



**POST EVENT COVERAGE SURVEY OF VITAMIN A SUPPLEMENTATION AND DEWORMING IN
FEDERAL CAPITAL TERRITORY, ABUJA, NIGERIA.**



Foreign Affairs, Trade and
Development Canada

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et Développement Canada



EXECUTIVE SUMMARY

- Title** Post event coverage survey of vitamin A supplementation and deworming in Federal Capital Territory (FCT), Abuja, Nigeria: Report of January 2016 survey findings.
- Objectives** To validate Vitamin A supplementation and deworming (VASD) administrative coverage data and identify factors associated with the receipt of VASD in FCT.
- To assess the contribution made by the social mobilization strategy on caregiver awareness and participation during the December 2015 MNCHW in the FCT.
- Methods** Post event coverage (PEC) survey was conducted within six weeks of the implementation of the December 2015 MNCHW in FCT. Thirty clusters were randomly selected in FCT using probability proportionate to size (PPS) sampling. In each cluster, 30 caregivers, 1 health worker (HW) and 1 community leader were interviewed.
- Results** VAS coverage in FCT among children 6-59 months of age was 67.0%; 26.2% lower than state administrative coverage data (93.2%). Meanwhile, deworming coverage was 40.9%. Compared to children who were unreached during the campaign, children who received VAS had caregivers who had heard about Vitamin A, heard from town announcers, had working radios and lived less than 10 minutes away from the health facility (HF). There was poor understanding on key vitamin A messages among caregivers in the FCT.
- Discussion** The results highlight differences between the PEC survey and state coverage figures in the FCT, Nigeria. The disparity between the administrative data and PEC survey findings could be linked to underestimation of the denominator as a projection of the outdated 2006 census population was used. Despite the low coverage, the social mobilization strategy contributed to caregivers' awareness as having heard about VAS, hearing about VAS via town announcements, owning a working radio and living less than 10 minutes from the HF were factors found to be significantly associated with the receipt of VA. Increased funding through advocacy visit to key decision makers as well as strengthening effective channels would therefore lead to increased coverage in subsequent campaigns.

Acknowledgements

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HKI Nigeria takes this opportunity to express its gratitude to all those who, directly or indirectly, contributed to this investigation.

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We also thank all supervisors and enumerators who worked diligently and with close attention to detail in order to collect the data in this report.

Acronym Guide

AMAC	Abuja Municipal Area Council
CHEW	Community Health Extension Workers
EPI	Expanded Programme on Immunization
FANC	Focused Antenatal Care
FCT	Federal Capital Territory
FMOH	Federal Ministry of Health
HF	Health Facility
HW	Health Worker
LLIN	Long Lasting Insecticide Treated Nets
LGA	Local Government Area
LGC	Local Government Council
MDG	Millennium Development Goal
NBS	National Bureau of Statistics
NDHS	Nigerian Demographic and Health Survey
NGO	Non-governmental Organization
NPHCDA	National Primary Health Care Development Agency
NPopC	National Population Commission
MNCHW	Maternal New-born and Child Health Week
ORS	Oral Rehydration Solution
PECS	Post Event Coverage Survey
SPSS	Statistical Package for the Social Sciences
VA	Vitamin A
VAC	Vitamin A Capsule
VAD	Vitamin A Deficiency
VAS	Vitamin A Supplementation
VASD	VAS Distribution
WHO	World Health Organization

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1. Introduction

1.1 Background

Vitamin A Deficiency (VAD) is a major public health problem especially in poor societies and low-income countries. The effect of VAD leads to high rates of morbidity and mortality, particularly for children under the age of five.¹ In Nigeria, the rate of VAD amongst children aged 6 to 59 months is high at 29.5%.² Based on the 2013 National demographic and Health Survey (NDHS) findings, the rate of infant and under-five mortality in Nigeria is estimated at 69 deaths per 1,000 live births and 128 deaths per 1,000 live births respectively.³ This implies that one in every eight children born in Nigeria within the 5 years period preceding the study (2009-2013) died before their fifth birthday.

In settings where VAD is a public health problem, bi-annual vitamin A supplementation is recommended by World Health Organization (WHO) in infants and children 6-59 months of age as a public health intervention to reduce child morbidity and mortality.

Vitamin A supplementation (VAS) is a cost effective intervention that reduces child mortality by 24% in area where VAD exists.⁴ It can also reduce morbidity from many common childhood conditions caused by VAD, such as xerophthalmia (a condition in which the eye is unable to produce tears) and night blindness by 68%.⁵

In Nigeria, the delivery of VAS has been integrated with other maternal and child survival interventions like deworming, focused antennal care (FANC), routine immunization, Zinc/Lo-ORS, nutrition assessment and education through the bi-annual Maternal, Newborn and Child Health Week (MNCHW) campaign. These integrated services are delivered by trained health workers / volunteers at designated health facilities (HF) and mobile outreach posts during the weeklong campaign. Various social mobilization activities are carried out at the community levels to enlighten and mobilize caregivers of eligible children to the health facilities / outreach posts to receive services.

1 Imdad A et al. Vitamin A supplementation for preventing mortality and morbidity in children 6 months to 5 years of age. *Cochrane Database of Systematic Reviews*, 2010 (12): CD008524

2 Busie B et al. Vitamin A Deficiency Is Prevalent in Children Less Than 5 y of Age in Nigeria. *J Nutrition*, 2006 (136): 2255-2261.

3 National Population Commission, MEASURE DHS, ICF International. Nigeria Demographic and Health Survey 2013 Preliminary Report

4 Beaton GH, Martorell R, Aronson KJ, Edmonston B, McCabe G, Ross AC, et al. Effectiveness of vitamin A supplementation in the control of young child morbidity and mortality in developing countries. ACC/SCN State-of-the-Art Series: Nutrition Policy Discussion Paper No. 13. Geneva: The United Nations, 1993

5 WHO, UNICEF. *Integration of vitamin A supplementation with immunization: policy and programme implications*. Geneva, World Health Organization, 1998 http://whqlibdoc.who.int/hq/1998/WHO_EPI_GEN_98.07.pdf, accessed 20 May 2011

1.2 Statement of the Problem & Rationale for Survey

VAS coverage figures are based on administrative data collected during the implementation days using tally sheets. Administrative reporting has taken up to 2 months to reach national level for official coverage estimates, putting the accuracy of the data into question. Recent validation surveys have reported coverage that is lower than the administrative data. For example, in Katsina State, a VAS Post Event Coverage Survey (PECS) conducted by HKI in collaboration with the Government showed that coverage for children 6-59 months of age during the 2014 round 2 VAS distribution was 43.5%, in contrast to the 80% tally sheet coverage reported by the state. The table below indicates the difference in coverage between tally sheet data and Post Event Coverage validation surveys.

FCT R1 2012		Akwa-Ibom R2 2013		Benue R2 2013		Ebonyi R1 2014		Ekiti R2 2014		Katsina R2 2014	
Admin. %	PECS %	Admin. %	PECS %	Admin. %	PECS %	Admin. %	PECS %	Admin. %	PECS %	Admin. %	PECS %
66.6	66.9	97	45.8	92	50.7	106	56.6	81	66.3	80	43.5

Among the challenges affecting uptake of VASD is the lack of knowledge among caregivers about MNCHW campaigns. For example, PECS conducted in 2015 in Ekiti and Katsina states where VAS coverage was found to be 66.3% and 43.5% respectively showed that majority of children who did not receive VAS (Ekiti 47.2%, Katsina 49.8%) did so because of lack of information about the campaigns.

Likewise, responses from the client exit interviews which are conducted during the MNCHW campaigns show that majority of caregivers are not aware of the campaign, they just happen to bring their children for routine immunization.

Over the years, HKI has supported some aspect of social mobilization in 8 states such as printing of IEC materials, production and airing of radio jingles (in English and local languages) with key messages about the campaign, orientation of town announcers, sensitization of religious and community leaders and community dialogues. However, awareness about the campaign has still been low due to inadequate funds resulting in these activities not being fully implemented. This necessitated the need for a social mobilization strategy that aimed to increase awareness among caregivers, community participation and uptake of services during the MNCHW.

In 2015, HKI opted to target Abuja Municipal Area Council –AMAC to implement a pilot on social mobilization strategy to draw lessons for improving awareness of caretakers during MNCH Weeks. AMAC was selected based on having the lowest administrative VAS coverage data during

the May and November, 2014 MNCHW, despite being the country's largest Local Government Area (LGA) in terms of population.

HKI therefore chose to increase its support to the FCT, and AMAC in particular. HKI funding support ensured improvement on key aspects of the MNCHW campaign such as planning, advocacy meetings with opinion leaders, meetings with religious leaders, sensitization meetings with women leaders, distribution of letters of notifications to schools and churches about the MNCHW campaign, community dialogues, training of town announcers, radio jingles, street-to-street mobilization, printing of IEC materials (MNCHW banners) and training. Similarly, HKI ensured through advocacies that the government adequate supplies particularly the deworming tablets and also ensured that there was adequate number of supplementation posts to make it easier for caregivers to access the services.

Having conducted a baseline PECS in the FCT in 2012, an end-line PECS was therefore conducted in January 2016, by HKI team in collaboration with the FMOH, to assess the contribution of the social mobilization strategy in AMAC on caregiver awareness, and hence VAS coverage

1.3 Objectives of the Survey

1.3.1 To validate VASD administrative coverage data and identify factors associated with the receipt of VASD in the FCT.

1.3.2 To assess the contribution made by the social mobilization strategy on caregiver awareness and participation during the December 2015 MNCHW in the FCT.

2. Methodology

2.1 General Design

The PEC survey used a randomized, cross-sectional cluster design and was conducted within six weeks after the December 2015 round of MNCHW to ensure accurate recall by caregivers. To ensure selection of a representative sample of households, 30 clusters (communities) were randomly selected from the 1996 projected population census list of communities in FCT, using probability proportionate to size sampling (PPS). Sampling was done at the community level because this was the smallest unit for which there is population data from the National Bureau of Statistics (NBS).⁷

The methodology for the survey was adapted from the WHO/EPI cluster sampling methodology.⁸ Using a map of each community, each cluster (community) was divided into four quadrants. In each of the first two quadrants, 8 households were randomly surveyed while in each of the last two quadrants, 7 households were interviewed. Thus giving a total of 30 caregivers interviewed in each community.

⁷ 2006 Nigeria Census, National Bureau of Statistics

⁸ Immunization Coverage Cluster Survey-Reference Manual. World Health Organization, 2005

To determine the households to be included in the survey, one of five starting points were chosen at random in each quadrant. Once the survey team reached each starting point, a bottle was spun to determine the direction that the survey team should proceed in. Once the direction was determined, the first household to be interviewed was randomly selected and data collection started from the selected household until the target number of surveys for each quadrant was completed. This process was repeated in each of the four quadrants of the cluster.

Households were considered eligible for the survey if they had a child 6-59 months of age at the time of the November/ December 2015 MNCHW and the primary caregiver was present. If there was more than one eligible caregiver present, one was selected at random to participate in the survey. Likewise, if a caregiver had more than one eligible child, one was selected at random to be the focus of the survey. Children's ages were verified by health cards whenever possible. In cases where a health card was not available, caregivers were asked if they could recall the child's date of birth or otherwise the month and year of birth or a significant event that took place around the time of their child's birth. In the event that the age of a child could not be obtained either via health card, recall by the caregiver or using a significant event, the caregiver was not interviewed and the team continued to the next eligible household after thanking the primary caregiver.

In addition to caregivers, one Health Worker (HW) and one village/community leader were surveyed in each cluster. The HWs, which included community health extension workers (CHEW), were selected based on their availability at the HF; however the HW surveyed had to be involved with the last VAS distribution in order to be eligible to participate. All data were collected with mobile phones using the Ona platform. Prior to beginning the survey, all enumerators participated in a two-day training in which one day was dedicated to training on collecting data using mobile phones. Specific measures were put in place to ensure data quality including pre-testing the survey tool in a neutral community prior to data collection. All survey data were reviewed by the survey team leader prior to uploading to the Ona server.

2.2 Data Management and Reporting

Data collected from the 30 communities were uploaded from the smartphones for storage at a central server (ONA). The raw data were thereafter exported from the website and converted to SAV/SPSS format for ease of data analysis. The eligibility criteria for including caregivers in the survey was having a child or children aged 6 – 59 months at the time of the last MNCHW in FCT.

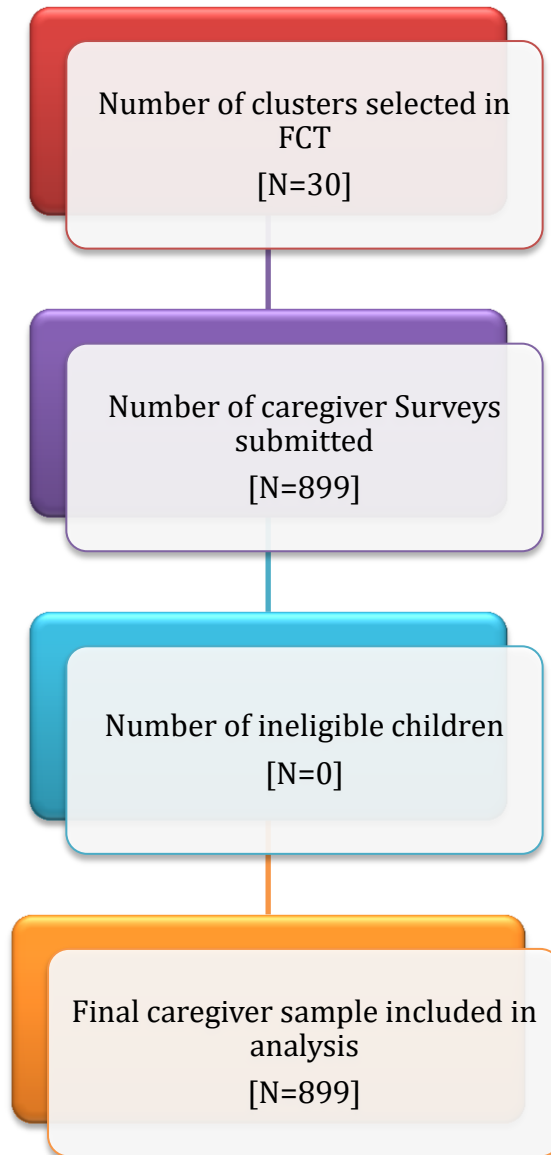
For children whose exact day of birth was unknown, an estimated date was arrived at by using the 15th day of the month and year of birth given by the caregiver. IBM SPSS Statistics 22 was used to compute frequencies and cross-tabulations in order to compare children who were supplemented and those who were not. A p-value of <0.05 was considered as significant. The 95% confidence interval was also calculated.

3. Study Findings

3.1 Enrollment and Final Sample

The final sample used for analysis comprised of 899 caregivers, thirty community leaders (30) and twenty four (24) health workers. Some communities shared the same health facility, so the health worker interviews were not duplicated in such communities.

Figure1. Flow of participants in final analytical sample for FCT



3.2 Description of the Sample

Table 2 and 3 give an overview of the socio-demographic characteristics of the final sample included in the analysis. Majority of the children were aged 12- 59 months and more than half had birth certificates/health cards. Trading/business was the main source of income of the caregivers surveyed.

3.2.1 Descriptive Statistics of Children and Caregivers Surveyed

Table 2 provides a descriptive overview of the caregivers and children surveyed. A larger percentage (86.4%) of the children assessed fell within the 12 – 59 months age group, while only 13.6% were aged 6 – 11 months. Males (51.5%) and females (48.5%) were almost equal in the sampled population.

Most of the caregivers interviewed were the child's mother (89.9%). Over forty percent (42.3%) of the caregivers had completed secondary school, while about a quarter (25.5%) had completed primary school. Almost a third of the caregivers (29.4%) fell within the 25 – 29 year age range, followed by the 30 – 34 year age range (26.4%).

Table 2: Descriptive Statistics of Children and Caregivers Surveyed		
CHILD CHARACTERISTICS		
Age in months	(N = 899)	(%)
6-11	122	13.6
12-59	777	86.4
Gender		
	(N=899)	(%)
Male	463	51.5
Female	436	48.5
Health Card/Birth Certificate		
	(N=899)	(%)
No	342	38.0
Yes	557	62.0
CAREGIVER /INFORMANT CHARACTERISTICS		
Relationship with the Child		
	(N=899)	(%)
Mother	808	89.9
Father	74	8.2
Grandparent	5	0.6
Sibling	3	0.3
Aunt/Uncle	9	1.0
Other	0	0.0
Age (years)		
	(N=899)	(%)
< 20	17	1.9
20 - 24	151	16.8
25 - 29	264	29.4
30 - 34	237	26.4
>/= 35	230	25.6
Level of Education		
	(N=899)	(%)
None	125	13.9
Primary education	229	25.5
Secondary education	380	42.3
Tertiary education	141	15.7
Postgraduate	2	0.2
Others	22	2.4
Religion		
	(N=899)	(%)
Christian	614	68.3
Muslim	284	31.6
Traditional	1	0.1
Other	0	0.0

3.2.2. Descriptive statistics of the Households

Table 3 provides an overview of the characteristics of households. Most of the households were located in rural areas (76.6%). More of the caregivers (40.5%) indicated trading/business as their main source of income; while almost a quarter (24.1%) was unemployed / stay-at-home. Equal percentages of the caregivers (25.0%) fell within the four wealth quartiles.

Table 3: Descriptive Statistics of the Household		
Type of the Area	(N=899)	(%)
Rural	689	76.6
Non-rural	210	23.4
Income Source	(N=899)	(%)
Farmer	111	12.3
Trader or Business	364	40.5
Civil Servant	44	4.9
Artisan	125	13.9
Unemployed / Stay at Home	217	24.1
Wealth Quartile	(N=899)	(%)
First	224	24.9
Second	225	25.0
Third	225	25.0
Fourth [Highest]	225	25.0

3.3 VAS Coverage among Children 6-59 Months of Age during the Supplementation Round

Key finding: 67.0% of children aged 6 – 59 months received VAS in the FCT during the December 2015 round of the MNCHW.

The primary objective of the survey was to validate VASD administrative coverage data and identify factors associated with the receipt of VASD in the FCT. The results of 67.0% of children being supplemented, as seen in Table 4 below, is considerably lower than the administrative tally sheet data (93.2%). This suggests that a large number of children were missed in the 2015 VAS round 2 and this may have been because their caregivers (51.6%) had never heard about the MNCHW. A similar coverage for VAS was also obtained in AMAC LGC (66.7%).

Table 4: Coverage of Vitamin A Supplementation (VAS) among Children 6-59				
	FCT		AMAC	
	n/N	%	n/N	%
Overall	602/899	67.0	260/390	66.7
By Sex	n/N	%	n/N	%
Female	304/436	69.7	133/183	72.7
Male	298/463	64.4	127/207	61.4

3.4. Association between VAS receipt and characteristics of children and households

Table 5 indicates that in the FCT, caregivers' awareness about Vitamin A was significantly associated ($p < 0.05$) with the child receiving VAS during the December 2015 round. Other variables that were significantly associated with VAS receipt include hearing about VAS via town announcer and ownership of a working radio. Living less than or equal to 10 minutes from the health facility was also significantly associated with VAS receipt. Part of the activities implemented during the social mobilization strategy was using more town announcers and increasing the number of slots of radio jingles aired. This could be the reason why these were found to be significantly associated with VAS receipt.

Table 5: Association between VAS receipt and characteristics of Children and Households.

Variable		Supplemented, %(n)		Significant? (p-value)
		No	Yes	
Wealth Quartile	1st (Lowest)			
	2nd			
	3rd			
	4th (Highest)			
Type of Area	Non-rural	25.5% (51)	74.5% (149)	No (0.191)
	Rural	30.3% (197)	69.7% (453)	
Sex	Female	27.1% (113)	72.9% (304)	No (0.191)
	Male	31.2% (135)	68.6% (298)	
Age	6 – 11 months	29.6% (34)	70.4% (81)	No (0.921)
	12 – 59 months	29.1% (214)	70.9% (521)	
Married	No	38.1% (8)	61.9% (13)	No (0.363)
	Yes	29.0% (240)	71.0% (589)	
Educated	No	25.4% (30)	74.6% (88)	No (0.334)
	Yes	29.8% (218)	70.2 (514)	
Employed	No	33.6% (71)	66.4% (140)	No (0.099)
	Yes	27.7% (177)	72.3% (462)	
Distance to Health Facility	</= 10 minutes	19.7% (70)	80.3% (285)	Yes (0.000)
	> 10 minutes	36.0% (178)	64.0% (317)	
Ever heard of Vitamin A	No	35.4% (118)	64.6% (215)	Yes (0.001)
	Yes	25.1% (130)	74.9% (387)	
Heard of VAS via ...	Radio	No significant association, p = 0.604		
	Religious Leaders	No significant association, p = 0.211		
	Child's School	No significant association, p = 0.200		
	Town Announcers	Significant association, p = 0.001		
	Community Leaders	No significant association, p = 0.577		
Owens a working ...	Radio	Significant association, p = 0.001		

3.5. Coverage of De-worming

Key finding: De-worming coverage of eligible children aged 12 – 59 months was 40.9% in the FCT. Ineligible children 6 – 11 months were also dewormed (23.8%)

Table 6 indicates that overall de-worming coverage of eligible children (12-59 months of age) was 40.9% in the FCT. In Nigeria, the protocol for administration of de-worming tablets is specific to children 12-59 months of age. Therefore children less than 1 year are not to be given deworming tablets. However, despite this protocol, PECS's data revealed that 23.8% of children in the FCT who were dewormed were less than 1 year of age. The reason for this may be because untrained community volunteers are often used in many HFs to administer some interventions especially Vitamin A and deworming. Integrating these volunteers into the health system and training them adequately may help addressing the issue of deworming ineligible children.

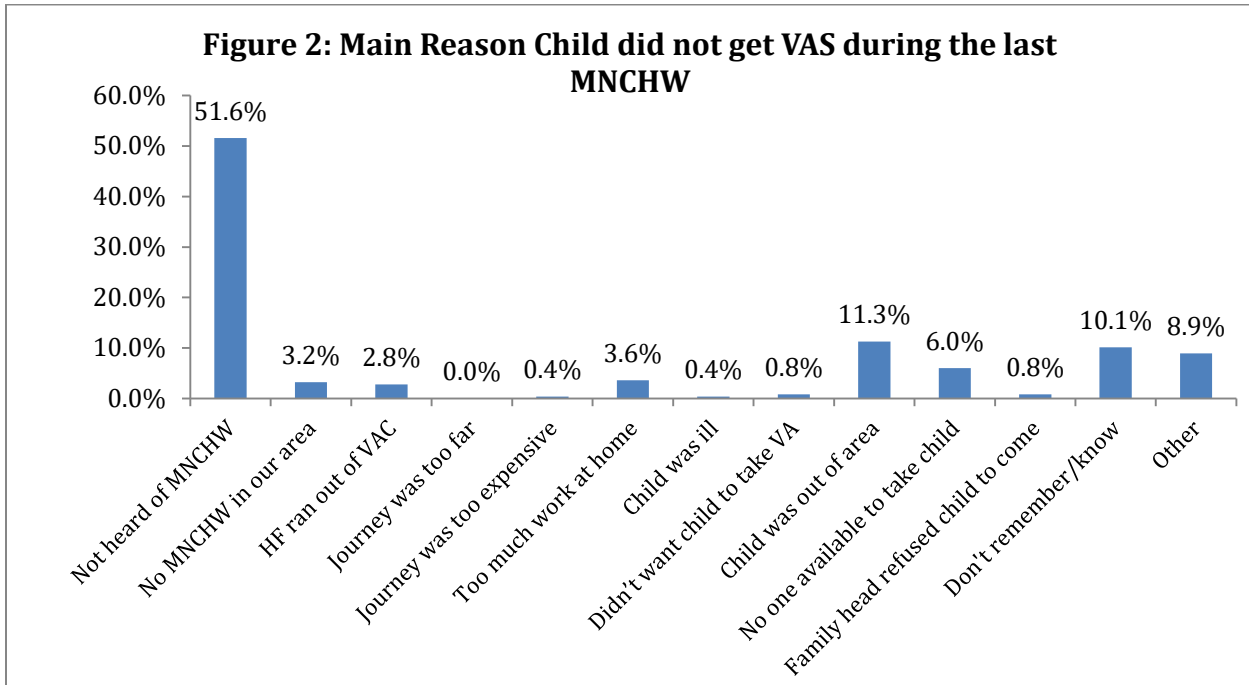
Table 6: Coverage of Deworming among Children aged 12 - 59 months

Age group	n/N	%
6 - 11 months	29/122	23.8
12 - 59 months	318/777	40.9
Gender	n/N	%
Female	162/381	42.5
Male	156/396	39.4

3.6. Characteristics of Children Missed by the Last VAS Campaign

Key finding: *The primary reason reported by caregivers for not attending the MNCHW in the FCT was that they had not heard of the MNCHW. Caretaker's lack of awareness of the MNCHW was the main barrier to children receiving Vitamin A Supplementation during the Nov. / Dec. 2015 round*

Figure 2 provides information on the reasons for children missing VASD during the / December 2015 MNCHW event. In the FCT, more than half of the caregivers (51.6%) interviewed stated having never heard about the MNCHW as the main reason why their children did not receive VAS. Other reasons given include 'Child was out of the area' (11.3%) and 'No one available to take child' (6.0%). The integrated measles campaign took place in November, shortly before the MNCHW commenced and it was also health facility based. This could have confused the caregivers.



3.7. Caregiver Knowledge about Vitamin A

Key findings: Many of the caregivers in the FCT did not know any benefit of Vitamin A (40.3%), the age at which eligible children should receive VAS for the first time (58.3%) nor the frequency of VAS receipt among eligible children (72.5%)

Table 7 below shows that many of the caregivers (40.3%) didn't know any benefit of Vitamin A. Only 18.7% knew that VAS protects the child against disease while 32.5% reported that Vitamin A prevents blindness/helps vision. During field monitoring, HWs have been found to give caregivers information about handwashing and exclusive breastfeeding. Many of the HWs rarely talk about the benefits of Vitamin A. HWs therefore need to be reminded during supportive supervisory visits to stress on the importance of Vitamin A and other key messages related to it (i.e. age of first VAS receipt, frequency of VA receipt and target groups for VASD).

Table 7: Caregivers' Knowledge of the Benefits of Vitamin A (N = 539)

What are the benefits of Vitamin A? (Multiple answers allowed)	n	%
Don't know / Don't remember	217	40.3
Prevents Blindness/ Helps Vision	175	32.5
Protects Against Disease	101	18.7
Reduces risk of death	12	2.2
Improves Child Health	129	23.9
Helps with Growth	43	8.0
Other	7	1.3

3.7.1. Knowledge of Caregivers on recommended age for children to receive VAS

In table 8 below, only 20.0% of caregivers knew the correct age at which a child should receive Vitamin A for the first time (i.e. at 6 months). More than half (58.3%) did not know the correct age.

Table 8: Caregivers' knowledge of age of first VAS receipt among children (N = 539)

At what age should a child receive Vitamin A for the 1st time?	n	%
At Birth	36	6.7
6 months	108	20.0
9 months	44	8.2
Don't know	314	58.3
Other	37	6.9

3.7.2. Knowledge of Caregivers on Frequency of VAS for Children

Table 9 below shows that in the FCT, only 18.2% of caregivers could correctly state the frequency of VAS receipt among eligible children (every 6 months). More than seventy percent (72.5%) did not know this fact.

Table 9: Caregivers' knowledge of frequency of VAS for children (N = 539)

How Often should a Child aged 6 - 59 months receive Vitamin A capsules?	n	%
Don't Know	391	72.5
Every 6 months (2 times/year)	98	18.2
During each MNCHW	8	1.5
Every DAY	1	0.2
Other	49	9.1

3.7.3. Caregivers Source of Knowledge on Vitamin A Supplementation

Table 10 below indicates that in the FCT, the most common source of information about Vitamin A was Health workers (76.1%) followed by Other mothers / Word of Mouth (13.0%) and Town announcers (8.5%).

Table 10: Caregivers' source of knowledge on Vitamin A Supplementation		
From Where or Whom have you heard about Vitamin A?	n	%
Poster	4	0.7
Newspaper	2	0.4
TV	12	2.2
Radio	7	1.3
Other mothers / Word of Mouth	70	13.0
Health Workers	410	76.1
Child's School	7	1.3
Religious Leader	10	1.9
Community Leaders	4	0.7
Town Announcers	46	8.5
Don't Remember	22	4.1
Other	17	3.2

3.8. Caregivers Knowledge about MNCHW Campaign

Data in Table 11 below shows that 23.4% of caregivers in the FCT did not know who should attend the MNCHW campaign. A little over forty percent recalled that the campaign took place at the Health facility (44.5%), while (29.5%) reported Outreach post. Majority of the caregivers (75.8%) recalled that VAC was one of the commodities administered to eligible children during the campaign. Other commodities recalled included routine immunization antigens (41.2%), followed by deworming tablets (36.2%). The three main sources of awareness creation about the MNCHW mentioned by the respondents were town announcer (41.7%), followed by health workers (24.0%) and then word of mouth (17.4%). Over forty percent recalled that the venue of the MNCHW event (48.8%) and the target groups for the campaign (41.4%) were the main key messages passed across about the MNCHW.

Table 11: Caregivers' knowledge on the MNCHW campaign (N = 633)		
Who should attend the MNCHW event?	n	%
Everyone	9	1.4
All children	174	27.5
Children 6 - 59 months	240	37.9
Women of Reproduction age	62	9.8
Don't know	148	23.4
Others	76	12.0
Where did the MNCHW event take place?		
House/Door-to-door	54	9.0
Health Facility/Hospital	282	44.5
Outreach post	187	29.5
School	42	6.6
Don't know	11	1.7
Other	57	9.0
What services were provided during the last MNCHW?		
LLIN/Bednets	2	0.3
Deworming	229	36.2
Vitamin A Capsules	480	75.8
Immunizations	261	41.2
Family Planning Advice	4	0.6
Growth Monitoring and Promotion	2	0.3
Don't know/Don't remember	101	16.0
Others	6	0.9
How did you find out about the MNCHW?		
Poster	5	0.8
Newspaper	1	0.2
TV	9	1.4
Radio	19	3.0
Other mothers/Word of Mouth	110	17.4
Health Workers	152	24.0
Child's school	23	3.6
Religious Leaders	46	7.3
Community Leaders	15	2.4
Town Announcers	264	41.7
Don't remember	14	2.2
Others	10	1.6
What specific message were you given about the MNCHW?		
Date of the MNCHW	122	19.3
Daily time of the MNCHW	89	14.1
Venue of the MNCHW	309	48.8
Target group of the MNCHW	262	41.4
Benefits of the MNCHW	67	10.6
Other	40	6.3
None	96	15.2

3.9. Caregivers Knowledge about Micronutrients and Fortification

Majority of the caregivers (98.2%) had never heard about micronutrients, as shown in table 12 below. Of those who had heard, an equal percentage (25.0% respectively) had ever added micronutrients to their child's food and had also received MNPs in the last 3 months.

The table also shows that most of the caregivers (94.7%) reported never having heard of Food fortification. On further probing, it was found that almost half of the caregivers (47.3%) consumed locally processed unbranded flour, about half (51.8%) consumed industrially processed branded sugar and 41.7% consumed industrially processed branded cooking oil. Fortification could only be confirmed in 40.9% of the flour, 31.7% of the sugar and 33.7% of the cooking oil seen, using the national mandatory Vitamin A eye logo. These findings are to be expected since sensitization on micronutrients and food fortification has never been done, neither has MNPs ever been distributed in the FCT.

Table 12: Caregivers' knowledge of Micronutrients and Fortification		
Have you ever heard of Micronutrients	N=899	%
No	883/899	98.2
Yes	16/899	1.8
Ever added MNPs to child's food?	N = 16	%
No	12	75.0
Yes	4	25.0
Receive MNPs in the last 3 months?	N = 16	%
No	12	75.0
Yes	4	25.0
Ever heard of Food Fortification?	N=899	%
No	851	94.7
Yes	48	4.3
Do you consume fortified foods in your home?	N=48	%
No	4	8.3
Yes	44	91.7
What kind of flour do you consume most often at home?	N = 899	%
Industrially processed branded flour	380	42.3
Industrially processed unbranded flour	43	4.8
Locally processed branded flour	11	1.2
Locally processed unbranded flour	425	47.3
Other	40	4.4
Observe Label to see if the flour is fortified	N = 899	%
Flour was purchased without a label	258	28.7
Label does not indicate flour is fortified	26	2.9
Label indicates flour is fortified	368	40.9
Other		
What kind of sugar do you consume most often at home?	N = 899	%
Industrially processed branded sugar	459	51.1
Industrially processed unbranded sugar	362	40.3
Locally processed branded sugar	7	0.8
Locally processed unbranded sugar	27	3.0
Other	44	4.9
Observe Label to see if the sugar is fortified	N = 899	%
Sugar was purchased without a label	504	56.1
Label does not indicate sugar is fortified	39	4.3
Label indicates sugar is fortified	285	31.7
Other	71	7.9
What kind of cooking oil do you consume most often at home?	N = 899	%
Industrially processed branded cooking oil	375	41.7
Industrially processed unbranded cooking oil	208	23.1
Locally processed branded cooking oil	10	1.1
Locally processed unbranded cooking oil	281	31.3
Other	25	2.8
Observe Label to see if the cooking oil is fortified	N = 899	%
Cooking oil was purchased without a label	409	45.5
Label does not indicate cooking oil is fortified	74	8.2
Label indicates cooking oil is fortified	303	33.7
Other	113	12.6

3.10. Health Worker and Community Leader's Knowledge of VAS

Key finding: *Exactly 40.0% of community leaders in the FCT did not know any benefit of Vitamin A, while only 37.5% of Health workers knew that VAS strengthens the immune system by protecting against diseases among children.*

Among Health workers surveyed in the FCT, an equal percentage was female and also CHEWs (62.5% respectively). Majority of the health workers (95.8%) had been CHEWs for more than one year. Most (96.7%) of the community leaders surveyed were males. Only 26.7% had completed their tertiary (university/polytechnic/college of education) education.

As seen in Table 13 below, Health workers in the FCT noted that Town announcers (100.0%), Religious Leaders (50.0%) and Community Leaders (37.5%) were the 3 main channels used in sensitizing caregivers about the MNCHW, with the Venue (87.5%), Date (54.2%) and Target groups (41.7%) of the MNCHW being the major key messages that was passed across using these channels.

Community Leaders on the other hand reported that caregivers were also sensitized about the campaign using Town Announcers (76.0%), Community Leaders (36.0%) and Religious Leaders (32.0%), while Date (52.0%), Venue (52.0%) and Time of the MNCHW (32.0%) were the specific messages passed across to the caregivers.

Table 13: Channels and Messages about the MNCHW to Caregivers				
	Health Workers		Community Leaders	
Was there MNCHW in your community in Nov./Dec. 2015?	N	%	(N = 30)	%
No	N/A	N/A	3	10.0
Yes	N/A	N/A	25	83.3
I don't know	N/A	N/A	2	6.7
What channels were used to inform caregivers about the MNCHW?	N = 24	%	N = 25	%
Posters	4	16.7	0	0.0
TV	2	8.3	0	0.0
Radio	2	8.3	0	0.0
Word of Mouth	0	0.0	2	8.0
Health Worker	3	12.5	6	24.0
Childs' School	5	20.8	3	12.0
Religious Leaders	12	50.0	8	32.0
Community Leaders	9	37.5	9	36.0
Town Announcers	24	100	19	76.0
Don't remember	1	4.2	0	0.0
Other	1	4.2	0	0.0
What specific message were the caregivers told about the MNCHW?	N = 24	%	N= 25	%
Date of the MNCHW	13	54.2	13	52.0
Daily Time of the MNCHW	9	37.5	8	32.0
Venue of the MNCHW	21	87.5	13	52.0
Target group of the MNCHW	10	41.7	6	24.0
Benefits of the MNCHW	5	20.8	5	20.0
Other (Interventions)	5	20.8	4	16.0

3.10.1. Knowledge on Vitamin A Supplementation.

The data in Tables 14a and 14b below summarizes the socio demographic characteristics of HW as well as their knowledge about Vitamin A. Majority of health workers (97.8%) reported that they had attended a training on VAS, with the last training being received by all (100%) barely less than 3 months from when the study was conducted. It is therefore not surprising that many of the health workers were knowledgeable about the correct dosage (100.0%), age of first receipt (100.0%) and frequency of VAS receipt (70.8%).

Table 14a: Health Workers' Socio demographic Characteristics		
Question	(N = 24)	%
Gender		
Female	15	62.5
Male	9	37.5
Title/Position	(N = 24)	%
Nurse	1	4.2
Midwife	2	8.3
Community Health Extension Worker	15	62.5
Community Health Officer	2	8.3
Other	4	16.7
How many years have you been in this position?	(N = 24)	%
< or = 1 year	1	4.2
> 1 year	23	95.8
Have you ever attended training on VAS?	(N = 24)	%
No	1	4.2
Yes	23	95.8
Last Training on Vitamin A	(N = 23)	%
Less than 3 months	23	100

Table 14b: Health Workers' Knowledge on Vitamin A Supplementation		
What are the benefits of Vitamin A (multiple responses allowed)	(N = 24)	%
Prevents blindness Helps Vision	24	100
Protects against Disease	9	37.5
Improves Child's Health	5	20.8
Helps with Growth	3	12.5
Other	5	20.8
At what age should children receive Vitamin A capsule for the 1st time	(N = 24)	%
6 months	24	100
At what age should children receive deworming tablet for the 1st time	(N = 24)	%
1 year	23	95.8
Others	1	4.2
How often should children 6 -59 months receive Vitamin A Capsules	(N = 24)	%
During each MNCHW	1	4.2
Every 6 months (2 times / year)	17	70.8
Don't Know	1	4.2
Others	5	20.8
Dosage of VAS for children 6-11 months	(N = 24)	%
One blue/100,000 IU capsules	24	100
Half Red / 200,000 IU capsules	1	4.2
Dosage of VAS for children 12 - 59 months		
One red / 200,000 IU capsules	24	100
Two Blue / 100,000 IU capsules	1	4.2
Sources of Information about VAS		
FMOH/SMOH Staff	1	4.2
NGO	2	8.3
Poster/Job Aid/Flier/Banners	1	4.2
Trainings/Workshops/Seminars	21	87.5
School Curriculum	9	37.5

3.10.2 Knowledge of Vitamin A among Community Leaders

Table 15b below shows that in the FCT 66.7% of community leaders had heard about Vitamin A. Equal percentages (20.0%) knew that VAS prevents blindness and improves child's health respectively, but only 15.0% knew that Vitamin A protects against disease. Many (40.0%) didn't know any benefit at all.

Only 5% of community leaders knew the age of 1st VAS receipt and many did not know the frequency of VAS receipt (75.0%), whereas majority of the community leaders (85.0%) received information about Vitamin A from health workers.

Table 15a: Community Leaders' Socio demographic characteristics		
Question		
Gender	(N = 30)	%
Female	1	3.3
Male	29	96.7
Title/Position	(N = 30)	%
Traditional Ruler	12	40.0
Village Head	9	30.0
Religious Leader	1	3.3
Politician	1	3.3
Group Leader	1	3.3
Other	6	20.0
Highest Level of Schooling Received	(N = 30)	%
None	11	36.7
Primary Education	6	20.0
Secondary Education	4	13.3
Tertiary Education	8	26.7
Other	1	3.3

Table 15b: Community Leaders' Knowledge on Vitamin A Supplementation		
Have you ever heard of Vitamin A?	(N = 30)	%
No	10	33.3
Yes	20	66.7
What are the benefits of Vitamin A (multiple responses allowed)	(N = 20)	%
Prevents blindness Helps Vision	4	20.0
Protects against Disease	3	15.0
Improves Child's Health	4	20.0
Helps with Growth	3	15.0
Don't know / Don't remember	8	40.0
Other	3	15.0
At what age should children receive Vitamin A capsule for the 1st time	(N = 20)	%
At birth	2	10.0
6 months	1	5.0
9 months	1	5.0
Don't know	10	50.0
Other	6	30.0
How often should children 6 -59 months receive Vitamin A Capsules	(N = 20)	%
Every 6 months (2 times / year)	2	10.0
Don't Know	15	75.0
Others	4	20.0
Sources of Information about VAS	(N = 20)	%
Health worker	17	85.0
TV	2	10.0
Radio	2	10.0
School Curriculum	1	5.0
Other	2	10.0

4. Discussion

The PEC survey was conducted in the FCT within six weeks of the December 2015 MNCHW. Two of the main reasons for conducting the PEC Survey were to validate VASD administrative coverage data and identify factors associated with the receipt of VASD in the FCT and to assess the contribution made by the social mobilization strategy on caregiver awareness and participation during the December 2015 MNCHW in the FCT.

While administrative data from the state indicated that 93.2% of eligible children in the FCT received VAS, data from the PEC survey showed that only 67.0% of eligible children aged 6 – 59 months received Vitamin A during the December 2015 campaign clearly showing a disparity between administrative and PEC survey data. This disparity in coverage could be as a result of an under-estimation of the target population used for the campaign. A projection of the outdated 2006 census figure was used in calculating the denominator. These rates are low and below the minimum required threshold of 80% of children covered for a reduction in child mortality to be expected. This finding is somewhat worrisome since HKI recently supported increased social mobilization activities in the AMAC (the largest LGC in the FCT) just prior to the PECS. The pilot entailed the use of (128 additional) town announcers to sensitize the communities, advocacy and sensitization visits to community, women and religious leaders, distribution of letters to schools and churches, community dialogues, airing of radio jingles, printing of IEC materials (banners and key messages) and street-to-street mobilization. The low coverage could be linked to the fact that many of the caregivers (51.6%) reported not being aware of the MNCHW campaign. Similar results were also found in AMAC where 51.9% of the caregivers reported never having heard of the MNCHW campaign as the main reason why their children did not receive Vitamin A. In AMAC, other reasons given were child was out of the area (10.4%) and there was no one available to take the child to receive VAS (9.4%)

The survey provides some information on possible causes of low coverage. Factors found to be significantly associated with receipt of VAS in the FCT were having heard of Vitamin A, having heard about VAS via town announcers, ownership of a working radio and living less than 10 minutes away from the health facility. In Nigeria, VAS is delivered at the health facilities, where caregivers have to bring their children during the MNCHW. Therefore, it is imperative that awareness be created among the population. The survey findings thus highlight the importance of awareness creation and social mobilization using channels that reach the majority of caregivers. Proximity to the health facility was also seen to play an important role in the receipt of VAS. Of the 236 HFs in the FCT, 201 (85.2%) were used during the implementation of the MNCHW. This finding is noteworthy and suggests the need for more outreach posts to be stationed within the communities. Since not all caregivers can

live less than 10 minutes to the HF, outreaches would provide an opportunity for more eligible children and caregivers to be reached.

In AMAC, caregivers reported hearing about the campaign via Town announcers (27.8%), health workers (25.6%), word of mouth/other mothers (19.4%), religious leaders (9.9%) and via radio (3.3%). However, none of these factors was found to be significantly associated with the receipt of VAS. Although HKI supported the use of more town announcers (168 as against the 40 planned by the LGA), sensitization of religious houses, community leaders and schools, as well as radio jingles, these efforts didn't seem to make a difference in the coverage. With AMAC having 12 wards, 14 town announcers were expected to cover / sensitize each ward. However, town announcers, as well as religious and community leaders and school authorities are not usually followed up on to know whether or not they actually sensitize their communities about the campaign. This suggests the need for a kind of follow-up mechanism to be put in place to track these channels of information about the MNCHW. Another reason that could have contributed to low coverage is that apart from HKI support, no other fund was released by the Local Government Council (AMAC) and the FCT to support the implementation of the MNCHW activities. Funds from other partners such as WHO and UNICEF, could not also be accessed due to the Treasury Single Account (TSA) system recently adopted throughout Nigeria. This affected the FCT since the funds could not be withdrawn prior to the campaign, due to lengthen government protocol and bureaucracies. Consequently, social mobilization activities in AMAC as well as the entire FCT, were sole driven by HKI funds. -

To increase coverage of VAS among children 6-59 months during MNCHW services, more awareness needs to be created early before the campaign and consistently. Almost 30% of caregivers in the FCT weren't aware of (13.2%) or reported that the MNCHW campaign did not hold in their areas (16.4%) during the / December 2015 round. Comparing these figures with the percentage of respondents who reported not hearing about the campaign as the main reason why their children did not receive services (51.6%), it becomes clear that social mobilization was insufficient in the FCT. A key reason why the social mobilization was inadequate was due to insufficient funds to fully implement the MNCHW.FCT proposed to spend a total of #33,054,500 to fully implement the MNCHW for the December 2015 round, and this entailed funds from the State, LGCs as well as partners. However, only #10,500,000 from HKI (#9,300,000 for the social mobilization pilot in AMAC and #1,200,000 for the rest of the FCT) was received and used to implement the campaign in the entire state. Therefore more efforts needs to be put into advocating key decision makers at all levels for timely and sufficient release of funds.

The PEC Survey also revealed that knowledge of VA among caregivers was poor. Quite a number (40.3%) did not know any benefit of VA. More than half (58.3% and 72.5% respectively) didn't know the age at which children should receive VA for the first time, nor the frequency of VAS receipt. These findings suggest that health workers may not be consistently educating caregivers on VAS during health talks. This is not surprising as it has

been observed from the field during supportive supervision visits that HWs often only give health talk on the 1st and 2nd days of the campaign and at their first contact with caregivers. To address this, HWs will need to be constantly reminded to give continuing health talks throughout the duration of the campaign and be provided with specific key message sheets on what exactly to tell caregivers when they come to access services.

Among health workers, although all (100.0%) knew that VA prevents blindness, less percentage (37.5%) knew about the immune strengthening and child survival benefits of VA., suggesting that HWs may not fully understand the most important reason why VA is given to children 6- 59 months. Poor knowledge about key messages on VA among caregivers and community leaders also suggests that there is an information gap between HWs and community members. Continued training and re-training of health workers is therefore needed.

According to PECS, main sources of information mentioned by caregivers for passing across information about VAS and the MNCHW were via Health workers and Town announcers. . This is not surprising as caregivers are constantly in contact with health workers whenever they visit the facilities. Town announcers also walk through communities passing information. Despite these, these groups of people to be continually trained using specific key messages in order to improve mobilization, uptake of services and subsequently coverage among target beneficiaries of MNCHW interventions.

In addition to the problem of over estimation of coverage, the finding that only 40.9% of eligible children aged 12 – 59 months received deworming tablets is a concern. In the FCT, administrative deworming coverage was put at 81.4% indicating that the coverage may have been exaggerated. Even though HKI made follow up to ensure that AMAC had sufficient supplies for deworming tablets by contacting the pharmaceutical board of the FCT, supplies were still not adequate to cover the entire FCT due to insufficiency of funds. As explained earlier, the MNCHW in the FCT was implemented solely based on the fund that HKI released. With FCT not receiving funds from the state government or other partners, commodity procurement would have been greatly affected.

Of concern is also the fact that caregivers also reported that children 6 – 11 months were dewormed (23.8%).. These findings indicate the need for provision of job aids for health workers as well as training on the national protocols of deworming and other interventions. Supportive supervision also needs to be provided to frontline health workers to ensure they are doing the right thing. Experience from field monitoring in the FCT has shown that many health facilities use untrained ad hoc community volunteers to administer interventions due to shortage in trained manpower. These volunteers do not go through the training process at the LGA / Ward levels and most are not aware of the national protocols of deworming and other interventions. This could be one reason why ineligible children are sometimes dewormed. Ensuring that these volunteers are integrated into the health system, trained

prior to the implementation of the MNCHW and supervised will address the issue of deworming ineligible children.

The PECS in the FCT sought new information from caregivers on their awareness of micronutrients and consumption of fortified foods. Findings reveal that majority of the caregivers (98.2% and 94.7% respectively) had never heard of *Micronutrients* nor *Food Fortification*. This is not surprising as sensitization of Micronutrients and food fortification has not been conducted in the FCT yet. MNPs have also not been introduced in the FCT. Less than half of the caregivers actually consumed Vitamin A-fortified flour (40.9%), sugar (31.7%) and cooking oil (33.7%). These findings indicate the need for awareness and sensitization efforts to be put in place on the identifying fortified foods (by the eye logo), as well as the benefits of consuming same.

How will the survey results inform strategy?

In summary the PEC Survey showed that VAS and deworming coverages were low indicative of poor social mobilization as a result of insufficient funds to fully implement the MNCHW. Strategies to address these issues thus need to focus on conducting advocacy visits to key decision makers and budget holders. This would ensure that sufficient funds are released early to fully implement all the components of the MNCHW, especially the social mobilization activities.

Detailed knowledge of VA was also poor among caregivers and community leaders because HWs do not always educate them on these key messages. A key strategy suggested then in the last PECS report was on the need for stakeholders to develop a detailed online/offline training module for HWs in order for their training to be standardized across national, state and LGA level. This process is near finalization and will be piloted soon.

Awareness creation was found to be key in influencing uptake of services such as VA. Expanding the reach of the MNCHW interventions by increasing the number of service points (Health facilities and outreach posts), especially in far to reach areas will also likely lead to increase in coverage.

5. General Recommendations

The findings from this PECS in the FCT regarding VASD coverage have led to the following recommendations:

1. Advocacy for timely and sufficient release of funds from all sources (State, LGCs and Partners), to facilitate the full implementation of all MNCHW activities is needed.
2. The online/offline training modules for HWs need to be finalized and used in standardizing training of HWs across all levels. HWs also need to be constantly reminded during supportive supervisory visits to stress on key messages about VAS and other interventions during health talks. .
3. Community volunteers that act as ad hoc staff during the MNCHW need to be integrated into the health system and properly trained prior to the implementation of the MNCHW.
4. There is need for sensitization of community members on micronutrients and food fortification, as well as awareness creation activities to enable them identify Vitamin A fortified foods (using the eye logo), as well as the benefits of consuming fortified foods.
5. All 236 HFs and 236 outreach posts should be assigned to distributing interventions during MNCHW.

6. Next Steps

1. The results of the PEC Survey will be disseminated in the FCT. Based on the findings and recommendations from this survey, the state team and other partners will coordinate on the steps to be taken to ensure a greater availability of deworming stocks, more effective social mobilization, and improved knowledge of VAS by HWs community leaders and caregivers.
2. The PEC Survey results will also be shared during the HKI partners meeting. This meeting will provide an avenue for relevant partners and other stakeholders to brainstorm on the issues raised by the survey and proffer ways forward in improving VAS and deworming coverages in subsequent surveys.

7. Conclusions

The PEC survey has demonstrated that VAS and de-worming coverage among children 6 to 59 months was far below the recommended 80% coverage level required for a public health effect of VAS, despite the increased social mobilization activities that were conducted in the FCT. Low awareness among caregivers arose from insufficiency of funds to fully implement MNCHW activities (including social mobilization activities) to scale and consequently resulted in low coverage for VAS and deworming. Use of untrained ad hoc community volunteers also contributed deworming of ineligible children. Improvements in these areas as already suggested could lead to higher VAS and deworming coverages.

Finalizing, pilot testing and scaling up the online/offline training module for HWs, providing technical support during the training of the HWs and monitoring of the MNCHW to ensure that standards are maintained at all level throughout the program will also go a long way in improving coverage.