

# MMS Pilot Nigeria

## Formative Research Findings

July 2024

# List of Abbreviations

- **LGA**s - Local Government Authority
- **ANC** - Antenatal Care
- **IFA(S)** - Iron and Folic Acid (Supplementation)
- **MMS** - Multiple Micronutrient Supplementation
- **HCW** - Healthcare worker
- **CHIPS** - Community Health Influencer Persons
- **TBA**s - Traditional Birth Attendants
- **CHEW** - Community Health Extension Worker
- **CHO** - Community Health Officer
- **FGD** - Focus Group Discussion
- **MSF** - Monthly Summary Form
- **BIN** - Medicine Stock Card
- **FCT** - Federal Capital Territory
- **SBC** - Social and Behavior Change

# Executive Summary (1/2): In early 2024, Evidence Action conducted formative research (20 facility visits, 4 focus group discussions) in Oyo and FCT, Nigeria. Key findings are summarized below.

## 01. ANC Clinic Characteristics, Services and Fees, Attendance

- 71% of pregnant women are making ANC visits after 20 weeks of pregnancy, and most are making only 2-3 ANC visits over the course of their pregnancy.
- 70% of facilities are charging fees for ANC services. The median cost for a 180 tablet course of IFA is estimated to be 1860 NGN (\$1.15 USD).

## 02. IFA Program Management

- 95% of facilities were distributing IFA and 84% of facilities reported following IFA initiation practices consistent with national guidelines
- Facilities reported gaps in the trainings of healthcare workers and cited IFAs refusal by pregnant women as a main barrier to uptake and management.

## 03. IFA Stock Management

- Different IFA products were found across facilities, alongside heterogeneous ordering and quantification practices, leading to more complexity in stock ordering, management, and reporting practices
- Healthcare workers report low instances of instances of stockouts, however, some stock card data contradicted these responses.

## 04. Counseling Practices

- All facilities reported to provide group counseling to pregnant women. Half of the facilities reported additional 1:1 counseling for all pregnant women while the rest provide 1:1 counseling to only some pregnant women.
- Instructions on IFA side effects, refills and benefits to mother and child are topics less frequently covered during counseling.

## 05. Anemia Screening and Treatment Practices

- Anemia screening is only taking place at 54% of ANC visits.
- There is significant heterogeneity in the treatment of severe anemia across facilities with some facilities providing the same IFA formulation as used for prevention.

## 06. Adherence Interventions

- Counseling flip charts, phone alarm reminders, SMS reminders, and paper calendars selected as the adherence intervention package for pilot based on feedback of perceived effectiveness from facility staff, pregnant women, and CHIPS/TBAs and analysis by Evidence Action on cost-effectiveness at scale.

# Executive Summary (2/2): Key recommendations from the research findings are summarized below and will be integrated into Evidence Action's MMS pilot (pilot launched September 2024).

## IFA/MMS Program Management

- Implement a protocol of providing all 180 doses of MMS to pregnant women at their first visit.
- Ensure healthcare workers receive training on IFA/MMS, leveraging the rollout of MMS. Trainings should include content on IFA/MMS initiation (ensuring all pregnant women receive IFA/MMS at their first visit), common side effects, counseling pregnant women on IFA/MMS, and IFA/MMS reporting.
- Consider a subsidy for the cost of IFA, particularly in rural areas or for poorer pregnant women.\* MMS to be provided free of charge.
- Consider social and behavior change (SBC) interventions to address refusals and increase ANC attendance rates in 1st and 2nd trimesters.\*

## IFA Stock Management

- Introduce MMS (offered as a single tablet) to simplify the prevention regimen, though facilities will still need to carry separate iron or IFA tablets for anemia treatment purposes.
- Strengthen BIN card stock reporting practices for pharmacists through trainings and monitoring at the facility level.\*
- Reinforce ordering and quantification practices for IFA supply and emergency stock requests through trainings and monitoring.\*

## Counseling Practices

- Reinforce that all pregnant women should be counseled on MMS through existing group counseling sessions. Recommend that facility staff also provide 1:1 counseling on MMS to pregnant women at their first ANC visit.
- Guide facility staff to use a flip chart for MMS counseling that includes information on dosing and dose frequency, benefits to the mother and child, the importance of adherence and potential side effects.

## Anemia Screening and Treatment Practices

- Rollout updated ANC register with capabilities to track anemia testing and treatment by pregnant woman rather than ANC visit.
- Reinforce anemia screening at 1st and 3rd trimester and for PHCs to refer all PW with severe anemia for treatment as detailed by ANC guidelines.
- Collect more information on facility practices for screening and treating maternal anemia and further engage with FMOH to clarify protocol, which should then be reinforced through MMS trainings and supervision.

## Adherence Interventions

- Plan for the distribution of bulk SMS messages to pregnant women.
- Design and distribute reminder paper calendars for pregnant women.
- Design and distribute counseling flip chart to health facilities during trainings.
- Incorporate setting up phone reminders in counseling training for health care workers.

\*Note: Indicated recommendations are not actionable for pilot as they exist outside of the project scope . Recommendations to be taken into consideration when planning for long-term scale up of MMS.

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# I. Overview and Methodology



This study was a **rapid descriptive assessment**, using a **mixed-methods approach** to gather qualitative and quantitative data on the current state of IFA program implementation and stakeholder experiences.



The study areas consisted of selected catchment areas of government ANC facilities located in **six LGAs of Nigeria**.

- **Abuja:** Gwagwalada and Bwari
- **Oyo State:** Ibadan South West, Afijio, Oyo East, and Oyo West



The study sites consisted of a **sample of 20 government ANC facilities** located in the six LGAs.

The study populations consisted of **1) primary and secondary government ANC facilities** as well as **2) pregnant women, community health influencers (CHIPS), and traditional birth attendants (TBAs)** located in the six LGAs mentioned above.

## Research Areas

01. Current rates of ANC attendance and IFA distribution, disaggregated by first-time versus repeat ANC clients
02. Current government facility site capacity and availability of ANC services offered, in particular IFA services (e.g., distribution, counseling)
03. Current practices related to the management of IFA supplementation delivery by ANC staff at government facilities
04. The knowledge, attitudes, perceptions, and behavior of pregnant women regarding IFA supplementation and antenatal care services more broadly
05. The knowledge, attitudes, perceptions, and behavior of CHIPs and TBAs regarding IFA supplementation delivery
06. The receptivity of care providers and pregnant women towards potential MMS adherence interventions that may be integrated into the pilot design

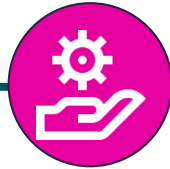
# Timeline for Formative Research

**Pre-Testing  
Of Tools**



February 19th -  
21st

**Training**



February 26th

**Data  
Collection**



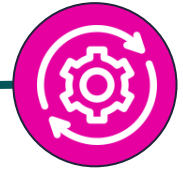
February 26th -  
March 8th

**Data  
Analysis**



March - May

**Findings & Program  
Design Update**



June - July

# Components and Tools

Component	Purpose	Sample size	Data collection tool	Data source
<b>Facility Assessment</b>	Gather information on the current implementation status & challenges / enablers of IFA program	20 facilities	Facility Assessment Questionnaire	Facility staff (head of facility, ANC staff, pharmacist, data manager)
<b>Facility data Extraction</b>	Extract data on key ANC indicators re: attendance levels, patient demographics, IFA distribution, etc.	20 facilities	Facility Data Extraction Tool	Monthly Summary Forms (MSF), ANC registers, and IFA Stock (BIN) Cards
<b>FGD (Pregnant women)</b>	Understand stakeholders' experiences receiving and delivering IFA supplementation and ANC care in general	4 FGDs (one per LGA)	Focus Group Discussion Guide (Urban and Rural)	Pregnant women
<b>FGD (CHIPs/TBAs)</b>		4 FGDs (one per LGA)	Focus Group Discussion Guide (Urban and Rural)	CHIPS agents and TBAs

# Research Samples by Component

Facility Assessment and Facility Data Extraction						
Sample size	Nb. Facilities (Rural)	Nb. Facilities (Urban)	Nb. Facilities (Primary)	Nb. Facilities (Secondary)	Nb. Facilities with monthly summary form (MSF) available	Nb. Facilities with ANC register available
20	12	8	12	8	17	20

Focus Group Discussions						
Component	Sample size	Number of total respondents	Nb. respondents (rural)	Nb. respondents (urban)	Nb. CHIPs	Nb. TBAs
Pregnant women FGD	4 FGDs (one per LGA)	31	24	7	n/a	n/a
CHIPs/TBAs FGD	4 FGDs (one per LGA)	30	22	8	16	14

# Formative Research Facilities

STATE LGA

## FACILITIES

FCT Abuja Bwari

USHAFA PRIMARY HEALTH CENTER

KUBWA GENERAL HOSPITAL

S

BYAZHIN PRIMARY HEALTH CENTER

BWARI GENERAL HOSPITAL

S

DEI DEI PRIMARY HEALTH CENTRE

FCT Abuja Gwagwala da

ZUBA GENERAL HOSPITAL

S

ANAGADA HEALTH CLINIC

PAIKON KORE HEALTH CLINIC

IBWA PRIMARY HEALTH CLINIC

OYO STATE Ibadan SW

MATERNAL AND CHILD HEALTH CARE HOSPITAL

S

FOKO PRIMARY HEALTH CARE CENTRE

ISALE- OSI PRIMARY HEALTH CENTRE

AKURO PRIMARY HEALTH CARE CENTRE

RING ROAD STATE HOSPITAL

S

OYO STATE Oyo East Oyo West Afijio

IYAJI PRIMARY HEALTH CENTRE

FIDITI GENERAL HOSPITAL

S

ILORA GENERAL HOSPITAL

S

OYO STATE HOSPITAL

S

AYEDOYIN PRIMARY HEALTH CENTRE

OKEDIJI PRIMARY HEALTH CENTRE



Urban facility



Secondary facility

# II. Findings and Recommendations

# Overview of Findings and Trends

01. ANC Clinic Characteristics, ANC Services and Fees, Attendance

02. IFA Program Management

03. IFA Stock Management

04. Counseling Practices

05. Adherence Interventions

# Overview of Findings and Trends

01. ANC Clinic Characteristics, ANC Services and Fees, Attendance

02. IFA Program Management

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05. Adherence Interventions

**ANC Facility Staffing Capacity:** Primary facilities are staffed mainly by CHEWs, CHOs and volunteers, with a nurse midwife for guidance; most secondary facilities are staffed mainly by doctors and nurse midwives.

**Number of staff providing ANC services by staff type, by facility type**

	Primary (n = 12)			Secondary (n = 8)		
	Average	Max	Min	Average	Max	Min
<b>Total staff</b>	<b>7</b>	<b>16</b>	<b>2</b>	<b>10</b>	<b>24</b>	<b>4</b>
Doctors	0	1	0	4	15	1
Nurse midwives	1	3	0	3	6	1
CHEWs	3	6	1	0	0	0
CHOs	1	2	0	0	0	0
Pharmacists	0	1	0	1	3	0
Volunteers	1	8	0	0	1	0

**ANC Facility Services:** IFA supplementation was offered by nearly all (90%) facilities. Screening for complications (including anemia screening) was offered by 70% of facilities.

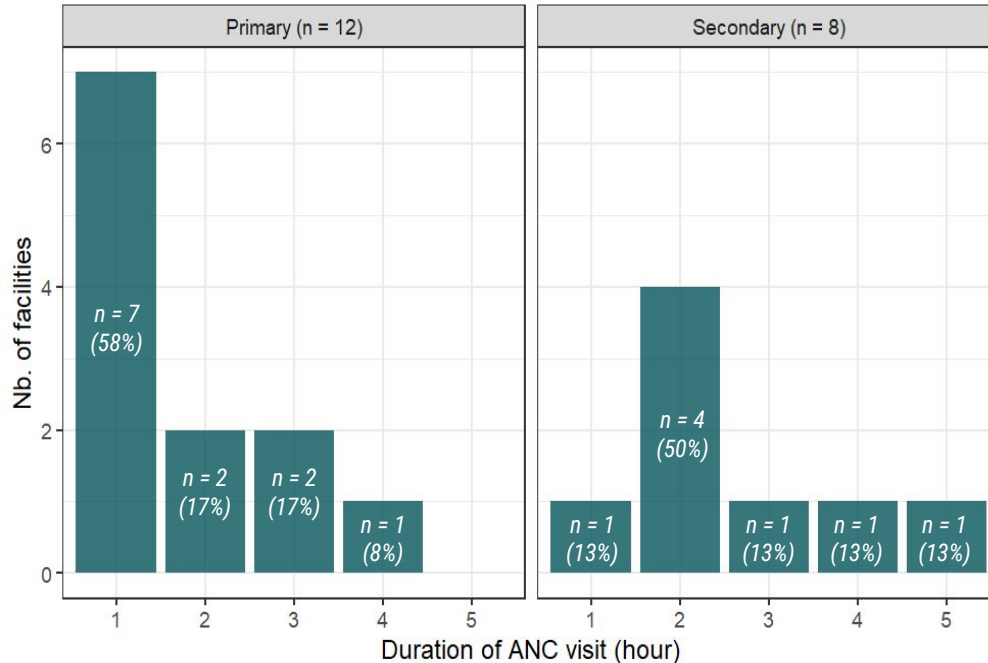
**Percentage of facilities offering ANC services, by facility type\***

ANC Services Offered	All facilities (n = 20)	Primary (n = 12)	Secondary (n = 8)
Blood pressure monitoring and vitals	19 (95%)	11 (92%)	8 (100%)
<b>IFA supplementation</b>	<b>18 (90%)</b>	<b>12 (100%)</b>	<b>6 (75%)</b>
Gestational weight gain monitoring	18 (90%)	11 (92%)	7 (87%)
Tetanus vaccination	18 (90%)	12 (100%)	6 (75%)
Presumptive treatment of malaria (IPTp)	17 (85%)	12 (100%)	5 (62%)
HIV screening	16 (80%)	9 (75%)	7 (87%)
<b>Screening for complications (including pre-eclampsia (PET), syphilis, anemia, hepatitis)</b>	<b>14 (70%)</b>	<b>9 (75%)</b>	<b>5 (63%)</b>
Birth preparedness and complication readiness plan development	13 (65%)	7 (58%)	6 (75%)
Long-lasting insecticide treated nets	9 (45%)	5 (42%)	4 (50%)
Abdominal ultrasound scan (before 24 weeks gestation)	6 (30%)	3 (25%)	3 (38%)
Antiretrovirals for HIV-positive patients	6 (30%)	2 (17%)	4 (50%)
Deworming medicines	6 (30%)	3 (25%)	3 (38%)
Cervical cancer screening	5 (25%)	1 (8%)	4 (50%)
Steroids to prevent respiratory distress Syndrome (RDS)	2 (10%)	1 (8%)	1 (13%)

\* Note: This data is based on ANC staff report, and not on observation or from data extraction.

**ANC Visit Length:** ANC visits typically take one hour at primary facilities and two hours at secondary facilities, though some facilities reported the average ANC visit may take up to 4-5 hours.

**Average duration of ANC visits, by facility type**



**Average duration of ANC visits reported by facilities, by facility type**

	Primary (n = 12)	Secondary (n = 8)
Average duration reported - median	1 hour	2 hours
Average duration reported - minimum	1 hour	1 hour
Average duration reported - maximum	4 hours	5 hours

**ANC Attendance Trends:** Pregnant women tend to make their first ANC visits during the second or third trimester and only make 2-3 ANC visits over the course of pregnancy.

**71%** of pregnant women are making ANC visits after 20 weeks of pregnancy, suggesting that late ANC care seeking may be a barrier to reaching minimum effective MMS consumption levels.\*

**49%** of pregnant women make only 2-3 ANC visits over the course of their pregnancy, suggesting that pregnant women should receive multi-month prescriptions of MMS to ensure consumption. Reinforcement on attending all recommended ANC visits (8) is also needed.

### Percentage ANC clients, by gestational age\*

	All facilities (n = 2,100)	Rural (n = 1,180)	Urban (n = 920)	Primary (n = 1,192)	Secondary (n = 908)
Less than 20 weeks	613 (29%)	374 (32%)	239 (26%)	393 (33%)	220 (24%)
More than 20 weeks	1,487 (71%)	806 (68%)	681 (74%)	799 (67%)	688 (76%)

Source: These rates were aggregated from the MSFs and the ANC registers held at the facilities.

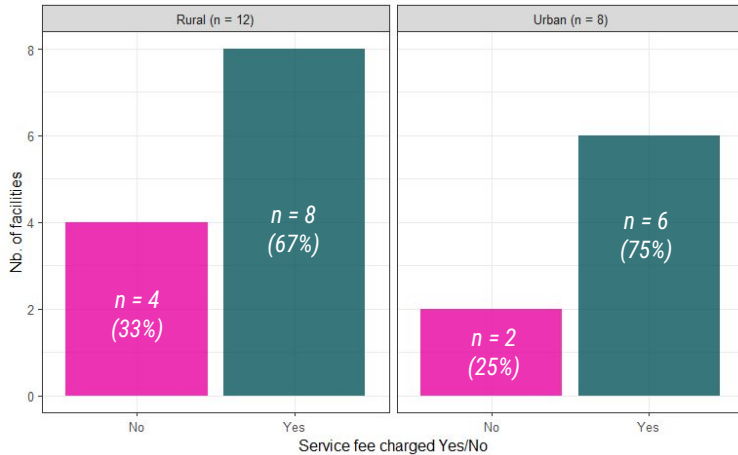
### Percentage of repeated ANC clients, by number of visits

	All facilities (n = 5,141)	Rural (n = 2,769)	Urban (n = 2,372)	Primary (n = 2,603)	Secondary (n = 2,538)
2-3 visits	2,543 (49%)	1,460 (53%)	1,083 (46%)	1,494 (57%)	1,049 (41%)
4-5 visits	1,486 (30%)	815 (29%)	671 (28%)	712 (27%)	774 (30%)
6-7 visits	562 (11%)	287 (10%)	275 (12%)	231 (9%)	331 (13%)
> 7 visits	263 (5%)	187 (7%)	76 (3%)	155 (6%)	108 (4%)

\*Note: We do not anticipate being able to encourage early ANC care seeking in Evidence Action's MMS pilot beyond providing a reminder during trainings on the importance of early care seeking. If in the pilot results we find that late ANC careseeking is a major driver for women not being able to reach minimum effective MMS consumption levels, we will strategize on how to encourage earlier MMS initiation.

**Fees for ANC Services:** 70% of facilities charged a fee for ANC services. The median first-time fee for ANC services is **3,500 NGN** (\$2.26 USD) though some facilities charge as much as **21,100 NGN** (\$13.61 USD).

**Proportion of facilities charging ANC fees**



**First-time ANC fee charged by facilities, by facility type (median, max, min)**

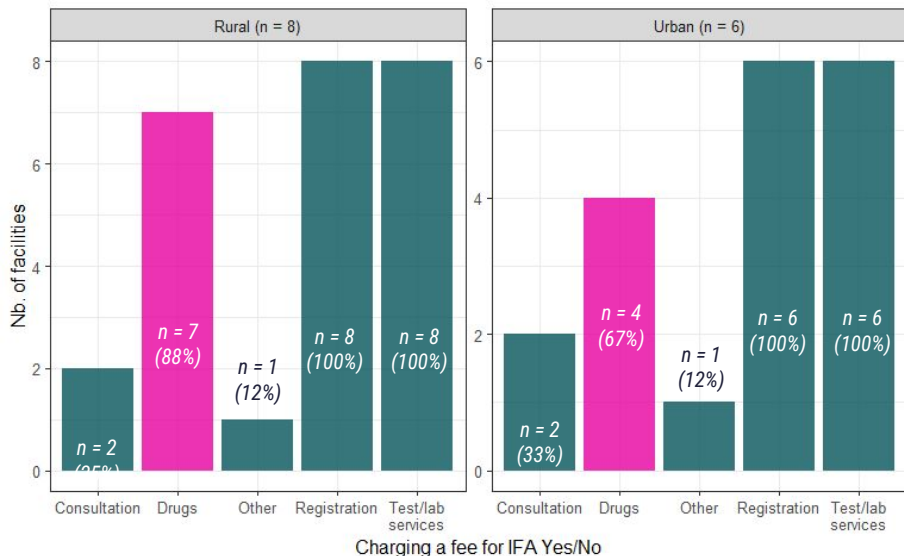
	All facilities (n = 14)	Rural (n = 8)	Urban (n = 6)	Primary (n = 6)	Secondary (n = 8)
Median fee	3,500	2,250	6,600	1,750	6,600
Average fee	6,038	2,912	11,040	2,250	9,285
Max fee	21,100	7,300	21,100	3,500	21,100
Min fee	1,500	1,500	3,100	1,500	2,500

**Breakdown of first-time ANC fee charged by facilities, by facility type (median; median share)**

	All facilities (n=14)	Rural (n = 8)	Urban (n= 6)
Registration	500 (21%)	500 (20%)	600 (13%)
Tests / Lab Services	2,500 (76%)	1,850 (75%)	4,500 (68%)
Consultation	0 (0%)	0 (0%)	600 (8%)
Drugs	500 (24%)	400 (14%)	700 (11%)

**Fees for IFAs:** 55% of facilities charge a fee for drugs as part of ANC services. The median fee charged for IFAs is **310 NGN** (\$0.20 USD) with some facilities charging as little as **0 NGN** (\$0.00 USD) and as much as **1,100 NGN** (\$0.71 USD).

**Proportion of facilities charging drug fees as part of the first-time ANC fee**



**Fees for IFAs charged by facilities, by facility type (median, max, min)**

	All facilities (n = 14)	Urban (n = 6)	Rural (n = 8)
Median fee	310 NGN (0.20 USD)	600 NGN (0.39 USD)	310 NGN (0.20 USD)
Max fee	1100 NGN (0.71 USD)	1100 NGN (0.71 USD)	600 NGN (0.39 USD)
Min fee	0 NGN (0 USD)	100 NGN (0.064 USD)	0 NGN (0.00 USD)

The cost charged for **180 tablet course of IFA\*** is estimated to range from **0 NGN (\$0.00 USD)** to **6,600 NGN (\$4.09 USD)** with a **median of 1,860 NGN (\$1.15 USD)**.

**MMS, at an ex-factory cost of \$2.52 USD,** is a more expensive product than IFA.

\*Note: We assume that the first-time IFA fee reported by facilities are for 1 month's supply of IFAs (30 tablet course load), though we did not specifically ask about duration. As such, we may be overstating the 180 tablet course cost of IFA.

# Overview of Findings and Trends

01 . ANC Clinic Characteristics, ANC Services and Fees, Attendance

**02 . IFA Program Management**

03 . IFA Stock Management

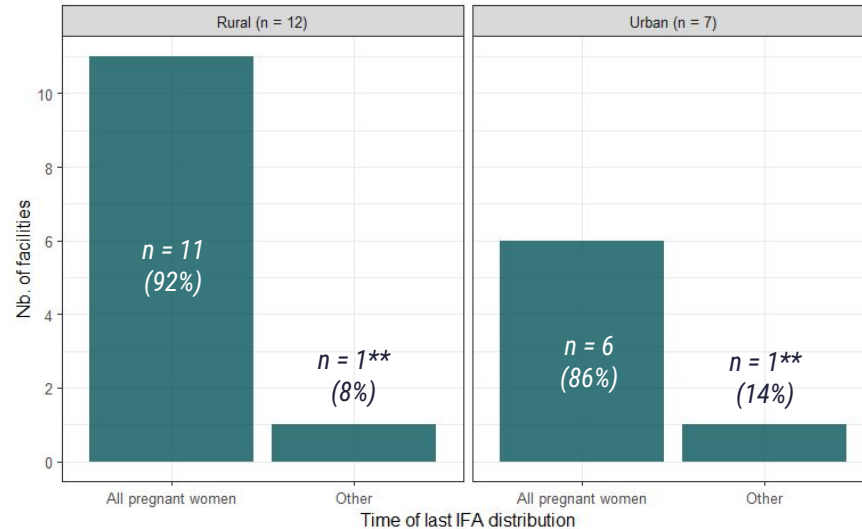
04 . Counseling Practices

05 . Adherence Interventions

**IFA Initiation Protocols:** 84% of facilities are following national guidelines to initiate all pregnant women on IFA (regardless of anemia status or risk factors).

## FINDINGS

### Which ANC attendees are provided IFAS\*



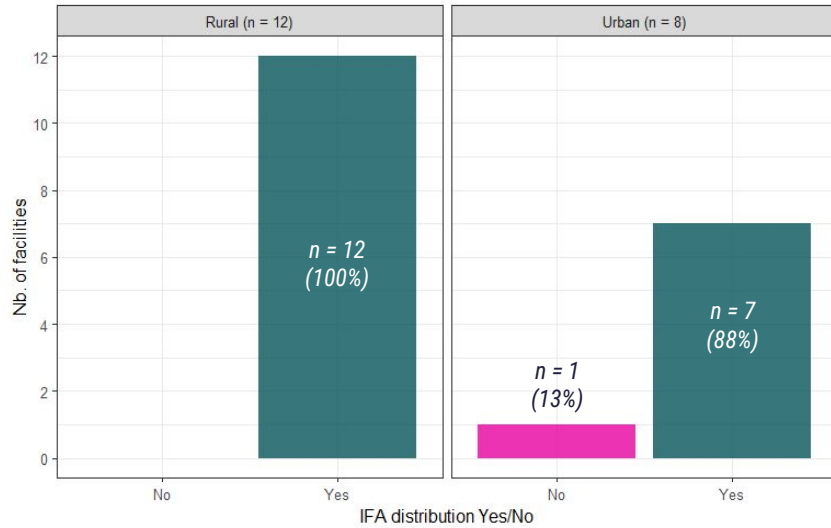
\*Note: The following protocols were not reported to be followed by any facilities: Only anemic pregnant women receive IFAs (n = 0), Only pregnant women considered high-risk received IFAs (n = 0)

\*\*Note: Two facilities responding "Other" cited the following protocols for distributing IFAs: "All pregnant women except those with sickle cell anemia or ss genotype" (n = 1), "All registered pregnant women" (n = 1)

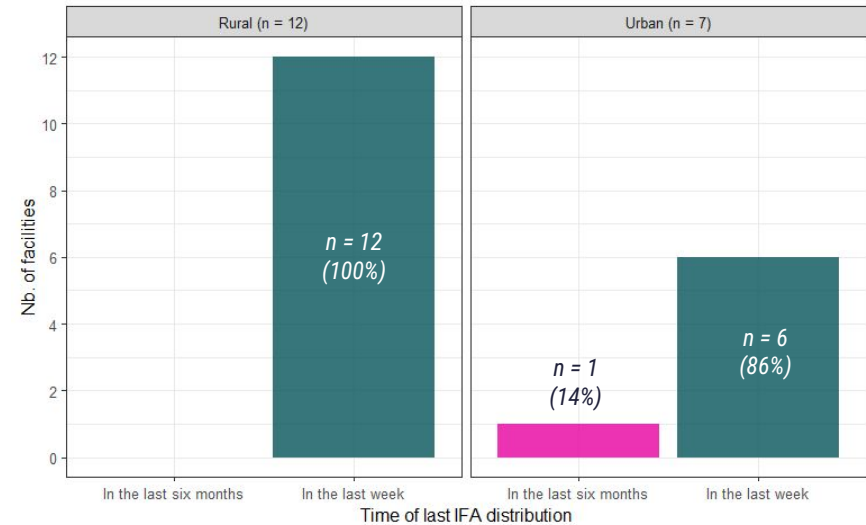
**IFA Distribution Rates:** Distribution rates of IFA were found to be very high. All but one facility reported distributing IFA, and among facilities distributing IFA, all but one facility reported to have distributed IFA in the last week.

## FINDINGS

**Percentage of facilities distributing IFA, by rural/urban status\***



**Timeline of last IFA distribution, by urban/rural status\*\***



\*Note: There was one facility which answered differently on two questions where IFAs distribution was asked. The question reported here had one facility answer "no", where an earlier question had two facilities answer "no".

\*\*Note: The denominator for this question is 19 rather than 20 as this question was only asked to facilities that responded "Yes" to distributing IFAs.

**IFA Distribution Frequency:** Both rural and urban facilities most commonly provide one month's supply of IFA at a time.

## FINDINGS

### Amount of IFA distributed to pregnant women at each visit, by urban/rural status

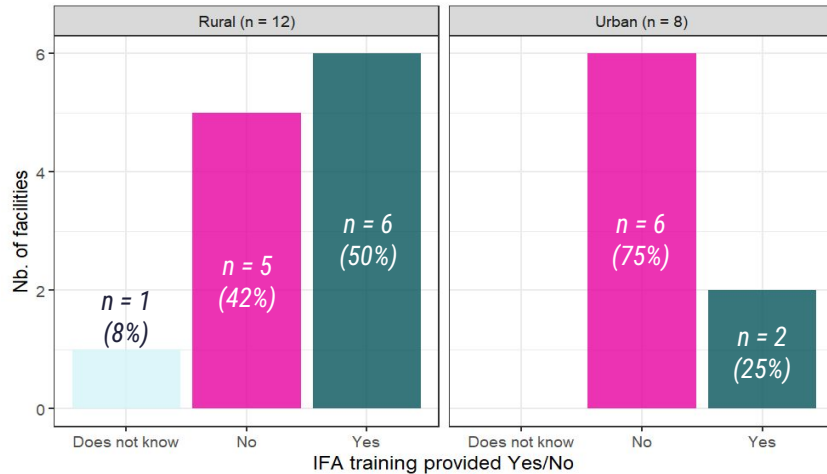
	All facilities (n = 19)	Rural (n = 12)	Urban (n = 7)
1 month of supply	9 (47%)	6 (52%)	3 (43%)
Based on patient's next visit	6 (32%)	5 (42%)	1 (14%)
Full course of pregnancy	1 (5%)	1 (8%)	0 (0%)
Other	2 (11%)	0 (0%)	2 (29%)
Does not know	1 (5%)	0 (0%)	1 (14%)

Most women only attend 2-3 ANC visits. With the current common practice of giving one month's supply of IFA per visit, **most pregnant women are only getting 2-3 months worth of IFA supply, which is far short of the recommended 180 doses.**

**Healthcare Worker Trainings:** Only 40% of facilities have ever received training that covered IFA, with a bigger gap among urban facilities.

## FINDINGS

**Percentage of facilities where staff have ever received training that included IFA content, by rural/urban status**



**Components included in IFA training**

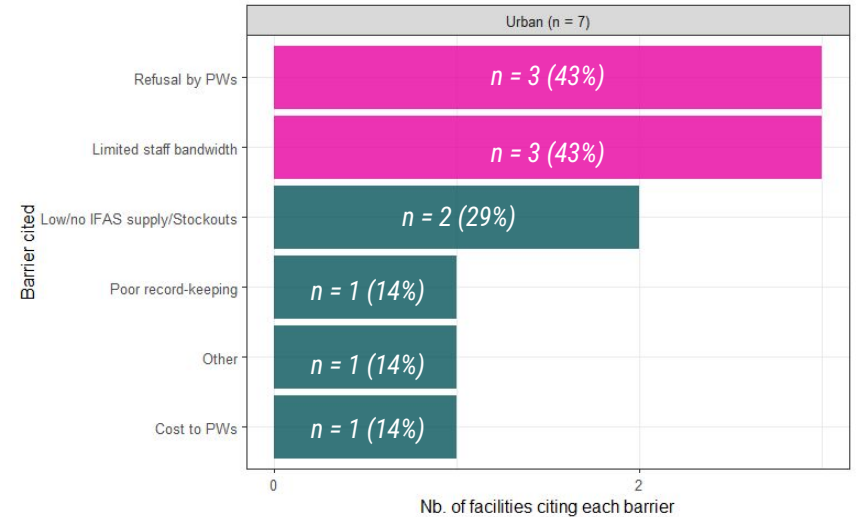
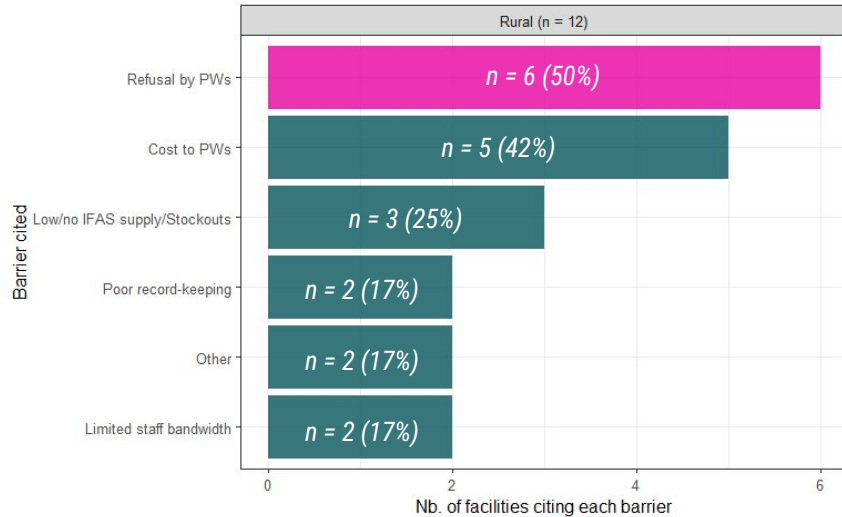
	All facilities (n = 7)*
Dosing	6 (86%)
Dosing schedule	7 (100%)
Side effects	3 (43%)
Benefits to mother	7 (100%)
Benefits to child	7 (100%)
Counseling pregnant women on IFA	5 (71%)
Reporting on IFA	5 (71%)

*\*Note: Eight facilities indicated that staff has received training that included IFA content over the past two years. However, only seven were able to specify the IFA-related components on which their staff has been trained. The remaining facility indicated "Unknown."*

**Barriers Faced in IFA Management:** IFA refusals by pregnant women was most commonly cited barrier. For rural facilities, cost was a key barrier, while for urban facilities, limited staff bandwidth was a key barrier.

## FINDINGS

**What do you think are the main barriers, if any, to IFA uptake and management at this facility?**



**Summary:** While IFA distribution is taking place consistently, there is room to improve IFA management protocols.

## NOTABLE GAPS

- **Initiation practices:** 3/19 (16%) facilities were not providing IFA supplementation to all pregnant women
- **IFA distribution frequency:** Facilities were commonly providing one month's supply of IFA to pregnant women per visit, even though most pregnant women are not making monthly ANC visits.
- **Training:** Only 40% (8/20) of facilities have ever received a training that included IFA content.
- **IFA refusals by pregnant women:** Refusals by pregnant women were noted as the most common barrier to IFA uptake and management.
- **IFA costs:** The cost of IFA for pregnant women was reported as a barrier by 32% of facilities, with this posing a greater burden for rural facilities.

## RECOMMENDATIONS

- **Distribution protocol:** Implement a protocol of providing all 180 doses of MMS to pregnant women at their first visit to ensure they have sufficient supply. Counseling should encourage pregnant women to make monthly ANC visits.
- **Trainings:** Ensure healthcare workers receive training on IFA/MMS, leveraging the rollout of MMS. Trainings should include content on IFA/MMS initiation (ensuring all pregnant women receive IFA/MMS at their first visit), common side effects, counseling pregnant women on IFA/MMS, and IFA/MMS reporting. Counseling is an important component given the challenge of pregnant women refusing to take IFA.
- **Cost of IFA/MMS:** Consider a subsidy for the cost of IFA/MMS, particularly in rural areas or for poorer pregnant women.
- **Social and Behavioral Change (SBC):** For MMS long-term MMS scale-up, consider SBC interventions to address refusals and increase ANC attendance rates in 1st and 2nd trimester.

# Overview of Findings and Trends

01. ANC Clinic Characteristics, ANC Services and Fees, Attendance

02. IFA Program Management

**03. IFA Stock Management**

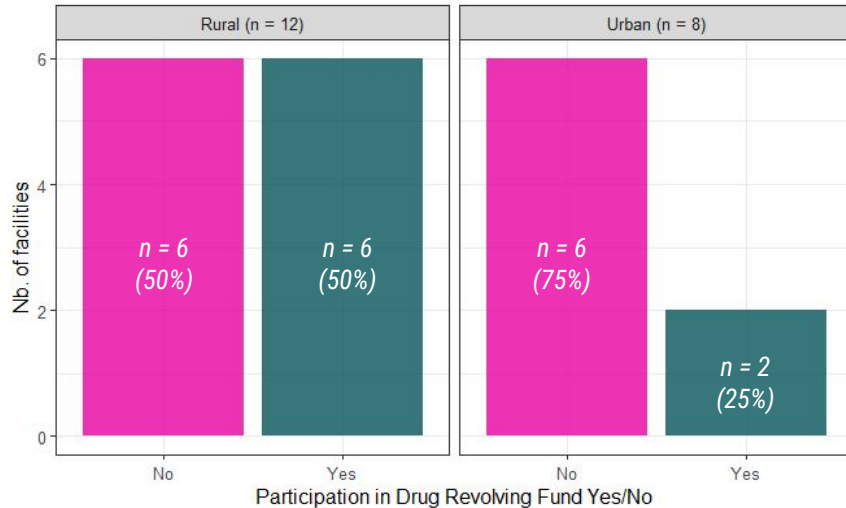
04. Counseling Practices

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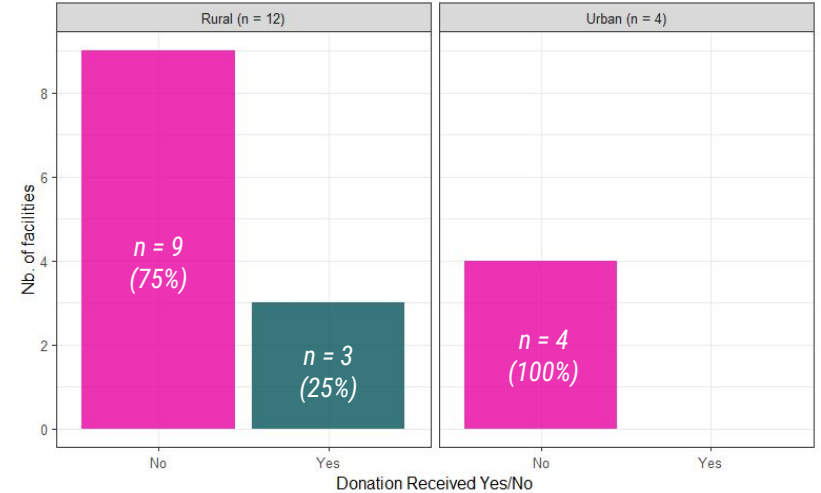
**IFA Stock Sources and Financing:** 35% of facilities report participating in the Drug Revolving Fund\* (more common for rural facilities). It is uncommon for facilities to received IFA donations from partners.

## FINDINGS

**Percentage of facilities participating in the Drug Revolving Fund, by urban/rural status**



**Percentage of facilities receiving IFA donations from partners, by urban/rural status**

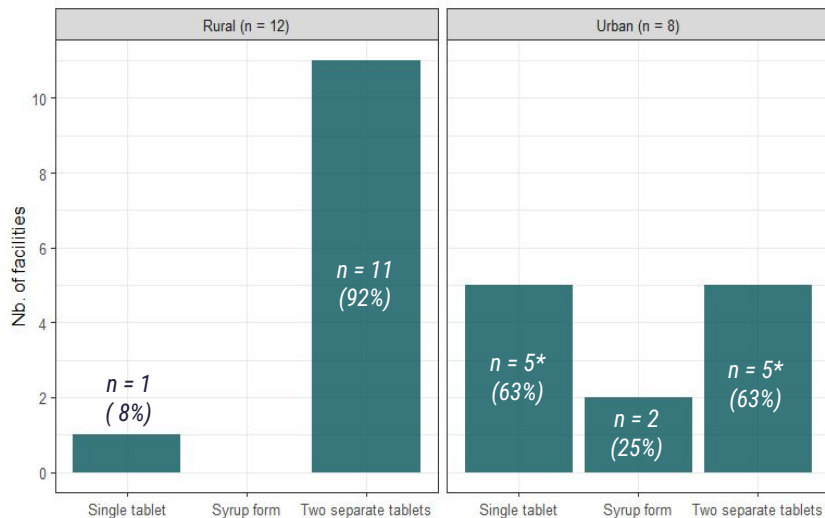


\*The government's Drug Revolving Fund procures essential medicines from local manufacturers and wholesalers and sells them to health facilities with a markup. Revenue is used to replenish stocks and ensure uninterrupted, sustainable drug supply. IFAS is currently on the essential medicines lists (EMLs) in most states. Advocacy can target the inclusion of MMS on EMLs, which would then allow for MMS to be included in the list of medicines procured through the Drug Revolving Fund.

**IFA Product Offerings:** Most rural facilities are offering IFA as two separate iron and folic acid tablets. Across urban facilities, both separate and combined tablets are offered, with some facilities providing both products.

## FINDINGS

### IFA product offerings across facilities, by facility type



Most facilities carry iron and folic acid as two separate products, resulting in more complexities with stock management and administration protocols.

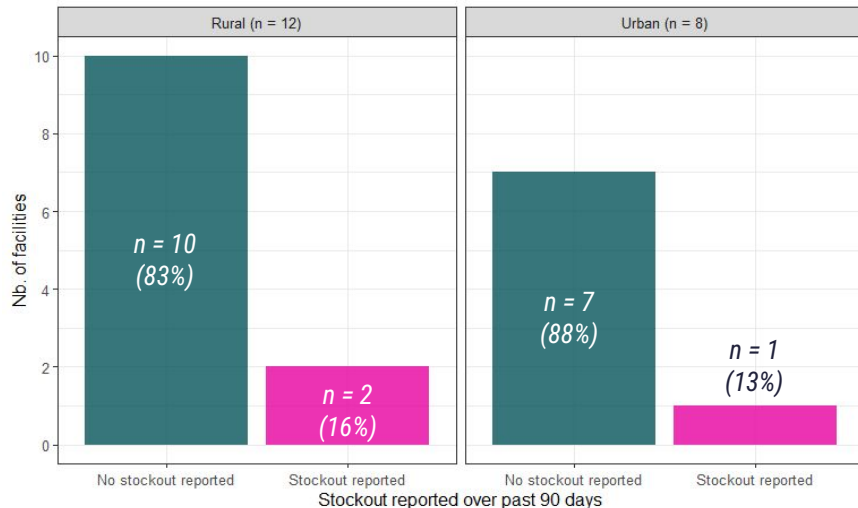
Introducing MMS (offered as a single tablet) will simplify the prevention regimen, though facilities will still need to carry separate iron or IFA tablets for anemia treatment purposes.

\* Note: the percentages among urban facilities exceed 100 when combined, since four urban facilities carry two distinct IFA products.

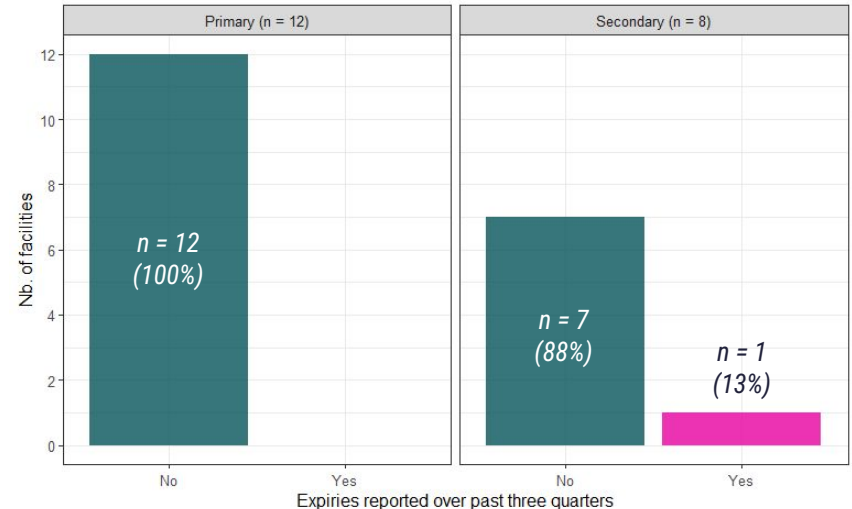
**IFA Stock Maintenance:** Reported instances of IFAs stockouts and expiries were found to be low across both rural and urban facilities.

## FINDINGS

**Percentage of facilities reporting any stockout over the past 90 days\***



**Percentage of facilities reporting any expiries over the past three quarters**

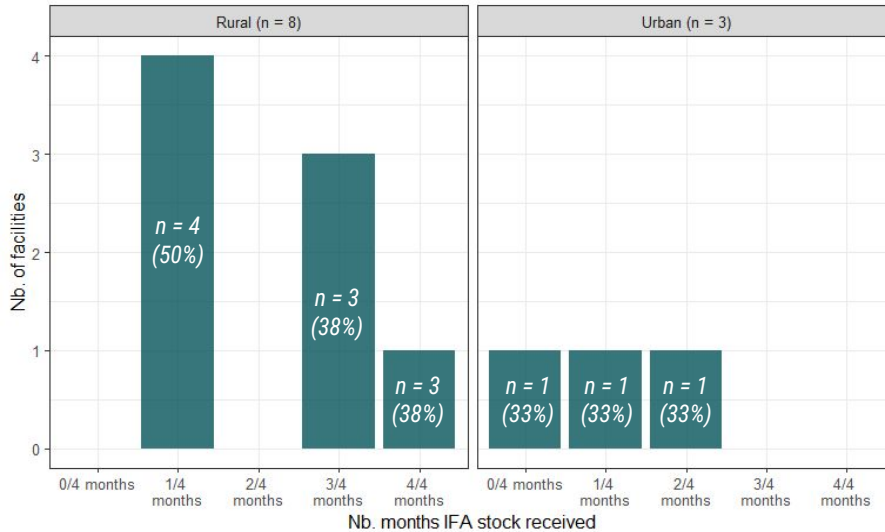


\*Note: This data was reported by facility staff, not extracted from stock cards.

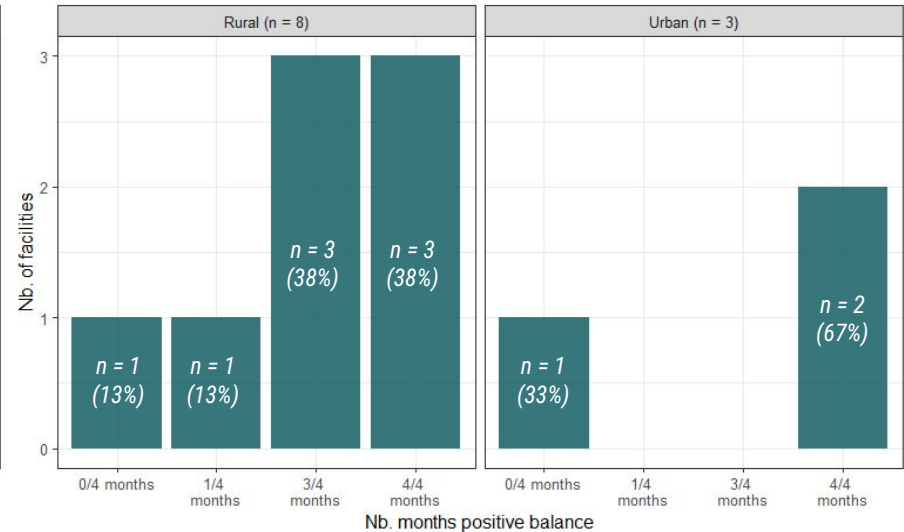
**IFA Stock Levels:** BIN (stock) card data indicates that more than half of facilities experienced negative stock balances at the end of the month, contradicting HCW reports of few to no stockouts of IFA. Based on discussions with facility staff, this is likely driven by poor BIN card reporting practices rather than reflecting true stockouts.

## FINDINGS

**Number of months (out of 4) in which facilities received IFA supply, by urban/rural status\***



**Number of months (out of 4) in which facilities report positive balance, by urban/rural status\***

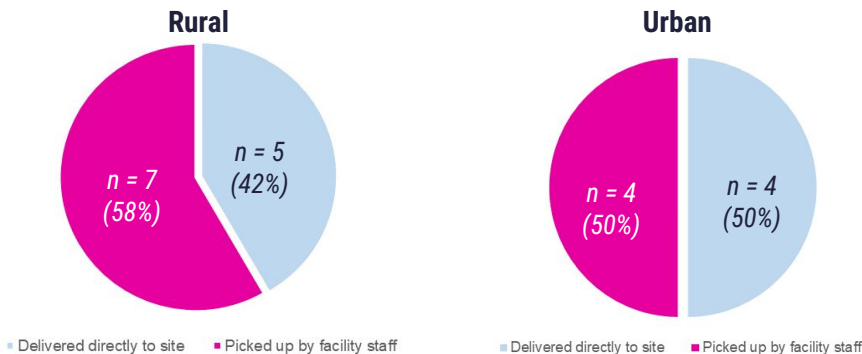


\*Note: Inventory card data was not available for 9 out of 20 facilities.

# IFA Delivery Mechanisms and Quantification Practices: Supply delivery and quantification practices are heterogenous across facilities.

## FINDINGS

Is IFA picked up by facility staff or delivered to the site?



For urban facilities, there is an even split between facilities picking up IFA themselves or it being delivered directly. More rural facilities (7/12) have facility staff pick up IFA.

**Facilities are commonly quantifying IFA supply need based on past distribution data.**

- The most commonly cited practice for quantifying IFA was using past consumption data (**11/20 facilities**).
- Rural and primary facilities also reported using past attendance data (**4/12 rural and 4/12 primary facilities**)

**Processes for ordering IFA varies between facilities:**

- Most common practices cited for ordering IFA:
  - Submitting a requisition (**4/12 rural facilities, 1/8 urban facilities**)
  - Notifying state focal nutrition person (**3/12 rural facilities; 2/8 urban facilities**)
  - Buying directly from the pharmacy (**3/12 rural facilities, 1/8 urban facilities**)

**Summary:** IFAs stockouts are reported to be low across facilities. However, multiple IFAs product offerings, differing supply ordering practices, and heterogeneous supply quantification practices are likely increasing the complexity of the supply chain. There is also need for increased training and monitoring on stock reporting practices.

### NOTABLE GAPS

- Different IFA products are carried across facilities leading to more complexity in stock ordering, management, and reporting practices
- While healthcare workers report low instances of instances of stockouts, some BIN card data contradicts these responses and reflect negative month-end IFA stock balances. These likely reflect poor stock reporting practices rather than true stockouts.
- Different requisition and quantification practices are found to exist and vary between facilities, increasing the complexity of state IFA quantification and distribution practices.

### RECOMMENDATIONS

- Introducing MMS (offered as a single tablet) will simplify the prevention regimen, though facilities will still need to carry separate iron or IFA tablets for anemia treatment purposes.
- BIN card stock reporting practices for pharmacists should be strengthened through trainings and monitoring at the facility level.
- Scale-up programming should reinforce ordering and quantification practices for IFA supply through trainings and monitoring to bring consistency to the processes across facilities.

# Overview of Findings and Trends

01. ANC Clinic Characteristics, ANC Services and Fees, Attendance

02. IFA Program Management

03. IFA Stock Management

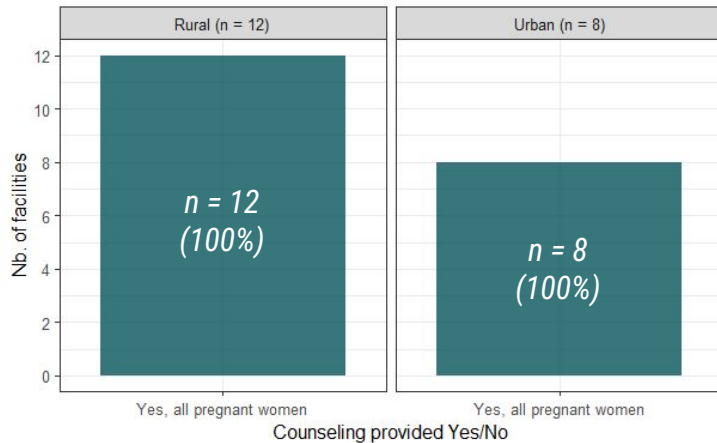
**04. Counseling Practices**

05. Adherence Interventions

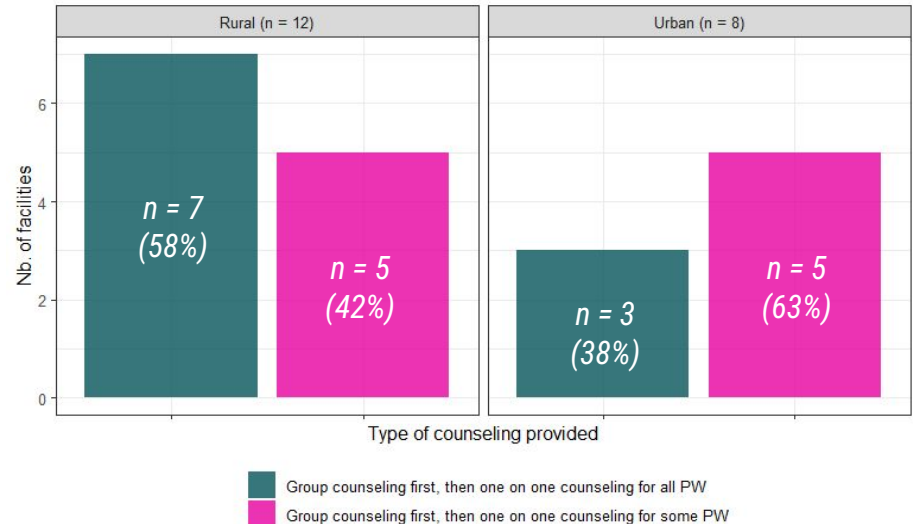
**Counseling at ANC:** All facilities report to provide pregnant women group counseling. 50% of facilities provide follow-up 1:1 counseling to **all** pregnant women while 50% of facilities only provide follow-up 1:1 counseling to **some** pregnant women.

## FINDINGS

**Facilities reporting counseling provided to pregnant women as part of ANC services**



**Type of counseling provided to pregnant women**



**Nutrition and IFA Counseling:** ANC register data confirms that counseling is provided at most ANC visits. Based on attendance data, it is likely that most pregnant women are not receiving counseling until their 2nd/3rd trimester.

## FINDINGS

### Number of ANC visits where counseling was provided\*

All facilities (n = 18,314)	Rural (n = 8,131)	Urban (n = 10,183)	Primary (n = 8,493)	Secondary (n = 9,821)
16,154 (88%)	8,009 (98%)	8,145 (80%)	7,855 (92%)	8,299 (85%)

### Staff type providing ANC counseling

Provider	Rural (n = 12)	Urban (n = 8)
Nurse midwives	7 (58%)	8 (100%)
CHEWs**	6 (50%)	2 (25%)
CHOs**	4 (33%)	2 (25%)
Other	3 (25%)	1 (12%)
Volunteers	1 (8%)	1 (12%)
Doctors	0 (0%)	1 (12%)

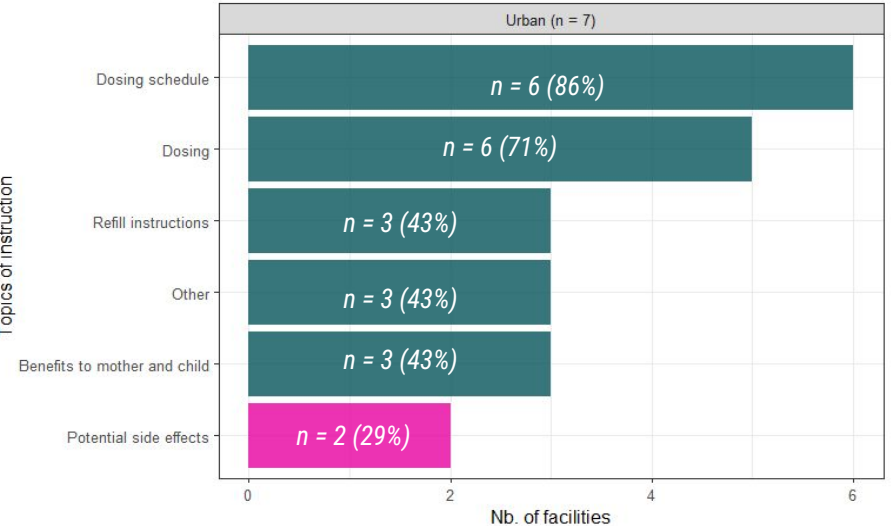
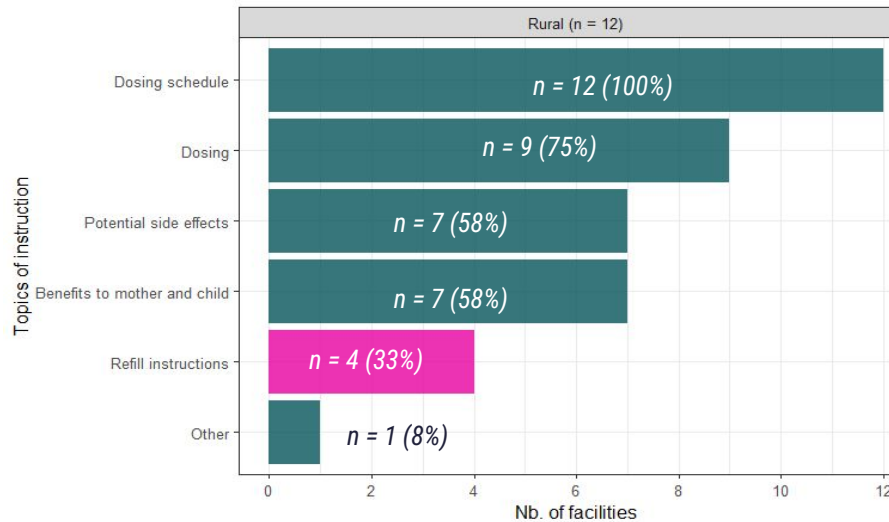
Nurse midwives are the most common providers of counseling services across both urban and rural facilities, followed by CHEWs and CHOs.

\*Note: The denominator is the number of ANC visits recorded throughout the periods in which data was extracted, not the number of ANC clients.

**Areas of instruction:** Dosing frequency and quantity are the most frequently shared instructions to pregnant women. Instructions on side effects, refills and benefits to mother and child are less frequently shared.

## FINDINGS

**Areas of instructions most and least frequently communicated to pregnant women, by rural/urban status.**



**Summary:** ANC counseling is taking place consistently and can be better leveraged for comprehensive counseling on MMS.

## NOTABLE GAPS

- While counseling at ANC is taking place very consistently (88% of ANC visits), guidance on IFA side effects, refills and benefits are less frequently shared.

## RECOMMENDATIONS

- **During MMS trainings:**
  - Reinforce that all pregnant women should be counseled on MMS through existing group counseling sessions
  - Recommend that facility staff also provide 1:1 counseling on MMS to pregnant women at their first ANC visit.
  - Guide facility staff to use a flip chart for MMS counseling that includes information on dosing and dose frequency, benefits to the mother and child, the importance of adherence and potential side effects.

# Overview of Findings and Trends

01. ANC Clinic Characteristics, ANC Services and Fees, Attendance

02. IFA Program Management

03. IFA Stock Management

04. Counseling Practices

**05. Adherence Interventions**

# Adherence to IFAs Found to be a Barrier to IFA Among ANC Attending Pregnant Women

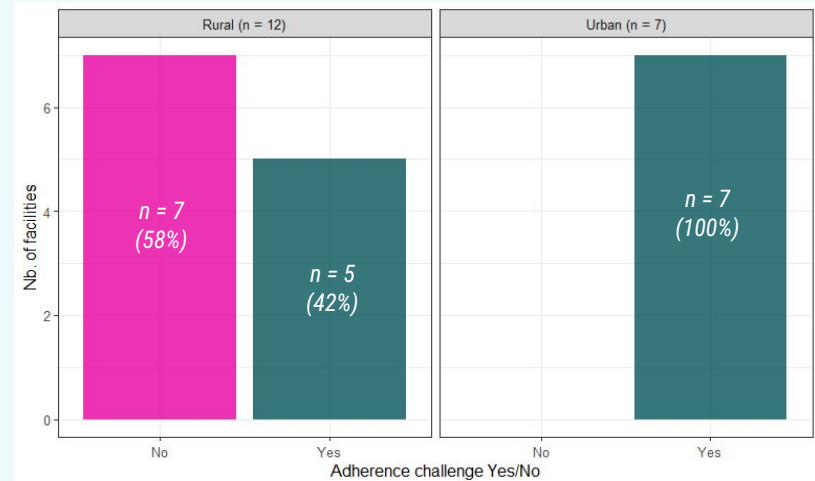
## Overview

**A package of adherence interventions was evaluated through the formative research to assess:**

1. The likelihood of increasing adherence from the perspective of health care workers
2. The likelihood of increasing adherence from the perspective of pregnant women
3. Cost-effectiveness of the intervention package at scale

## FINDINGS

Adherence was reported to be a greater challenge among urban health facilities with **100% (n=7) of urban facilities** reporting adherence challenges compared to **42% (n=12) of rural facilities** reported adherence challenges.



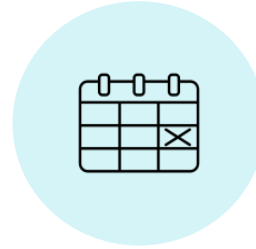
# Adherence Interventions Evaluated



Counseling Flip  
Charts



Phone Alarm  
Reminders



Paper Calendars



SMS Reminders



Model Mother  
Home Visits



CHIP or TBA  
Group Visits



WhatsApp Groups



Interactive SMS  
Reminders



## Phone Alarm Reminders

### Alarm reminders were moderately ranked by health care workers on perceived adherence impact

- Average ranking of **3.5/5** by HCWs at urban facilities
- Average ranking of **3.5/5** by HCWs at rural facilities

### Pregnant women across rural and urban facilities have cell phones that could be used to set alarm reminders

- **72%** of urban and **71%** of rural pregnant women reported to have a functional cell phone in focus group discussions
- Was perceived by pregnant women as an easier option since no data required to set up the alarm

### Additional considerations

- Can be implemented in facility counseling
- No cost outside of reinforcing training

**Recommending to include alarm reminders in adherence package given low to no cost and ease of use by pregnant women.**



## Counseling Flip Charts

### Counseling flip charts were highly ranked among health care workers on perceived adherence impact

- Average ranking of **4.5/5** by HCWs at urban facilities
- Average ranking **4.6/5** by HCWs at rural facilities

### Both healthcare workers and pregnant women cited understanding of benefits of IFA supplementation as a key driver of adherence.

- Pregnant women in focus group discussions stated they would be more willing to take IFA supplementation when knowing the benefits to them and their child.

### Additional considerations

- Already implemented (with broad nutritional information) in 67% rural facilities and 50% of urban facilities
- Low-cost intervention

**Recommending to include counseling flip charts in adherence package** given low cost high perceived impact on increased adherence by health care workers and pregnant women.



## SMS Reminders

### SMS reminders were moderately ranked by health care workers on perceived adherence impact

- Average ranking of **3.8/5** by HCWs at urban facilities
- Average ranking of **3.5/5** by HCWs at urban facilities

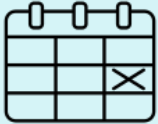
### Most pregnant women across both urban and rural facilities have a functional cell phone that could be used to receive SMS messages.

- Pregnant women in focus group discussions reported being comfortable with receiving SMS messages reminding them to take supplementation.
- Pregnant women preferred to receive reminder messages in the morning around breakfast time

### Additional considerations

- ANC staff were willing to facilitate the collection of phone numbers from attending pregnant women
- Low cost intervention

**Recommending to include twice a week morning SMS reminders in adherence package given low cost, feasibility, and positive reception by both healthcare workers and pregnant women.**



## Paper Calendars

### Paper calendars were ranked highest by health care workers on perceived adherence impact

- Average ranking of **4.5/5** by HCWs at urban facilities
- Average ranking of **4.6/5** by HCWs at urban facilities

### After alarm reminders, paper calendars were the most preferred intervention option among pregnant women.

- Calendar reminders was the most preferred adherence intervention across CHIPS, TBAs and pregnant women at rural facilities.
- Potential to reinforce the use of paper calendar reminders through motivational messaging in SMS reminders.

### Additional considerations

- Higher cost intervention with lower cost-effectiveness at scale relative to other interventions
- Reminder intervention that can be utilized by pregnant women who do not have a phone.

**Recommending to include Paper Calendars in adherence package** given perceived impact on adherence by both healthcare workers and pregnant women.

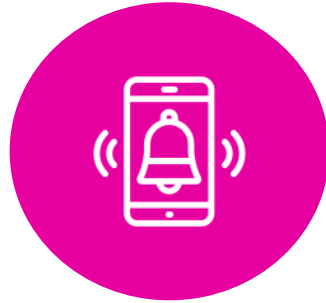
# Ruled-Out Interventions

Intervention	Rationale
<b>Model Mother Home Visits or Group Visits</b>	<ul style="list-style-type: none"><li>• Low preference by pregnant women.</li><li>• Most women were not familiar with Model Mother group visits.</li><li>• High-cost and resource-intensive intervention.</li></ul>
<b>CHIP or TBA Group Visits</b>	<ul style="list-style-type: none"><li>• Low preference by pregnant women.</li><li>• High-cost and resource-intensive intervention.</li><li>• Potential to revisit if CHIPs and TBAs are engaged in at-scale program design.</li></ul>
<b>WhatsApp Groups</b>	<ul style="list-style-type: none"><li>• Low preference by pregnant women.</li><li>• Most pregnant women were not comfortable in being added to a WhatsApp group.</li><li>• Resource-intensive intervention for healthcare workers to manage WhatsApp groups.</li></ul>
<b>Interactive SMS</b>	<ul style="list-style-type: none"><li>• Low preference by both healthcare workers and pregnant women.</li><li>• Some pregnant women were not comfortable with being asked to respond to SMS messages.</li></ul>

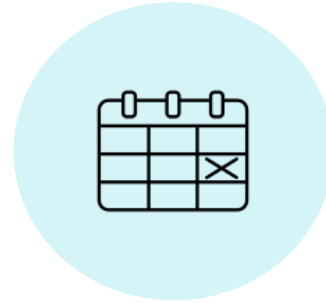
# Pilot Adherence Intervention Package



Counseling Flip  
Charts



Phone Alarm  
Reminders



Paper Calendars



SMS Reminders

Package selected based on comprehensive data from formative research and cost considerations

These are the options that:

1. Are widely considered effective for improving adherence by facility staff, pregnant women, and CHIPS/TBAs
2. Were determined by Evidence Action to be the most cost-effective at scale

# III. Theory of Change

# Inputs

# Activities

# Outputs

# Outcomes

# Impact

## Evidence Action's Direct Inputs

Financial, technical and program design support on MMS delivery activities

Human resources (Evidence Action Nigeria and Global teams)

MMS supplies

## Health Systems Inputs

Human resources (facility staff and LGA health officials)

Engagement from FMOHSW and state health officials

Support MMS procurement, supply distribution planning and stock level monitoring

Develop training and supervision materials and cascades

Conduct trainings and supervision visits

Develop counseling and adherence support plans

Implement counseling and adherence support interventions

Conduct national and LGA level planning and review meetings

## Supply Management

Sufficient MMS supply at pilot sites to cover target population

## Training & Supervision

Health workers trained on MMS knowledge, program delivery, and reporting

## Adherence & Counseling

PW counseled on MMS supplementation

PW provided with tools to maintain MMS adherence

## Program Management

Plans, results and recommendations are aligned with key government stakeholders

High initiation on MMS among PW making first ANC visits

Strengthened capacity of health workers to provide counseling & deliver program

Improved awareness among PW on MMS (benefits, instructions)

Improved adherence among PW on MMS

Improved coordination with and support from government

Decrease in maternal anemia

Decrease in adverse birth outcomes (small for gestational age, low birthweight and stillbirth)

Increased government ownership of MMS pilot results and scale-up recommendations

# IV. Anemia Testing and Treatment Findings and Follow-ups

**Initial Formative Research Findings:** Screening for complications and blood testing for pregnant women are occurring, though rates could be improved. Protocols for addressing severe anemia vary by facility type and require reinforcement.

## FINDINGS

**70%**  
(n=20)

Of facilities offer **screening services for complications** in pregnancy (including anemia)

**54%**  
(n= 7350)

Of ANC visits include **anemia testing** for pregnant women

**0.4%**  
(n=6627)

Of women attending **rural** ANC facilities over a **6 month period** are found to be **severely anemic**

**0.05%**  
(n=13057)

Of women attending **urban** ANC facilities over a **6 month period** are found to be **severely anemic**

### What protocol is followed for pregnant women diagnosed with severe anemia?

	Rural (n = 12)	Urban (n =7)	Primary n=12	Secondary (n=7)
Provide same IFA formulation	3 (25%)	0 (0%)	3(25%)	0 (0%)
Provide intravenous iron	1 (8%)	2 (29%)	1 (8%)	2 (29%)
Refer to secondary/tertiary hospital	8 (67%)	1 (14%)	0 (0%)	1 (14%)
Provide IFA with higher dose of iron	0 (0%)	1 (14%)	1 (8%)	0 (0%)
Refer to another department within facility	0 (0%)	0 (0%)	0 (0%)	4 (57%)
Other	3 (25%)	4 (57%)	3 (25%)	1 (14%)

**Summary:** There is a need to strengthen anemia screening and treatment practices for stronger anemia management.

### NOTABLE GAPS

- **Inconsistent anemia screening:** While the data is somewhat unclear, anemia screening does not appear to be taking place consistently.
- **Treatment of severe anemia:** 3/19 (16%) of facilities are not treating severe anemia cases (are providing the same IFA formulation as used for prevention), which is a major concern. There is significant heterogeneity in the treatment of severe anemia across facilities.

### RECOMMENDATIONS

- **More information gathering** is needed on facility practices for screening and treating maternal anemia.
- Findings indicate a **need for a clear protocol for screening and treating anemia** in pregnant women, including for mild, moderate and severe cases, and how this protocol will be updated given the introduction of MMS. **Follow-up engagement is needed with FMOH to clarify this protocol, which should then be reinforced through MMS trainings and supervision.**
- There is a need for **improved reporting on anemia screening/testing and treatment**, including potentially using a separate register for tracking these indicators.

# Anemia Testing and Treatment Practices Step-back and Investigation

Formative research findings, developments from the government and updated thinking from one of the pilot funders, GiveWell, have prompted us to step-back and assess how to best incorporate support for anemia screening and treatment alongside the distribution of MMS through our pilot.

**The following activities were undertaken July - August 2024:**

**We engaged with Nigeria's Safe Motherhood Unit (SMU), Family Health Department, Ministry of Health:**

- to understand current guidelines for anemia testing and treatment
- to align on the protocol for the pilot.

**We conducted two stages of data collection and interviews** to understand current anemia testing and treatment practices at our pilot sites:

## **Stage I:**

- Administered questionnaire on current anemia screening and treatment practices from **90 pilot sites**.
- Extracted ANC register data on screening rates from **90 pilot sites**.

## **Stage II:**

- Administered a supplementary questionnaire at 10 pilot sites to better understand what was driving the gap between facilities' high self-reported screening practices and lower screening rates observed in register data

# Given current ANC guidelines are outdated and lack clarity, we aligned with the Safe Motherhood Unit on the anemia screening and treatment protocol for the pilot

2017 Guidelines - Nigeria	Protocol for Pilot
<b>Anemia screening</b>	
Symptom screening and hemoglobin testing should be conducted at the first visit and repeated at the 28-32 week visit	Based on WHO's latest ANC guidelines, symptom screening and anemia testing should be conducted at the first visit (~12 weeks) and <b>repeated at the 26 and 36 week visits</b> . Full blood count testing is preferred, followed by point of care testing by hemoglobinometer or packed cell volume/hematocrit testing.
Anemia should be graded as follows: <ul style="list-style-type: none"> <li>● No anemia: <math>\geq 10</math> g/dl</li> <li>● Mild : 8 to 9.9 g/dl</li> <li>● Moderate : 6.1 to 8.0 g/dl</li> <li>● Severe : <math>\leq 6.0</math> g/dl</li> </ul>	Based on WHO's revised hemoglobin cutoff tables from 2024, anemia should be graded as follows: <ul style="list-style-type: none"> <li>● No anemia: <math>\geq 11.0</math> g/dl (first, third trimester); <math>\geq 10.5</math> g/dl (second trimester)</li> <li>● Mild: 10 to 10.9 g/dl (first, third trimester); 9.5 to 10.4 g/dl (second trimester)</li> <li>● Moderate: 7.0 to 9.9 g/dl (first, third trimester); 7.0 to 9.4 (second trimester)</li> <li>● Severe: <math>&lt; 7.0</math> g/dl</li> </ul> For PCV testing, a 1:3 conversion factor for Hb:PCV will be used to grade anemia levels (e.g. severe anemia for PCV is $<21\%$ )

### Key Changes

- Increase anemia testing to be 3 times per pregnancy rather than 2 times
- Emphasize preference for full blood count testing
- Increased Hb/PCV cutoffs for anemia levels (implication is that more pregnant women will be diagnosed as anemic)

2017 Guidelines	Protocol for Pilot
<b>Anemia prevention</b>	
Provide micronutrient supplementation for up to 3 months after delivery (minimum of 60 mg elemental iron and 400 mcg of folic acid daily)	Provide 180 tablets of UNIMMAP multiple micronutrient supplementation (MMS) to be taken through pregnancy and 3 months after delivery
<b>Anemia treatment</b>	
<p>For severe anemia (Hb <math>\leq</math> 6.0 g/dl), urgent referral is needed to:</p> <ul style="list-style-type: none"> <li>• Transfuse with packed cells, if necessary</li> <li>• Treat for any heart failure that has resulted from severe anaemia</li> <li>• Manage as for severe/complicated malaria, if malaria is diagnosed.</li> <li>• Treat for hookworm, if in endemic area</li> <li>• Provide iron (120 mg) daily and folate (5mg) by mouth daily for six months</li> </ul>	<p>For severe anemia (now defined as Hb &lt; 7.0 g/dl), follow the same referral protocol as recommended in the 2017 guidelines.</p>
<p>For mild and moderate anaemia, no guidance provided.</p>	<p>For mild and moderate anemia, provide 90 mg iron daily - MMS tablet with 30 mg iron + 1 tablets iron/IFA with 60 mg iron.</p> <p>If the patient's mild or moderate anemia has not resolved at the next follow up visit, then the dosage of daily iron should be increased to 120mg.</p>

### Key Changes

- Introduce MMS for anemia prevention
- Establish a treatment protocol for mild/moderate anemia

**KEY FINDINGS:**

- While hemoglobin testing is recommended for **all** pregnant women, symptom screening was being conducted to triage pregnant women for anemia testing in 67% (60/90) of facilities
- For sites conducting anemia testing for **all** pregnant women, the testing rate was 52-58% at target visits, while for sites triaging with symptom screening, the testing rate was 46-47% at target visits.
- Among facilities with low screening rates, inconsistencies in following the anemia screening algorithm and weak data reporting practices were key challenges. The cost of anemia testing for pregnant women was also reported as a barrier by 4 of 7 facilities.
- No major challenges were reported with anemia testing, either on site or by referral, though most (91%) sites are using PCV testing.

**RECOMMENDATIONS:**

- Aim to reach 70% testing coverage by:
  - Training HCWs on the revised anemia screening algorithm, which recommends that anemia testing is conducted for **all** pregnant women at the first, 26 week and 36 week visits.
  - Through supervision visits/review meetings, reviewing anemia testing data with facility staff every 1-3 months. For sites with low testing rates, reinforce best practices (following the screening algorithm, recording results in ANC registers).
- Aim to reach 80-90% testing coverage by providing additional anemia testing and treatment support activities. We plan to investigate:
  - Procuring hemoglobinometers for facilities that either do not have any on-site Hb testing capabilities or are currently using PCV testing
  - Subsidizing the cost of anemia testing and/or treatment for ANC attendees

**KEY FINDINGS:**

- Facilities have varying practices for treating mild, moderate and severe anemia. Only 8% of sites were increasing iron dosing for mild anemia and only 18% of sites were increasing iron dosing for moderate anemia.
- Current ANC registers do not indicate whether IFA is being provided for preventive versus therapeutic purposes, **so we were not able to assess treatment coverage rates.**
- 31% (31/90) facilities report challenges with anemia treatment. The two main challenges were cost of anemia treatment (15/90 facilities) and side effects/smell of IFA tablets (6/90 facilities).

**KEY RECOMMENDATIONS:**

- Train HCWs to:
  - Prescribe 90 mg iron daily for women with mild or moderate anemia (MMS tablet with 30 mg iron + 1 tablets iron/IFA with 60 mg iron)\*
  - Refer pregnant women with severe anemia for management
- Track treatment coverage through new IFA/MMS register
- During site supervision visits/review meetings, reinforce anemia treatment and reporting recommendations for non-compliant sites.
- Follow other IFA/MMS stock management recommendations found through formative research activities.

\*If the patient's mild or moderate anemia has not resolved at the next follow up visit, then the dosage of daily iron should be increased to 120mg.

# Thank you!

*For further questions on the findings in this presentation please contact:*

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