production expected by 2029. MMS supply data are currently captured using a Google form and will be integrated into the e-LMIS once the government officially takes the lead on procurement. The country could use technical support for e-LMIS updates, including addressing harmonization issues between LMIS and the HMIS.

KEY SUB-TOPIC DISCUSSION POINTS & TAKE AWAYS



Currently, approximately 90% of the global MMS supply is procured through UNICEF, so the [Nutrition Market Dashboard](#), provides reliable supply data for most countries. However, as countries shift to government-led procurement and possibly local MMS production, UNICEF's global dashboard will need to add new MMS sources.

Countries may need technical support to integrate MMS supply chain indicators into existing LMIS.

● Sub-topic: Implementation- coverage, quality, and adherence

● The question of how and how often to collect adherence data has been a priority issue in the MMS community but remains unresolved. This sub-topic session included five presentations of research findings related to improving measurement of MMS coverage and adherence.

M. Munos opened with framing remarks about data needs (figure 3) and four factors to consider when identifying the preferred data source (cost/burden, timing, constructs, sufficient accuracy for utility). She presented a basic framework for indicator validation studies (specificity, sensitivity, AUC) and emphasized the need to define “good enough” validity for different data use cases.

Daryl Stephens (JHU) presented findings from a qualitative study in Ethiopia, which collected data on feasibility of adherence recall by women. Recommendations for improving adherence measurement included: reduce the recall period to the previous week or month; frame questions using discreet periods (i.e. daily, weekly, or monthly) and instead of asking about days pills were taken, ask women about disruptions to their routine and determine the number of missed days. Based on the study, clear bottles and blister packs were also recommended to facilitate reporting of adherence.

Emily Keats (JHU) presented validation findings from an MMS demonstration program in Ethiopia that gave pregnant women a 100-count bottle of MMS at enrollment and followed up with a home visit about 30 days later. The visit included an interview, pill count and bottle weighing to assess adherence. The study concluded that bottle weights are strongly correlated to pill counts; women's recall may have sufficient validity but requires more study.

Shelley Walton (JHU) presented data from [formative research in Ethiopia and Bangladesh](#) to improve wording of household survey questions and response items for coverage of and adherence to iron-containing supplements. Generally, women in the study did not understand MMS or similar terms; they used "iron" to refer to both IFAS and MMS. Authors concluded that differentiation between IFAS and UNIMAPP MMS requires distinct branding and widespread promotion. The researchers recommend designing visual aids that show both packaging and pills. The study found that 1-week or 30-day recall of adherence was appropriate for currently pregnant women; recently delivered women could not accurately report pill count across their entire pregnancy. Authors suggested asking recently delivered women more generally about the "number of months" they took pills during their last pregnancy. A set of questions from the study is available but needs to be validated.

S. Poudel (HKI) shared [findings from a validation study in Nepal](#), which compared pill counts to women's recall of the number IFAS/MMS pills consumed or missed. It also compared results from mobile phone and in-person interviews in a smaller sub-study. They found that asking about pills consumed was more accurate than asking about missed pills. Currently pregnant women accurately recalled the number of pills taken over the previous 30 days but recently delivered women did not accurately report pills across pregnancy. Mobile phones had lower validity than in person interviews, but may be sufficient for monitoring needs. Authors recommend further study of mobile phone approaches.

M. Horino (UNWRA/JHU) shared [results of a clinic-based study](#) that compared self-reported MMS adherence with bottle weights. Recall was measured by asking women the number of days missed during four follow-up ANC visits; these were strongly correlated with bottle weights, suggesting that women's recall of the number of pills missed since the last visit is a valid measure of adherence.

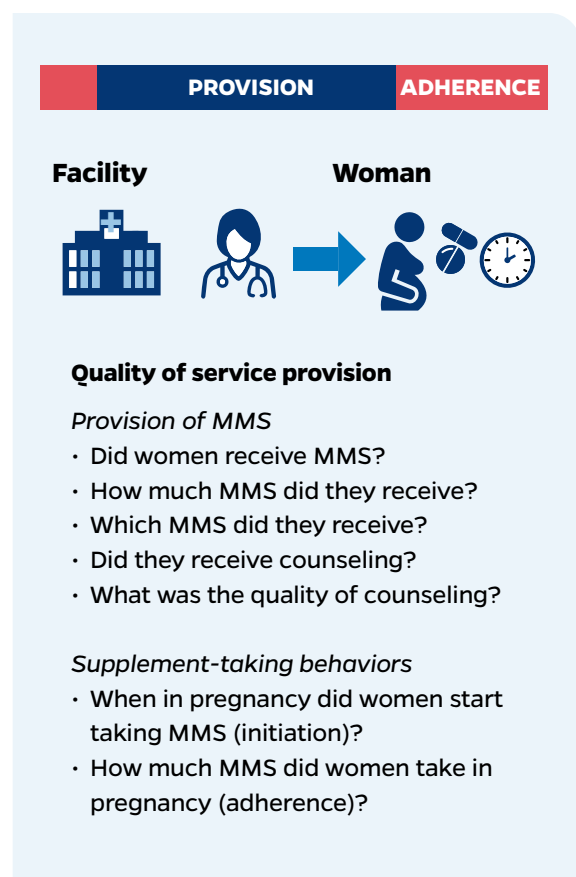


Figure 3 Questions related to MMS implementation that should guide monitoring data priorities

KEY SUB-TOPIC DISCUSSION POINTS & TAKE AWAYS



Three issues related to monitoring implementation were addressed by the studies presented and/or subsequent discussion: 1) factors that affect women's recall, 2) distinguishing provision of IFAS vs. MMS and 3) measuring adherence to iron-containing supplements.

Adherence monitoring is a shared priority of country and global MMS stakeholders. Countries want more frequent data. Capturing adherence in administrative data (e.g. HMIS registers) is not recommended due to time burden for provider and response bias. Other data sources (e.g. surveys) should be used for adherence measurement.

There was clear consensus from the studies presented during the session:

- asking “recently delivered” women (e.g. live birth in the last 2 years) to recall the number of pills consumed throughout a pregnancy is not recommended; these estimates are not “good enough” for monitoring purposes.
- pregnant women can accurately recall adherence over shorter periods (~30 days);
- distinct MMS branding is needed for women to differentiate it from IFAS

There is conflicting evidence about which phrasing produces more accurate results: asking about “days consumed” or “days missed”.

Changing indicators will have significant implications for monitoring trends at national and global levels; guidance is needed on how to navigate the change. This includes: 1) validating and widely disseminating a better measurement approach; and 2) advocating at national and global levels for changes in indicators and recommended methods.

The session moderators presented figure 4 as a synthesis of current evidence for which platforms should be used to collect data for specific implementation indicators. The studies presented during the session did not address measuring timing of initiation or receipt of counseling – but the moderators utilized other available evidence from [Kosovo](#) and [India](#). In the table, green shading indicates recommended, red not recommended yellow may be used with context-specific considerations

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

Figure 4 Summary of current evidence: recommended platforms for collecting data on MMS/IFAS (implementation)
■ recommended ■ not recommended ■ may be used with context-specific considerations

Subtopic: anemia treatment

Filomena Gomes (MNF-HMHB) summarized the currently proposed ANC anemia treatment protocols; pregnant women diagnosed with anemia, particularly mild to moderate anemia, should generally be given MMS plus additional iron or IFAS. This presents challenges for monitoring because most national information systems do not distinguish between supplements used for anemia prevention vs. treatment. The next morning participants watched a pre-recorded presentation by Narendra Patel from Institute of Economic Growth, India that described India's systems to comprehensively monitor both anemia prevention and treatment. In some states they have individual-level tracker data on pregnant women, that supplements HMIS, and provides data on anemia treatment.

KEY SUB-TOPIC DISCUSSION POINTS & TAKE AWAYS



The ongoing use of IFAS or iron for anemia treatment alongside MMS for prevention presents monitoring challenges, particularly for harmonization across HMIS and LMIS information systems.

No specific recommendations or requests emerged from the brief discussion by meeting participants. Generally, countries should consider: a) whether and how they want to specifically monitor anemia treatment in HMIS; and b) ongoing use of IFAS/iron for treatment in LMIS.

Day 2 Proceedings

The second day's agenda was focused on meeting objectives 3 and 4 - moving towards a common actionable agenda. The day started with another country spotlight interview and the second part of session 3. The rest of the day was spent in participatory group work and plenary discussions.

Opening session: country spotlight interview

KEY POINTS FROM SESSION PRESENTATIONS



Kristen Hurley (Vitamin Angels/JHU) moderated a second country spotlight interview with **Lovely Daisy (Ministry of Health, Indonesia)** and **Jennilyn Ygana (Federal Department of Health, Philippines)**. Indonesia recently added MMS to their HMIS ANC register and reports. Women record adherence in a maternal and child health handbook and data are captured by providers during ANC visits. However, data quality has been a challenge. Another challenge is the need for manual triangulation between LMIS and HMIS data because the systems are not linked. The Philippines began collecting administrative data on MMS in 2025 and are working on how to distinguish IFAS from MMS distribution. They are also developing a set of standardized indicators to measure MMS-specific data in upcoming household surveys.

Session 3

Specific Topics in MMS Measurement (continued)

The second part of session addressed diverse topics including data analysis and visualization, costing M&E in national roadmaps, and updates from three global initiatives relevant to collecting data in a resource constrained time.

KEY POINTS FROM SESSION PRESENTATIONS



R. Heidkamp (JHU) spoke briefly about how data can be more effectively analyzed and communicated to support data use. Examples included visualizing the “opportunity gap” between coverage of the intervention and the delivery platform, co-coverage of multiple interventions, and zero-coverage. These visualizations help implementers identify actionable opportunities for increasing coverage.

Bree Morgan (R4D) presented on R4D’s tools to support costing of M&E in national MMS roadmaps and identification of financing strategies. She shared examples of costing outputs from several country contexts.

Sorrel Namaste (MNF-DInA) shared about ongoing efforts by MNF and the World Bank to engage other stakeholders and design a [Collective Action Plan for Nutrition Data](#) to respond to the changing resource situation and support country-owned nutrition information systems, of which MMS will be one element.

Ivette Contreras (World Bank Living Standards Measurement Study, LSMS) shared LSMS program innovations to adapt to constrained survey budgets. These include shifting survey formats to phone, digital, or mixed formats and exploring responsible use of AI to improve official statistics. LSMS priorities include: 1) build innovation pipelines; 2) limit survey thematic focus; and 3) validate new methods to reach hard-to-reach populations, reduce measurement error and respondent burden.

Madeleine Short-Fabie (ICF-DHS) gave an update on the DHS Program, which has been stabilized after receiving funding to support more limited survey operations and maintain public data archives. Innovations currently being tested to reduce costs and improve timelines include using AI to improve data quality and data processing; using AI to draft standard report chapters from tables; and adding a natural language feature for STATCompiler queries. SPA health facility surveys and the DHS-9 revisions remain “on pause”.

Session

4

Country applications and priorities

The purpose of session 4 was to meet meeting objective 3, “identify and prioritize country needs for guidance, technical assistance, and implementation research to achieve monitoring and measurement aims.”

Meeting participants were divided into six groups and assigned a country case study (Indonesia, Nepal, Philippines, Ethiopia, Uganda, Rwanda). Each group had at least one country representative and received a [country snapshot brief](#) that provided an overview of current MMS transition and monitoring systems. The briefs were developed by the JHU team in advance of the meeting using information from desk reviews and interviews; each brief was validated with country stakeholders including the government.

The groups discussed their case and then brainstormed and prioritized solutions based on their potential impact and feasibility. Each group then identified the tools and resources needed to support implementation of the higher priority solutions. Participants were not deciding priorities on behalf of their assigned countries. Rather they used the country as a scenario to ground discussions. In the next session, common priorities and resource needs were identified across groups. For example, data quality was an issue of concern for multiple countries and common technical assistance requests included standard MMS indicators, data quality standards, sample tools and financial resources.

Table 1 on the following page captures country issues and solutions prioritized by the meeting participants.



Table 1: Country-Specific Issues, Potential Solutions, Priority solutions and resources needed

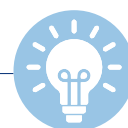
Country	Key Monitoring & Measurement Issues	Potential Solutions	Prioritized solutions	Resources needed
Indonesia	Getting service providers to minimize data entry omissions and errors	Data entry training and skills building, data quality assessments, prioritizing data collection within the health systems, and improving internet access	Establish a clear role for data entry at the health facility level, logic checks during data entry, real-time dashboard for data quality, training	Financing, technical assistance, human resources, standard operating procedures, implementation research
Nepal	Integrating MMS into national HMIS cleanly during provincial level rollout, and ensuring that monitoring is built into the transition, rather than as an afterthought.	Standardizing and reprinting registers, advocacy for standardization across facilities to improve comparability, follow up and exit interviews, using social media platforms to improve consumption, verifying adherence through pill counts or bottle weights	Revising DHIS2 and ANC tools; improving data use at the district level	Training for health workers, capacity strengthening for district level supervisors, updated, standardized reporting forms and registers, exit interviews
Philippines	Harmonizing various administrative reporting systems, strengthening capacity for reporting and data use, linking survey and HMIS data, and increasing understanding about existing data	Documenting/mapping the current system and indicators, building consensus to harmonize data, using standard reporting templates, introducing AI, aligning the timing of data collection to policy reviews, conducting supportive supervision and data quality checks, incentivizing high quality data, building accountability measures, documenting best practices	Mapping the cadence of data collection aligning timing of data collection to policy decisions, streamlining indicators, building accountability measures, supportive supervision and data quality checks	Financing, technical assistance, technology, advocacy, capacity strengthening
Ethiopia	Nutrition unit wants to move beyond distribution data to track consumption and adherence.	Prioritize MMS indicators for DHIS-2, strengthen advocacy for inclusion in HMIS, improve data quality and use processes, link monitoring data with supply chain information	Systems assessment, data reviews, increased advocacy	Technical assistance, validated indicators, advocacy tools, increased analytical capacity, training and guidance.
Rwanda	Assessing and improving the quality of MMS monitoring data	Documenting the functionality of the current system, conducting in-person spot checks to validate data, applying data quality tools developed for other vertical programs, creating automatic flags to identify data quality issues, triangulating data from various sources, establishing a minimum set of metrics to monitor MMS	Documenting the functionality of the system, conducting data quality checks	Human resources, global data quality standards for MMS monitoring, standardized indicators
Uganda	Strengthening HMIS to strengthen supply chain issues such as stockouts	Identifying additional funding and staffing, improving data quality, ensuring uninterrupted system functionality, procuring additional electronic devices for CHWs, training, migrating to digital from paper-based tools, using AI to support digitization, while HMIS and LMIS integration is ongoing, using technology to track product movement (e.g. QR codes, scanners, phones, etc.)	Creating a digital stock system and dashboard and improving infrastructure and training for health workers	Funding, additional human resources, digital equipment for facilities and community level workers and training

Session 5

Synthesis of Priorities for Advocacy and Action

The final session of the convening tied closely to meeting Objective 4 to align the stakeholders represented in the room around common actionable agenda. This including briefly recapping discussions and inviting two sets of meeting participants to offer their personal reflections before closing remarks by the convening partners, JHU and HMHB-MNF.

KEY POINTS FROM SESSION PRESENTATIONS



Shelly Walton (JHU) summarized common themes across the Session 4 country breakout groups with a focus on what can practically be done at each stage of MMS scale up framework (figure 1). For example, during the planning phases, countries can assess the enabling environment for MMS monitoring by mapping national monitoring systems including stakeholders who control systems and their update cycles. The design and test phase offers the opportunity to test and refine updated data collection and reporting tools but also to test and refine strategies to improve data use. During the scale up phase and beyond, MMS programs will ideally have monitoring systems that are already at scale but that depends on factors that are not in MMS stakeholder control.

During the first synthesis panel, **Sasmita Poudel (HKI Nepal), Stephen Rulisa (University of Rwanda), Monica Kothari (ICF-DHS), Chika Hayashi (UNICEF), and Melinda Munos (JHU)** provided some final thoughts on common priorities and next steps. Panelists mentioned harmonization and alignment across multiple reporting systems, and prioritizing guidance on what to measure. One panelist suggested that a core set of indicators and definitions would help advocate for inclusion of standard, validated questions into national surveys including the DHS. Other priorities included developing a guide on MMS monitoring, and documenting and disseminating the experiences of programs that have routinely collected coverage and/or adherence data.

During the second synthesis panel, **Zeina Sifri (Gates Foundation), Akriti Singh (ECF), Anne Provo (World Bank), Jennilyn Ygana (Department of Health, Philippines), and Rebecca Nerima (Vitamin Angels Uganda)** shared their final thoughts on financing MMS monitoring. Panelists stressed the need to maximize efficiency and sustainability of monitoring investments. Donor panelists pointed to the [Child Nutrition Fund](#) as the most likely funding source given its engagement of government in co-financing. One panelist suggested starting to engage governments about LMIS, given the move towards government-led procurement. Supporting wider information systems improvements goals, such as digitization of HMIS or LMIS, was another proposed strategy for gaining financial investment.

Post-meeting recap: priorities for action

FEEDBACK FROM THE MEETING EVALUATION

About a week after the meeting, participants were asked for their feedback; 24 of 50 total participants (48%) responded. Overall, the convening was highly appreciated, particularly the in-person interactions, networking opportunities, and cross-country learning. Half of the respondents explicitly praised the event's high-quality content, facilitation, and organization. Constructive feedback noted that the dense agenda posed challenges for time keeping and a significant portion of respondents would have preferred a longer meeting to cover the agenda. Respondents also highlighted a need for clearer consensus and definitive takeaways, and ideally, stronger direct representation from government actors.

In terms of priority needs and the action agenda, respondents reiterated demand for standardized, MMS-specific indicators and practical guidance on operationalizing the transition from IFAS to MMS, including how to operationalize distinct MMS product branding to ensure proper data tracking. There was also a strong call for deeper coordination between research and operations, and the integration with existing mechanisms—such as logistics, health management, and household survey data systems—right from the start of new programs.

Many ideas emerged across the two days about resources that could advance the integration of MMS monitoring and measurement in national MMS roadmaps; additional feedback was gathered through a post-meeting evaluation. The organizers synthesized these inputs into a set of priorities for guidance, technical assistance, and implementation research as well as a reflection on whether the convening achieved its objectives.



SUMMARY: GUIDANCE, TECHNICAL ASSISTANCE, AND IMPLEMENTATION RESEARCH PRIORITIES

Meeting participants emphasized the importance of pragmatic, country-led approaches that balance technical rigor with operational feasibility.

Many of the challenges around monitoring of MMS introduction and scale-up reflect wider issues with national information systems (e.g. lack of digitization). Investments in monitoring systems by MMS stakeholders should reinforce and strengthen monitoring of other ANC and maternal nutrition services. Implementation research can be used to test and refine the feasibility and usability of information systems adaptations. Parallel data collection and reporting for MMS should be a temporary measure to fill priority data gaps while learning and preparing for the opportunity to update the core data platforms.

Measurement guidance & tools

- **Monitoring framework:** description of what data to collect across phases of MMS introduction and scale-up and recommended data sources; including interim methods
- **Standard indicators:** set of prioritized indicators to monitor MMS stocks, MMS provision, timing of initiation, and adherence for both routine and survey data sources, with standardized definitions and validated data collection tools/methods. These will be used to advocate for inclusion in LMIS, HMIS, and national surveys.
- **Data quality assessment:** Tools for conducting data quality audits, data tracing and resources for data quality assessment and data quality assurance. These can be an adaptation or extension of tools already being used for other program areas.

Technical assistance & capacity strengthening

- **Country case studies:** Participants valued learning from experiences of other countries during the convening and would like documentation of successful monitoring system models and measurement innovations that can be applied in other contexts.
- **Inclusion of monitoring systems in MMS roadmap & costed plan:** At least two countries (Nepal, Ethiopia) have included monitoring systems in national scale-up plans. Sharing guidance that build from these experiences on how to capture and cost monitoring systems activities in plans would facilitate integration by other countries.
- **Data literacy:** Digitization and AI tools can improve data quality and support data use, but countries still

need to increase HR capacity to collect, analyze and most importantly, interpret and apply data for planning and program improvement. Strengthening nutrition data literacy is a cross-cutting priority for nutrition stakeholders at national and subnational levels.

- **Coordination and oversight:** Participants discussed the value of global technical coordination mechanisms, such as HMHB, in supporting countries. Continued investment in these mechanisms and engaging global partners that can support measurement and monitoring issues is important.

Implementation research

Implementation Research can be used to inform all of the guidance and TA priorities listed above. Specific IR topics that surfaced across the convening include designing and/or testing the acceptability, fidelity, feasibility, validity, and usability of:

- Core indicator sets that are provide actionable information to decision makers
- Recall-based methods for assessing adherence to IFA/MMS
- Design of data registers and reports for providers and maternal health cards for women
- Branding strategies that increase women's ability to recognize MMS as distinct from IFAS
- Approaches for improving use of data to inform implementation (e.g. methods for linking supply data from LMIS with program delivery data from HMIS, quarterly review meetings, online dashboard with key performance indicators, etc.

Strategic financing

Despite general declines in donor funding, financing MMS introduction and scale up continues to be a priority for donors through the UNICEF-managed **Child Nutrition Fund**. Countries should include costs related to measurement and monitoring in CNF applications. The fund explicitly aims to leverage domestic financing but accounts for heterogeneity in country capacity to co-finance. Identifying and clearly advocating for ways in which MMS measurement and monitoring investments can serve as an “entry point” to strengthen broader ANC and health information systems in countries may help mobilize domestic resources. It is less clear how global coordination and technical support partners should access funding during this current period. MMS donors need to address this unmet needs.

CONCLUSION: DID THE CONVENING ACHIEVE ITS OBJECTIVES?

- We reviewed progress against the four meetings objectives – incorporating the organizers’ observations and reflections as well as participant feedback.

The first objective was achieved; there was consensus among participants that measurement and monitoring systems issues should be elevated in the framework and addressed at the very beginning of the MMS introduction and scale-up process. Implementation research can be used to improve monitoring tools and data use processes. The second objective was also met at a high level; each topic area could have been explored and discussed further but many key concepts, ideas and questions surfaced. The third objective was also mostly achieved in that a common set of guidance, technical assistance, and implementation research needs were raised by participants in both plenary and breakout sessions. Due to time constraints, participants did not formally review and prioritize the list presented in the box above.

The fourth objective, which reflects having a clear path forward, was not fully met within the bounds of the two-day meeting. This is particularly true for guidance and TA priorities that might be best taken on by global stakeholders in collaboration with countries (e.g. indicator guidance). The CNF, which was promoted by donors at the meeting, is focused on supporting country-level efforts for MMS introduction and scale-up. Funding for cross-country partner coordination, guidance development and technical assistance is difficult to secure in the wake of recent widespread declines in development assistance. Donors are encouraged to consider the value that experienced technical and implementing partners bring to address these needs and help ensure they are appropriately resourced to allow for continuity of technical development and knowledge management.

Overall, participants agreed monitoring must be built into MMS scale-up from the start and that MMS stakeholders must actively advocate for their measurement priorities within their country’s systems. Converting that consensus into funded, coordinated action is the work that remains.

Annex 1: Agenda

DAY 1: Tuesday 21 April 2026

Time	Topic / Activity	Speaker / Facilitator
8:30 AM	Registration & refreshments	
Session 1: Setting the stage		
9:00 AM	Welcome & Networking Introductions	R. Heidkamp (JHU)
9:30 AM	Welcome / Review Objectives / Agenda	M. Mwangi (MNF-HMHB)
9:40 AM	Monitoring & Measurement for MMS: Evidence & action	R. Black (JHU); L. Rogers (WHO) - remote; S. Osendarp (MNF)
10:00 AM	Learning from Nepal: Monitoring & measurement in the MMS roadmap	M. Gautam (Anweshan); S. Poudel (HKI)
10:15 AM	Country Spotlight Interview: Ethiopia & Rwanda	R. Klemm (HKI); A. Defar (EPHI); A. Nyamwiza (Eagle Research Ctr)
10:55 AM	Session wrap-up	R. Heidkamp (JHU)
11:00 AM	Morning break	
Session 2: Building blocks for monitoring implementation strategies, information needs & data sources <i>Moderators: Monica Fox (JHU) & Kenda Cunningham (IFPRI)</i>		
11:20 AM	Framing the session	Topic moderators
Sub-topic: Information priorities		
11:30 AM	MMS Implementation & Scaling Models: What do we need to monitor?	J. Busch-Hallen (NI)
11:50 AM	Reflection: Information priorities of ANC actors	S. Rulisa (U of Rwanda)
Sub-topic: Data sources		
12:00 PM	Logistics Information Systems	B. Knittel (JSI) - remote
12:15 PM	HMIS / Administrative Data Systems	C. Hayashi (UNICEF)
12:30 PM	Household Surveys	S. Namaste (MNF-DInA)
12:45 PM	Quality of Care: Facility surveys & other approaches	S. Riese (World Bank - GFF)
1:00 PM	Session wrap-up	Topic moderators
1:05 PM	Lunch break	
Session 3: Specific topics in MMS Measurement <i>Moderators: Melinda Munos (JHU) & Sunny Kim (IFPRI)</i>		
1:45 PM	Framing the session	Topic moderators
1:48 PM	NutriDASH: Global monitoring of the MMS transition	L. Mwigiri (UNICEF)
2:00 PM	UNWRA Monitoring Supply & Coverage During Scale-up	M. Horino (UNWRA/JHU)
Sub-topic: Supply Chain		
2:10 PM	Monitoring MMS Supply Across Transition & Scale-up: Country perspective	O. Santika (VA)
2:25 PM	Discussion: Monitoring supply & logistics during & after the transition - potential for linkages to HMIS data	Topic moderators
Sub-topic: Implementation - coverage, quality & adherence		
2:40 PM	Sub-topic introduction	M. Munos (JHU)
2:55 PM	Measuring MMS coverage & pill adherence: Evidence from research	D. Stephens (JHU); E. Keats (JHU) - remote; S. Walton (JHU-DataDENT); S. Poudel (HKI); M. Horino (UNWRA/JHU)
3:55 PM	Afternoon break	
4:10 PM	Discussion: What indicators & data sources should be used to monitor coverage, quality & adherence?	Topic moderators

Sub-topic: Treatment		
4:40 PM	Sub-topic introduction	F. Gomes (MNF-HMHB)
4:45 PM	Anemia Monitoring in India: Prevention and Treatment	N. Patel (IEG India) pre-recorded
4:55 PM	Discussion: Monitoring anemia treatment: a common priority?	Topic moderators; F. Gomes (MNF-HMHB)
Day 1 Wrap-Up		
5:05 PM	Day 1 Wrap Up	M. Mwangi (MNF-HMHB)

DAY 2: Wednesday 22 April 2026

Time	Topic / Activity	Speaker / Facilitator
8:30 AM	Registration & refreshments	
Day 2 Opening		
9:00 AM	Welcome / Housekeeping	M. Mwangi (MNF-HMHB)
9:05 AM	Networking Introductions	R. Heidkamp (JHU)
9:25 AM	Country Spotlight Interview: Indonesia & Philippines	K. Hurley (VA-JHU); L. Daisy (MOH Indonesia); J. Ygana (FDOH Philippines)
Session 3: Specific topics in MMS Measurement (continued)		
Sub-topic: Maximizing measurement resources		
10:05 AM	Topic Introduction	Topic moderators
10:10 AM	Coverage analysis & communications	R. Heidkamp (JHU)
10:25 AM	Costs for M&E in national roadmaps	B. Morgan (R4D)
10:40 AM	Morning break	
10:55 AM	ACTION: Collective Action Plan for Nutrition Data	S. Namaste (MNF-DiNA)
11:10 AM	Living Standards Measurement Study (LSMS) Program: Priorities for Innovations in Multi-Topic Household Surveys	I. Contreras (World Bank)
11:25 AM	DHS Program: What is on the horizon?	M. Short Fabic (ICF-DHS)
11:40 AM	Group discussion	Topic moderators
12:00 PM	Lunch break	
Session 4: Country applications & priorities Facilitator R. Heidkamp (JHU)		
12:45 PM	Country Case Discussions	Group work
1:45 PM	Country Case Discussions: Priority setting exercise	Group work
Session 5: Synthesis of priorities for advocacy & action Moderator: S. Walton (JHU)		
2:45 PM	Review of priorities identified across meeting	Topic moderator
3:05 PM	Synthesis Panel: Integrating monitoring systems into MMS scale-up framework: what are common priorities & next steps?	Facilitator: R. Klemm (HKI/JHU); S. Poudel (HKI); S. Rulisa (U of Rwanda); M. Kothari (ICF-DHS); C. Hayashi (UNICEF); M. Munos (JHU)
3:30 PM	Synthesis Panel: Financing MMS Monitoring and Measurement Priorities	Facilitator: S. Osendarp (MNF); Z. Sifri (Gates Foundation); A. Singh (ECF); A. Provo (World Bank); J. Ygana (FDOH Philippines); R. Nerima (VA)
Wrap-up & Closing		
3:45 PM	Closing remarks	R. Heidkamp (JHU); M. Mwangi (MNF-HMHB)
4:00 PM	Meeting Adjourned	

Annex 2: Participant List

Akriti Singh, Eleanor Crook Foundation (ECF)

Anne Provo, World Bank

Atkure Defar, Ethiopia Public Health Institute

Barb Knittle*, JSI Research & Training, Inc. (JSI)

Bree Morgan, Results for Development (R4D)

Cassandra Bechoua, Vitamin Angels

Chika Hayashi, UNICEF

Daryl Stephens, Johns Hopkins University

Bloomberg School of Public Health

Emily Keats*, Johns Hopkins University Bloomberg School of Public Health

Filomena Gomes, Micronutrient Forum / Healthy Mothers Healthy Babies (HMHB)

Hannah Gleason, Johns Hopkins University Bloomberg School of Public Health – Graduate Student

Hera Yusuf, Ministry of Health, Indonesia

Ivette Contreras, World Bank, Living Standards Measurement Study (LSMS)

Jennifer Busch-Hallen, Nutrition International

Jennilyn Ygaña, Department of Health, Philippines

Katie Stevenson, GMMB / Kirk Humanitarian

Keith West, Johns Hopkins University Bloomberg School of Public Health

Kenda Cunningham, International Food Policy Research Institute (IFPRI)

Kristen Hurley, Vitamin Angels / Johns Hopkins University Bloomberg School of Public Health

Lisa Rogers*, World Health Organization (WHO)

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Madeleine Short Fabric, DHS Program, ICF

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* remote participant

