



**POST EVENT COVERAGE SURVEY OF VITAMIN A SUPPLEMENTATION AND
DEWORMING IN EKITI AND KATSINA STATES, NIGERIA**

Final Report on January 2015 Survey Findings



Foreign Affairs, Trade and
Development Canada

Affaires étrangères, Commerce
et Développement Canada



EXECUTIVE SUMMARY

- Title** Post event coverage survey of vitamin A supplementation and deworming in Ekiti and Katsina state, Nigeria: Report of January 2015 survey findings.
- Objectives** **Primary Objective:** To validate vitamin A supplementation (VAS) and deworming coverage during the November / December 2014 Maternal, New-born and Child Health Weeks (MNCHW) in Ekiti and Katsina states
- Secondary Objectives:** To characterize the children who were missed and determine barriers to attendance during the November 2014 MNCHW in Ekiti and Katsina state.
- Methods** Post event coverage (PEC) survey was conducted within six weeks of the implementation of the November 2014 MNCHW in Katsina and Ekiti States. Thirty clusters were randomly selected in each of the two states 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 Ekiti and Katsina states among children 6-59 months of age was 66.3% and 43.5% respectively; 14.7% and 36% lower than state administrative coverage data (81.0% and 80.0% respectively) .-. Meanwhile, deworming coverage was 37% in Ekiti and 35.4% in Katsina. Compared to children who were unreached during the campaign, children who received VAS had caregivers who heard from health workers and had working radio in both states. In addition, Katsina caregivers who were married, living in rural areas, employed and educated were more likely to take their child for the event. There was poor understanding on key vitamin A messages among caregivers in both states.
- Discussion** The results highlighted differences between the PEC survey and state coverage estimates, for Ekiti and Katsina states in Nigeria. The disparity between the administrative data and PEC survey findings could be linked to lack of reliability on the processes of data collection, collation and transmission at various levels. Results also showed that health workers did not really know the primary benefit of vitamin A and most of the caregivers (%) had not heard about the campaign. To achieve over 90% of coverage for VAS (the national target), there is a need to raise local awareness by using the effective channels of communication with key messages on vitamin A, especially among missed or hard-to-reach children. This can help ensure that more people hear about the campaign and reduce coverage issues. HKI plans to support the national government to finalize the standardization of a detailed online and offline training module to address the gaps in training of health workers across the country. What do we plan to do for addressing low awareness among caretakers.

Acknowledgements

The PEC survey in Ekiti and Katsina state Nigeria for the November/ December 2014 MNCHW campaign for children 6-59 months was conducted by Helen Keller International (HKI) with the support of the National Primary Health Care Development Agency (NPHCDA) and Federal Ministry of Health (FMOH).

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

Firstly our sincere thanks to the Foreign Affairs, Trade and Development Canada for their financial support for the vitamin A distribution and post event coverage survey.

Our thanks also go to the local, political and administrative authorities and particularly the Ekiti and Katsina state Primary Health care development agency without which this study would have been difficult to be conducted. We will not fail to appreciate the caregivers who were willing to spare few minutes of their time to answer our questions which led to the realisation of this data.

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

CHEW	Community Health Extension Workers
EPI	Expanded Programme on Immunization
FANC	Focused Antenatal Care
FMOH	Federal Ministry of Health
HW	Health Worker
LLIN	Long Lasting Insecticide Treated Nets
LGA	Local Government Area
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
VAC	Vitamin A Capsule
VAD	Vitamin A Deficiency
VAS	Vitamin A Supplementation
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 rate of morbidity and mortality, particularly for children under the age of five¹. 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 1000 live births and 128 deaths per 1000 live births respectively³. 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 in infants and children 6-59 months of age as a public health intervention to reduce child morbidity and mortality by World Health Organization (WHO).

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%¹.

Many countries have integrated strategies to deliver vitamin A supplements to children in their national health policies⁵. 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 has contributed to the reduction in under-five mortality rates and progress towards achieving the child survival Millennium Development Goals. National VAS coverage of children 6-59 months through mass distribution during the MNCHW has increased from 23% in 1999 to 85.7% in 2013⁶. However, the conventional way to estimate VAS coverage achieved by MNCHW is by tally sheets, which compares records of capsules distributed to estimates of the target population based on projected census data. Tally sheets are simple medium for obtaining data, but are prone to errors due to miscalculations in aggregating data, delayed or incomplete reports and inaccurate population estimates which often results to some states reporting coverage over 100 percent.

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 except in the FCT state. For example, in Ebonyi 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 1 VAS distribution round was 56.6%, in contrast to the 106% tally sheet coverage reported by the states. 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	
Admin. %	PECS %	Admin. %	PECS %	Admin. %	PECS %	Admin. %	PECS %
66.6	66.9	97	45.8	92	50.7	106	56.6

Until more reliable administrative data is received at national level, PECS will be done at least annually in Nigeria. HKI and Government are committed to conducting regular PECS to validate administrative data because this data is based on tally sheets that is both prone to error as well as significant delays, resulting in unreliable coverage figures.

⁶ National Primary Health Care Development Agency (NPHCDA) MNCHW coverage data 2013

Ekiti and Katsina are among the states supported by HKI for VAS implementation during MNCHW in Nigeria. According to tally sheet data the two states have recorded a considerably good VAS coverage rate over a 5 year period. However, there has not been any validation of this data before. Therefore, in order to validate VAS coverage in Ekiti and Katsina, PECS was conducted in January 2015 among caregivers of children aged 6-59 months who attended the November 2014 MNCH Week.

1.3 Objectives of the Survey

1.3.1 The primary objective of the post event coverage survey was to validate the tally sheet coverage data for VAS and deworming during the November 2014 MNCHW in Ekiti and Katsina states.

1.3.2 The secondary objective was to characterize the children who were missed and to identify barriers to attendance during the November 2014 MNCHW in Ekiti and Katsina states.

2. Methodology

2.1 General Design

The PEC survey used a randomized, cross-sectional cluster design and was conducted within six weeks after the November 2014 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 an existing list of communities in Ekiti and Katsina states using 2006 population census data 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 methodology⁸. Briefly, using a map of each community, each cluster (community) was divided into four quadrants. In the first two quadrants, 8 households each were randomly surveyed while in the last two quadrants, 7 households each were interviewed. Thus giving a total of 30 caregivers interviewed in each community.

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.

⁷ 2006 Nigeria Census, National Bureau of Statistics

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

Households were considered eligible for the survey if they had a child 6-59 months of age at the time of the November 2014 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 and having two enumerators enter responses to each interview on the first day of data collection to ensure that answers were being recorded correctly. All survey data were reviewed by the survey team leader prior to uploading to the Ona server.

2.2 Data Processing

Data collected from the 2 states [Ekiti and Katsina] 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 to facilitate ease of data analysis. The eligibility criteria for including caregivers in the survey was having a child or children aged 6 – 59 months as at the time of the last MNCHW in each of the states.

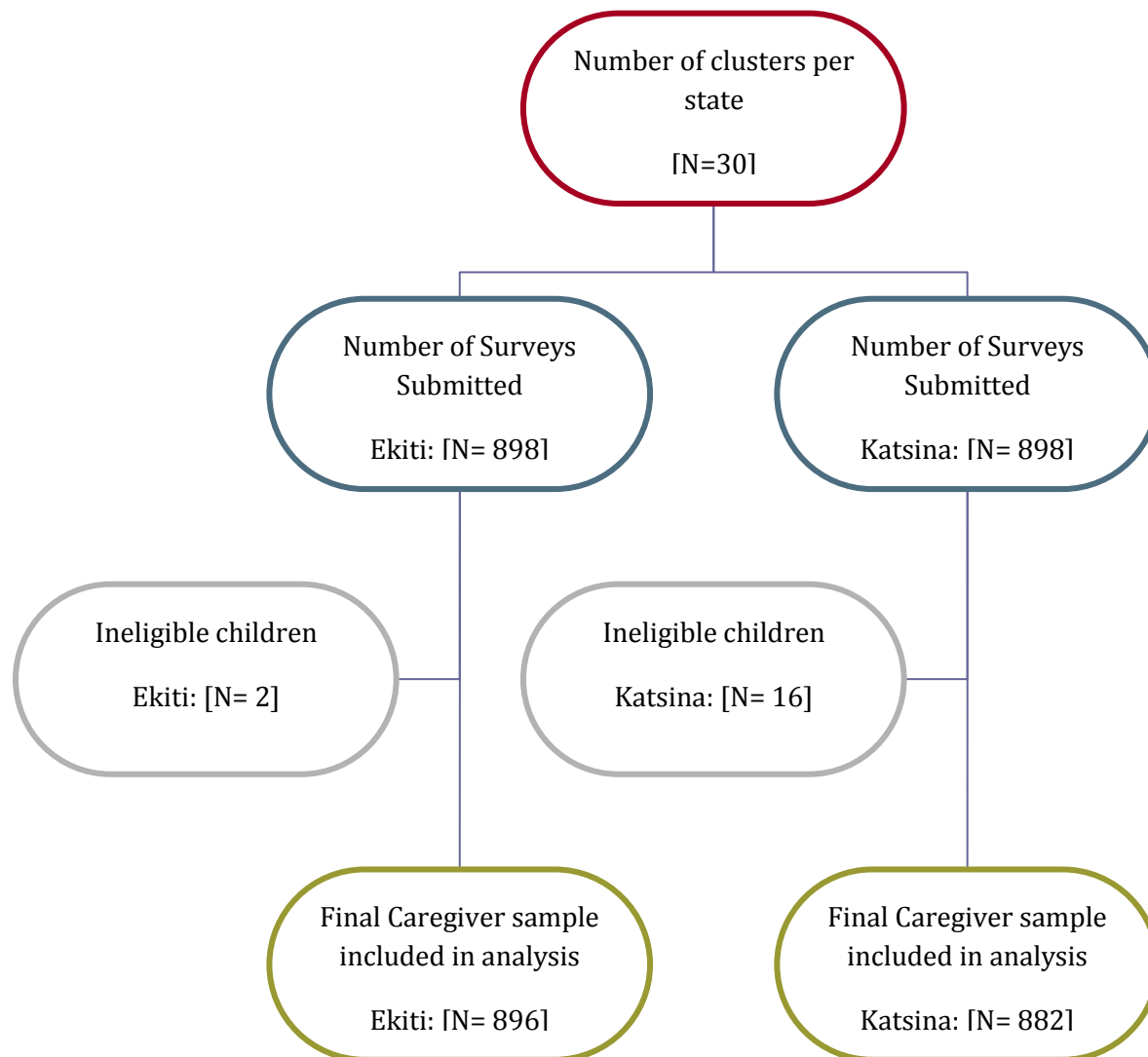
For children whose exact day of birth was unknown, an estimated date was arrived at by using the 15th day of the month and year of birth given by the caregiver. IBM SPSS Statistics 22 was used to compute frequencies and cross-tabulations in order to compare children who were supplemented and those who were not. A p-value of <0.05 was considered as significant. The 95% confidence interval was also calculated [<https://www.mccallum-layton.co.uk/tools/statistic-calculators/confidence-interval-for-proportions-calculator/>].

3. Study Findings

3.1 Enrollment and Final Sample

For Ekiti the final sample used for analysis comprised of 896 caregivers. Data from the thirty [30] health workers and 30 community leaders interviewed was also used for analysis. While for Katsina the final sample used for analysis comprised 882 caregivers. Data from the twenty eight [28] health workers and thirty [30] community leaders interviewed was also used for analysis.

Figure 1. Flow of participants in final analytical sample for Ekiti and Katsina States



3.2 Description of the Sample

Table 2, 3 and 4 gives an overview of the socio-demographic characteristics of the final sample included in the analysis. In both states, majority of the children were aged 12- 59 months and did not have birth certificates/health cards while trading/business was the main source of income of the caregivers surveyed.

3.2.1 Descriptive Statistics of Children and Caretakers Surveyed

Table 2 provides an overview of the characteristics of the final sample included in the analysis. In Ekiti State a larger percentage (86.0%) of the children assessed fell within the 12 – 59 months age group, while only 14.0% were aged 6 – 11 months. The male population was slightly more than the female population (51.6% and 48.4% respectively) and this is consistent with the last NDHS conducted in 2013. Date of birth of the index child could only be confirmed by birth certificate or health card in less than half (40.4%) of the children.

As would be expected, most of the caregivers interviewed during the survey were the child’s mother (90.3%), traditionally the most likely to be at home during the day. About a third (32.3% and 33.7%) of the caregivers had completed primary and secondary school respectively. More of the caregivers (35.2%) fell within the greater or equals to 35 year age range.

In Katsina State majority of the children assessed (79.1%) were aged 12 – 59 months as at the date of the last MNCHW. Only 20.9% fell within the 6 – 11 months age group. Females comprised more than of the children assessed (51.7%), while males made up 48.3%. Majority of the children (70.9%) did not have health cards or birth certificates.

Similar to Ekiti state, most of the caregivers interviewed during the survey were the child’s mother (85.7%), traditionally the most likely to be at home during the day. Many of the caregivers (77.2%) were uneducated while more of the caregivers (24.9%) fell within the 25 - 29 age range.

Table 2: Descriptive Statistics of Children and Caretakers Surveyed				
CHILD CHARACTERISTICS				
	EKITI		KATSINA	
Age in months	(N=896)	(%)	(N=882)	(%)
6-11	125	14.0	184	20.9
12-59	771	83.7	698	79.1
Type of the Area	(N=896)	(%)	(N=882)	(%)
Rural	539	60.2	792	89.8
Non-rural	357	39.8	90	10.2
Gender	(N=896)	(%)	(N=877)	(%)
Male	462	51.6	424	48.3
Female	434	48.4	453	51.7

Health Card/Birth Certificate	(N=896)	(%)	(N=896)	(%)
No	534	59.6	625	70.9
Yes	362	40.4	257	29.1
CARETAKER/INFORMANT CHARACTERISTICS				
Relationship with the Child	(N=896)	(%)	(N=882)	(%)
Mother	809	90.3	756	85.7
Father	21	2.3	95	10.8
Grandparent	44	4.9	14	1.6
Sibling	10	1.1	7	0.8
Aunt/Uncle	12	1.3	9	1.0
Other	0	0	1	0.1
Level of Education	(N=896)	(%)	(N=878)	(%)
None	91	10.2	678	77.2
Primary education	289	32.3	95	10.8
Secondary education	302	33.7	38	4.3
University education	163	18.2	11	1.3
Postgraduate	2	0.2	0	0.0
Others	49	5.5	56	6.4
Religion	(N=896)	(%)	(N=882)	(%)
Christian	773	86.3	0	0.0
Muslim	119	13.3	882	100
Traditional	3	0.3	0	0.0
Other	1	0.1	0	0.0

3.2.2. Descriptive Statistics of the Household

Table 3 provides an overview of the characteristics of households. In Ekiti most of the households in Ekiti were located in rural areas (60.2%) with more than a third (39.6%) indicating trading/business as their main source of income. More of the caregivers (25.9%) fell within the 2nd wealth quartile.

In Katsina most of the households in Katsina were located in rural areas (89.8%) with 42.2% indicating trading/business as their main source of income and a similar percentage (40.7%) being unemployed/stay at home. An equal proportion of caregivers (25.6%) fell within the 3rd and 4th wealth quartile.

Table 3: Descriptive Statistics of the Household			
Topic	Variable	Ekiti	Katsina
		Result in % (95% CI)	Result in % (95% CI)
Main Source of Income for the household Ekiti: (N= 896) Katsina: (N= 881)	Farming	9.7 (7.8-11.6)	6.5 (4.9-8.1)
	Trader / Business	39.6 (36.4-42.8)	42.2 (38.9-45.5)
	Civil Servant	8.5 (6.7-10.3)	0.9 (0.3-1.5)
	Artisan	28.3 (25.4-31.3)	8.6 (6.8-10.5)
	Unemployed/Stay	11.0 (8.9-13.1)	40.7 (37.5-43.9)

	at Home		
	Others	2.8 (1.7-3.9)	1.0 (0.3-1.7)
Wealth Quintile Ekiti: (N= 862) Katsina: (N= 827)	First	25.1% (n=216)	24.2% (n=200)
	Second	25.9% (n=223)	24.5% (n=203)
	Third	24.9% (n=215)	25.6% (n=212)
	Fourth [Highest]	24.1% (n=208)	25.6% (n=212)

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

Key finding: 66.3% and 43.5% of children aged 6 – 59 months received VAS in Ekiti and Katsina respectively during the November/December 2014 round of the MNCHW.

The primary objective of the survey was to validate the VAS administrative coverage rate of children 6-59 months old who received Vitamin A during the November 2014 VAS round in Ekiti and Katsina states. The results of 66% (Ekiti) and 43.5% (Katsina) of children being supplemented is considerably lower than the tally sheet data and indicates that a large number of children were missed in the 2014 VAS round 2.

Table 4: Coverage of Vitamin A Supplementation among Children 6-59				
	Ekiti		Katsina	
	n/N	%	n/N	%
Overall	594/896	66.3	384/882	43.5
Female	279/434	64.3	192/453	42.4
Male	315/462	68.2	190/424	44.8

3.4 Association between VAS receipt and characteristics of children and households

Table 5 indicates that in Ekiti state, caregivers' awareness about Vitamin A was significantly associated ($p < 0.05$) with the child receiving VAS during the last round. Other variables that were significantly associated with VAS receipt include hearing about VAS via health worker and ownership of a working radio. While in Katsina, awareness of Vitamin A, being married, employed and educated were all significantly associated ($p < 0.05$) with VAS receipt. Hearing of Vitamin A via word of mouth, town announcers and owning a working

radio were also significantly associated with VAS receipt whereas in both states wealth quartiles was not associated with VAS receipt.

Table 5: Association between VAS receipt and characteristics of children and households.							
Variable		Ekiti			Katsina		
		Supplemented		P value	Supplemented		p value
		No	Yes		No	Yes	
Wealth Quartile	First (lowest)	34.7% (N=75)	65.3% (N=141)	No (p = 0.560)	58.5% (N=117)	41.5% (N=83)	No (p=0.291)
	Second	30.9% (N=69)	69.1% (N=154)		51.7% (N=105)	48.3% (N=98)	
	Third	30.7% (N=66)	69.3% (N=149)		54.7% (N=116)	45.3% (N=96)	
	Fourth (Highest)	28.4% (N=59)	71.6% (N=149)		49.5% (N=105)	50.5% (107)	
Age	6-11 months	36.3% (N=45)	63.7% (N=79)	No (p=0.183)	52.6% (N=91)	47.4% (N=82)	No (p=0.800)
	12-59 months	30.3% (N=224)	69.7% (N=515)		53.7% (N=350)	46.3% (N=302)	
Sex	Female	33.1% (N=138)	66.9% (N=279)	No (p=0.238)	54.1% (N=226)	45.9% (N=192)	No (p=0.727)
	Male	29.4% (N=131)	70.6% (N=315)		52.9% (N=213)	47.1% (N=190)	
Type of Area	Non-rural	34.6% (N=118)	65.4% (N=223)	No (p=0.078)	63.6% (N=56)	36.4% (N=32)	Yes (p=0.042)
	Rural	28.9% (N=151)	71.1% (N=371)		52.2% (N=385)	47.8% (N=352)	
Are you married	No	38.7% (N=12)	61.3% (N=19)	No (p=0.356)	80.9% (N=17)	19.1% (N=4)	Yes (p=0.010)
	Yes	30.9% (N=257)	69.1% (N=575)		52.7% (N=424)	47.3% (N=380)	
Heard of Vitamin A	No	50.0% (N=163)	50.0% (N=163)	Yes (p=0.000)	75.0% (N=327)	25.0% (N=109)	Yes (p=0.000)
	Yes	19.7% (N=106)	80.3% (N=431)		29.1% (N=113)	70.9% (N=275)	
Educated	No	36.8% (N=32)	63.2% (N=55)	No (p=0.233)	58.5% (N=369)	41.5% (N=262)	Yes (p=0.000)
	Yes	30.5% (N=237)	69.5% (N=539)		37.7% (N=72)	62.3% (N=119)	
Income	Unemployed	31.6% (N=30)	68.4% (N=65)	No (p= 0.908)	60.3% (N=202)	39.7% (N=133)	Yes (p=0.001)
	Employed	31.0% (N=239)	69.0% (N=532)		48.7% (N=238)	51.3% (N=251)	
		Ekiti			Katsina		

Heard of VAS via...	Radio	No significant association, p=0.700	Significant association, p=0.002
	Word of Mouth	No significant association, p=0.740	Significant association, p=0.035
	Health Workers	Significant Association, p=0.005	No significant association, p=0.705
	Town Announcers	No significant association, p=0.407	Significant association, p=0.000
Owens a...	Working Radio	Significant association, p=0.001	Significant Association, p=0.048

3.5. Coverage of De-worming

Key finding: De-worming coverage of eligible children aged 12 – 59 months was 37.0% and 35.4% for Ekiti and Katsina respectively. -

Table 6 indicates that overall de-worming coverage of eligible children (12-59 months of age) was 37% in Ekiti and 35.4% in Katsina. The protocol for administration of mebendazole for de-worming twice yearly is specific to children 12-59 months of age and is not administered to children less than 1 year. However, despite this protocol, PECS's data revealed that 18.4% % of children in Ekiti and 27.2% of children in Katsina who were dewormed were under 1 year of age.

Table 6: Coverage of De-worming among Children 12-59 Months of Age				
	Ekiti		Katsina	
	n/N	%	n/N	%
12-59 months	285/771	37.0	247/698	35.4
6-11 months	23/125	18.4	51/184	16.6
Female	127/771	16.5	131/	18.8
Male	158/771	20.5	115/698	16.4

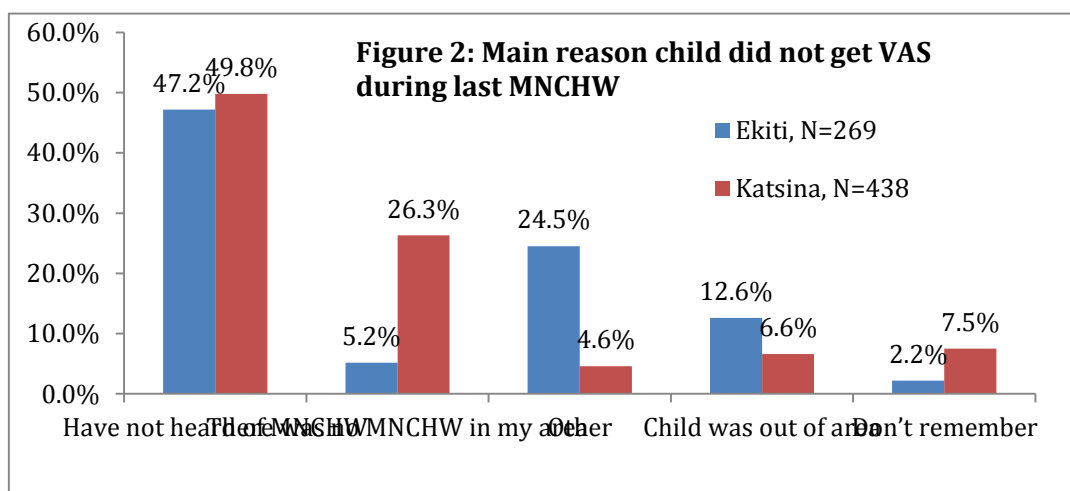
3.6. Characteristics of Children Missed by the Last VAS Campaign

Key finding: The primary reason reported by caregivers for not attending the MNCHW in both Ekiti and Katsina states 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

Figure 2 provides information and insights into the reasons for children missing VASD during the November 2014 MNCHW event. In Ekiti almost half of the caregivers (47.2%) 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' (12.6%) and 'there was no MNCHW in my area' (5.2%) including other reasons not listed among the options like: *did not know the child was eligible, was told by health workers that only children with birth certificate were eligible, didn't take child because of Adverse Events Following Immunization (AEFI) experienced during the previous rounds, was told that the MNCHW was only for pregnant women and didn't take child because child had completed routine immunization.*

In Katsina almost half of the caregivers interviewed stated having never heard about the MNCHW (49.8%) as the main reason why their children did not receive VAS. Other reasons given include *there was no MNCHW in my area* (26.3%) and *Child was out of the area* (6.6%).



3.7. Caregiver Knowledge about Vitamin A

Key findings: In both states, many of the Caregivers did not know about the benefits of Vitamin A (40.5% & 36.4% in Ekiti & Katsina respectively), the age at which eligible children should receive VAS for the first time (47.9% & 59.9% respectively) nor the frequency of VAS receipt among eligible children (69.7% & 76.3% respectively)(mention the percentages)

Table 7 below shows that in Ekiti majority of the caregivers (40.5%) didn't know any benefit of Vitamin A. Only one quarter (25.9%) knew that VAS protects the child against disease while 19.8% reported that Vitamin A prevents blindness/helps vision. While in Katsina about one-third (39.6%) of the caregiver knew that Vitamin A prevents blindness, 21.5% said it improves child health while 19.3% reported that Vitamin A protects the child against diseases. Thirty six percent did not know any benefit of vitamin A.

Table 7: Caregivers Knowledge of the Benefits of Vitamin A				
What Are the benefits of Vitamin A? (Multiple answers allowed)	Ekiti (N=555)		Katsina (N=404)	
	N	Percentage (95% CI)	N	Percentage (95% CI)
Don't know/ Don't remember	225	40.5 (36.4 – 44.6)	147	36.4 (31.7 – 41.1)
Prevents Blindness/ Helps Vision	110	19.8 (16.5 – 23.1)	160	39.6 (34.8 – 44.4)
Protects Against Disease	144	25.9 (22.3 – 29.5)	78	19.3 (15.5 – 23.2)
Reduces risk of death	4	0.7 (0.01 – 1.39)	13	3.2 (1.5 – 4.9)
Improves Child Health	90	16.2 (13.1 – 19.3)	87	21.5 (17.5 – 25.5)
Helps with Growth	19	3.4 (1.9 – 4.9)	21	5.2 (3.0 – 7.4)
Other	48	8.6 (6.3 – 10.9)	18	4.5 (2.5 – 6.5)

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

In table 8 below, in Ekiti only 12.8% of caregivers knew the correct age at which a child should receive Vitamin A for the first time. Almost half (47.9%) didn't know the correct age. Whereas in Katsina only 13.1% of caregivers knew the correct age and more than half (59.9%) didn't know the correct age.

Table 8: Knowledge of Caregivers on age for children to receive VAS				
At what age should a child receive Vitamin A for the 1st time?	Ekiti (N=555)		Katsina (N=404)	
	N	% (95% CI)	N	% (95% CI)
At Birth	100	18.0 (14.8 – 21.2)	57	14.0 (10.6 – 17.9)

6 months	71	12.8 (10.0 – 15.6)	53	13.1 (9.8 – 16.4)
9 months	24	4.3 (2.6 – 6.0)	18	4.4 (2.4 – 6.4)
Don't know	266	47.9 (43.7 – 52.1)	243	59.9 (55.1 – 64.7)
Other	94	16.9 (13.8 – 20.0)	35	8.6 (5.9 – 11.3)

3.7.2. Knowledge of Caretakers on Frequency of VAS for Children

Table 9 below shows that in Ekiti only 12.8% of caregivers could correctly state the frequency of VAS receipt among eligible children (every 6 months). Almost seventy percent (69.7%) didn't know this fact. While in Katsina, only 12.3% of caregivers knew the eligible children should receive Vitamin A every 6 months. Majority (76.3%) didn't know how often VAS should be received.

Table 9: Knowledge of Caretakers on Frequency of VAS for Children				
How Often should a Child aged 6 – 59 months receive Vitamin A capsules?	Ekiti (N=555)		Katsina (N=405)	
	N	Percentage (95% CI)	N	Percentage (95% CI)
Don't Know	387	69.7 (65.9 – 73.5)	309	76.3 (72.2 – 80.4)
Every 6 months (2 times/year)	71	12.8 (10.0 – 15.6)	50	12.3 (9.1 – 15.5)
During each MNCHW	4	0.7 (0.01 – 1.4)	12	3.0 (1.3 – 4.7)
Every DAY	4	0.7 (0.01 – 1.4)	1	0.2 (-0.2 – 0.6)
Other	95	17.1 (13.9 – 20.2)	37	9.1 (6.3 – 11.9)

3.7.3. Caretakers Source of Knowledge on Vitamin A Supplementation

Table 10 below indicates that in Ekiti the most common source of information about Vitamin A was Health workers (78.9%) followed by Town announcers (14.1%). The same pattern in Ekiti was also found in Katsina with Health workers being the most common source of information about Vitamin A (46.3%) followed by Town announcers (30.3%).

Table 10: Caretakers Source of Knowledge on Vitamin A Supplementation				
From Where or Whom have you heard about Vitamin A?	Ekiti (N=554)		Katsina (N= 406)	
	N	Percentage (95% CI)	N	Percentage (95% CI)
Poster	2	0.4 (-0.1 – 0.9)	0	0.0
TV	4	0.7 (0.01 – 1.39)	2	0.5 (-0.2 – 1.2)
Radio	70	12.6 (9.8 – 15.4)	47	11.6 (8.5 – 14.7)
Other mothers / Word of Mouth	38	6.9 (4.8 – 9.0)	76	18.7 (14.9 – 22.5)
Health Workers	442	79.8 (76.5 – 83.1)	188	46.3 (41.5 – 51.2)
Child's School	2	0.4 (-0.1 – 0.9)	2	0.5 (-0.2 – 1.2)
Religious Leader	10	1.8 (0.7 – 2.9)	5	1.2 (0.1 – 2.3)
Community Leaders	3	0.5 (-0.1 – 1.1)	18	4.4 (2.4 – 6.4)

Town Announcers	78	14.1 (11.2 – 17.0)	123	30.3 (25.8 – 34.8)
Don't Remember	17	3.1 (1.7 – 4.5)	15	3.7 (1.8 – 5.5)

3.8. Caregiver Knowledge about MNCHW Campaign

Data in Table 11 below shows that 11.8% of caregivers in Ekiti did not know who should attend the MNCHW campaign. Over seventy percent recalled that the campaign took place at the Health facility while only few (10.2%) reported Outreach post. Majority of the caregivers recalled that VAC was one of the commodities administered to eligible children during the campaign. Some caregivers also recalled that their children received deworming tablets (43.2%) and routine immunization antigens (28.0%). Health workers (49.4%) and town announcers (48.7%) were the two main channels mention through which they found out about the campaign.

Whereas about one-fifth (23.0%) of caregivers in Katsina did not know any target group for the campaign. Health facility was mentioned by 52.9% of the caregivers when asked where the campaign took place. Some also recalled that it took place at outreach centers (25.2%) and via Door-to-Door distribution (18.7%). VAC (83.6%), deworming tablets (56.5%) and immunization (17.0%) were some of the commodities recalled their children being given during the campaign. Main source of awareness creation about the MNCHW mentioned by the respondents was Town announcer (68.0%) followed by Word of Mouth (12.5%).

Table 11: Caregiver Knowledge about MNCHW Campaign				
Who should attend the MNCHW Campaign?	Ekiti (N=638)		Katsina (N= 434)	
Everyone	21	3.3 (1.9 – 4.7)	29	6.7 (4.4 – 9.1)
All children	245	38.4 (34.6 – 42.2)	166	38.2 (33.6 – 42.8)
Children 6 – 59 months	96	15.0 (12.2 – 17.7)	87	20.0 (16.2 – 23.8)
Women of Reproduction age	144	22.6 (19.4 – 25.9)	33	7.6 (5.1 – 10.1)
Don't know	75	11.8 (9.3 – 14.3)	100	23.0 (19.0 – 26.9)
Others	169	26.5 (23.1 – 29.9)	69	15.9 (12.5 – 19.3)
Where did the distribution take place?	Ekiti (N=637)		Katsina (N= 433)	
House/Door-to-door	23	3.6 (2.2 – 5.1)	81	18.7 (15.0 – 22.4)
Health Facility/Hospital	471	73.9 (70.5 – 77.3)	229	52.9 (48.2 – 57.6)
Outreach post	65	10.2 (7.9 – 12.6)	109	25.2 (21.1 – 29.3)
School	40	6.3 (4.4 – 8.2)	2	0.5 (-0.2 – 1.2)
Don't know	25	3.9 (2.4 – 5.4)	11	2.5 (1.0 – 3.9)
Other	13	2.0 (0.9 – 3.1)	1	0.2 (-0.2 – 0.6)
What services were provided during the last MNCHW?	Ekiti (N=639)		Katsina (N= 434)	
LLIN/Bednets	22	3.4 (1.9 – 4.8)	5	1.2 (0.2 – 2.2)
Deworming	276	43.2 (39.4 – 47.0)	245	56.5 (51.8 – 61.2)

Vitamin A Capsules	534	83.6 (80.7 – 86.5)	316	72.8 (68.6 – 76.9)
Immunizations	179	28.0 (24.5 – 31.5)	77	17.7 (14.1 – 21.3)
Family Planning Advice	6	0.9 (0.2 – 1.6)	2	0.5 (-0.2 – 1.2)
Growth Monitoring and Promotion	8	1.3 (0.4 – 2.2)	1	0.2 (-0.2 – 0.6)
Oral Rehydration Salts	1	0.2 (-0.2 – 0.6)	3	0.7 (-0.1 – 1.5)
Health Education	79	12.4 (9.8 – 14.9)	84	19.4 (15.7 – 23.1)
Others	23	3.6 (2.2 – 5.0)	33	7.6 (5.1 – 10.1)
How did you find out about the MNCHW	Ekiti (N=593)		Katsina (N= 384)	
Poster	3	0.5 (-0.07 – 1.07)	0	0.0
Newspaper	1	0.2 (-0.2 – 0.6)	0	0.0
TV	5	0.8 (0.1 – 1.5)	2	0.5 (-0.2 – 1.2)
Radio	70	11.8 (9.2 – 14.4)	14	3.6 (1.7 – 5.5)
Other mothers/Word of Mouth	50	8.4 (6.2 – 10.6)	55	14.3 (10.8 – 17.8)
Health Workers	293	49.4 (45.4 – 53.4)	48	12.5 (9.2 – 15.8)
Child's school	14	2.4 (1.2 – 3.6)	1	0.3 (-0.3 – 0.9)
Religious Leaders	31	5.2 (3.4 – 6.9)	3	0.8 (-0.1 – 1.7)
Community Leaders	9	1.5 (0.5 – 2.5)	29	7.6 (4.9 – 10.3)
Town Announcers	289	48.7 (44.7 – 52.7)	261	68.0 (63.3 – 72.7)
Don't remember	11	1.9 (0.8 – 3.0)	19	4.9 (2.7 – 7.1)
Others	7	1.2 (0.32 – 2.1)	24	6.3 (3.9 – 8.7)

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

Key finding: About a quarter (25.9%) of community leaders in both states did not know any benefit of Vitamin A, while in Ekiti 53.3% and in Katsina 39.3% of Health workers knew that VAS strengthens the immune system by protecting against diseases among children.

In Ekiti, among Health workers surveyed, 93.3% were female while 53.3% were CHEWs. Majority of the health workers (96.7%) had been CHEWs for more than one year and 56.7% worked in a PHC Facility. Many (90.0%) of the community leaders surveyed were males and majority had been community leaders for more than 5 years (96.7%). Only 36.7% had completed their tertiary (university/polytechnic/college of education). **In Katsina**, majority of the Health workers surveyed (92.9%) were males with 64.3% being CHEW. Many (89.3%) had been CHEWs for more than one year. Over eighty percent (85.7%) worked in a PHC Facility. Among community leaders surveyed, all (100.0%) were males with 80.0% of these being community leaders for more than 5 years. The more

prominent level of education completed among most of the community leaders (33.3%) was the Islamic/Qur'anic/Arabic school.

The differences of gender between Katsina and Ekiti is said to be due to social economic status of the states. In the North (Katsina) women are expected to be married by the age of 13 and therefore it's mostly men who go to school. While in the South (Ekiti) there's more freedom and both men and women are educated but it's mostly women who like to work in the health sector.

3.9.1. Knowledge on Vitamin A Supplementation.

The data in Table 12 below summarises the knowledge of HWs about Vitamin A. In Ekiti many of the health workers (79.3%) reported that the last training on Vitamin A received was barely less than 3 months ago, it is not surprising that many of them were quite knowledgeable about the correct dosage, age of first receipt (86.7%) and frequency of VAS receipt (86.7%). In Katsina, HWs were also quite knowledgeable about the correct dosage, age of first receipt (92.9%) and frequency of VAS receipt (64.3%). Majority (90.0%) reported that their last training on Vitamin A was less than 3 months ago as seen in the table below.

Table 12: Health Workers Knowledge on Vitamin A Supplementation				
Question	N	% (95% CI)	N	% (95% CI)
Title/Position	Ekiti (N = 30)		Katsina (N = 28)	
Nurse	2	6.7	0	0.0
Midwife	0	0.0	0	0.0
Clinical officer	0	0.0	0	0.0
Nutritionist	0	0.0	0	0.0
Community Health Extention Worker	16	53.3	18	64.3
Community Health Officer	6	20.0	5	17.9
Other	6	20.0	5	17.9
How many years have you been in this position?	Ekiti (N = 30)		Katsina (N = 28)	
< or = 1 year	1	3.3	3	10.7
> 1 year	29	96.7	25	89.3
Last Training on Vitamin A	Ekiti (N=29)		Katsina (N= 20)	
Less than 3 months	23	79.3 (64.6 - 94.1)	18	90.0 (76.9 - 103.2)
3 - 6 months	1	3.4 (-3.2 - 10.0)	1	5.0 (-4.6 - 14.6)
7 - 12 months	1	3.4 (-3.2 - 10.0)	1	5.0 (-5.6 - 14.6)
>1 year ago	4	13.8 (1.3 - 26.4)	0	0.0
What are the benefits of Vitamin A?	Ekiti (N=30)		Katsina (N= 28)	

Prevents blindness Helps Vision	29	96.7 (90.3 – 103.1)	24	85.7 (72.7 – 98.7)
Protects against Disease	16	53.3 (35.5 – 71.2)	11	39.3 (21.2 – 57.4)
Reduces risk of Death	0	0.0	3	10.7 (-0.8 – 22.2)
Improves Child's Health	2	6.7 (-2.3 – 15.7)	3	10.7 (-0.8 – 22.2)
Helps with Growth	9	30.0 (13.6 – 46.4)	2	7.1 (-2.4 – 16.6)
Other	11	36.7 (19.5 – 53.9)	0	0.0
At what age should children receive Vitamin A capsule for the 1st time	Ekiti (N=30)		Katsina (N= 28)	
At birth	3	10.0 (-0.7 – 20.7)	0	0.0
6 months	26	86.7 (74.6 – 98.9)	26	92.9 (83.4 – 102.4)
9 months	0	0.0	1	3.6 (-3.3 – 10.5)
Others	1	3.3 (-3.1 – 9.7)	1	3.6 (-3.3 – 10.5)
How often should children 6 -59 months receive Vitamin A Capsules	Ekiti (N=30)		Katsina (N= 28)	
During each MNCHW	1	3.3 (-3.1 – 9.7)	19	67.9 (50.6 – 85.2)
Every 6 months (2 times / year)	26	86.7 (74.6 – 98.9)	18	64.3 (46.6 – 82.1)
Everyday	0	0.0	1	3.6 (-3.3 – 10.5)
Don't Know	1	3.3 (-3.1 – 9.7)	1	3.6 (-3.3 – 10.5)
Others	2	6.7 (-2.3 – 15.7)	3	10.7 (-0.8 – 22.2)
Dosage of VAS for children 6-11 months	Ekiti (N=30)		Katsina (N= 28)	
One blue/100,000 IU capsules	28	93.3 (84.4 – 102.3)	25	89.3 (77.9 – 100.8)
One red / 200,000 IU capsules	1	3.3 (-3.1 – 9.7)	1	3.6 (-3.3 – 10.5)
Half Red / 200,000 IU capsules	3	10.0 (-0.7 – 20.7)	2	7.1 (-2.4 – 16.6)
Don't know/ Don't remember	1	3.3 (-3.1 – 9.7)	2	7.1 (-2.4- 16.6)
Dosage of VAS for children 12 - 59 months	Ekiti (N=30)		Katsina (N= 28)	
One blue/100,000 IU capsules	1	3.3 (-3.1 – 9.7)	4	14.3 (1.3 – 27.3)
One red / 200,000 IU capsules	29	96.7 (90.3 – 103.1)	22	78.6 (63.4 – 93.8)
Two Blue / 100,000 IU capsules	0	0.0	2	7.1 (-2.4 – 16.6)
Don't know/ Don't remember	0	0.0	1	3.6 (-3.3 – 10.5)
Others	0	0.0	1	3.6 (-3.3 – 10.5)
Sources of Information about VAS	Ekiti (N=30)		Katsina (N= 28)	
FMOH/SMOH Staff	10	33.3 (16.4 – 50.2)	8	28.6 (11.9 – 45.3)
TV	1	3.3 (-3.1 – 9.7)	1	3.6 (-3.3 – 10.5)
Radio	3	10.0 (-0.7 – 20.7)	3	10.7 (-0.8 – 22.2)
Poster/Job Aid/Flier/Banners	1	3.3 (-3.1 – 9.7)	1	3.6 (-3.3 – 10.5)
Trainings/Workshops/Seminars	23	76.7 (61.6 – 91.8)	22	78.6 (63.4 – 93.8)

School Curriculum	8	26.7 (10.9 – 42.5)	5	17.9 (3.7 – 32.1)
Others	6	20.0 (5.7 – 34.3)	0	0.0

3.9.2 Knowledge of Vitamin A among Community Leaders

Table 13 below shows that in Ekiti 90.0% of community leaders had heard about Vitamin A. Equal percentages (25.9%) knew that VAS prevents blindness and improves child's health respectively, but only 18.5% knew that Vitamin A protects against disease. Only approximately one fifth (20.5%) of community leaders knew the age of 1st VAS receipt and many did not know the frequency of VAS receipt (74.1%), whereas majority of the community leaders (92.6%) received information about Vitamin A from health workers.

In Katsina, 90.0% of community leaders had also heard about Vitamin A. Slightly more than half (55.5%) knew that VAS prevents against blindness, but only 25.9% and 18.5% knew that it improves child health and protects against diseases. While about a quarter of the community leaders (40.7%) knew the age at which a child should receive Vitamin A for the first time, more than half (51.9%) did not know the frequency of VAS receipt among eligible children. Main source of information about Vitamin A reported was Health workers (88.9%).

Table 13: Community Leaders Knowledge on VAS

Question	N	% (95% CI)	N	% (95% CI)
Have you ever heard of Vitamin A	Ekiti (N=30)		Katsina (N= 30)	
No	3	10.0 (-0.7 – 20.7)	1	3.3 (-3.1 – 9.7)
Yes	27	90.0 (79.3 – 100.7)	27	90.0 (79.3 – 100.7)
I don't know	0	0.0	2	6.7 (-2.3 – 15.7)
What are the benefits of Vitamin A?	Ekiti (N=27)		Katsina (N= 27)	
Prevents blindness Helps Vision	7	25.9 (9.4 – 42.4)	15	55.6 (36.9 – 74.3)
Protects against Disease	5	18.5 (3.9 – 33.2)	5	18.5 (3.9 – 33.2)
Reduces risk of Death	0	0.0	1	3.7 (-3.4 – 10.8)
Improves Child's Health	7	25.9 (9.4 – 42.4)	7	25.9 (9.4 – 42.4)
Helps with Growth	3	11.1 (-0.8 – 22.9)	1	3.7 (-3.4 – 10.8)
Don't know/Don't remember	7	25.9 (9.4 – 42.4)	7	25.9 (9.4 – 42.4)
Other	6	22.2 (6.5 – 37.9)	0	0.0
At what age should children receive Vitamin A capsule for the 1st time	Ekiti (N=27)		Katsina (N= 27)	
At birth	1	3.7 (-3.4 – 10.8)	1	3.7 (-3.4 – 10.8)
6 months	6	22.2 (6.5 – 37.9)	11	40.7 ()
9 months	0	0.0	1	3.7 (-3.4 – 10.8)

Don't know	11	40.7 (22.2 – 59.2)	8	29.6 ()
Others	9	33.3 (15.5 – 51.1)	6	22.2 (6.5 – 37.9)
How often should children 6-59 months receive Vitamin A capsule	Ekiti (N=27)		Katsina (N= 27)	
During each MNCHW	0	0.0	7	25.9 (9.4 – 42.4)
Every 6 months (2 times / year)	3	11.1 (-0.8 – 22.9)	4	14.8 (1.4 – 28.2)
Don't Know	20	74.1 (57.6 – 90.6)	14	51.9 (33.1 – 70.8)
Others	4	14.8 (1.4 – 28.2)	2	7.4 (-2.5 – 17.3)
Sources of Information about VAS	Ekiti (N=27)		Katsina (N= 27)	
Health Worker	25	92.6 (82.7 – 102.5)	24	88.9 (77.1 – 100.8)
Radio	4	14.8 (1.4 – 28.2)	3	11.1 (-0.8 – 22.9)
Trainings/Workshops/Seminars	1	3.7 (-3.4 – 10.8)	2	7.4 (-2.5 – 17.3)
School Curriculum	2	7.4 (-2.5 – 17.3)	0	0.0
Others	1	3.7 (-3.4 – 10.8)	2	7.4 (-2.5 – 17.3)

4. Discussion

The PEC survey was conducted in Ekiti and Katsina states within six weeks of the November 2014 MNCHW. Two of the main reasons for conducting the PEC Survey were to validate the administrative data as well as to characterize children missed during the campaign, with the main aim being to improve subsequent campaigns.

While administrative data from the states) indicated that 81% and 80% of eligible children in Ekiti and Katsina respectively received VAS, data from the PEC survey showed that in Ekiti only 66.3% and in Katsina 43.5% in of eligible children aged 6 – 59 months received Vitamin A during the November 2014 campaign clearly showing a disparity between administrative and PEC survey data. These rates are very low and far below the minimum required threshold of 80% of children covered for a reduction in child mortality to be expected.

This disparity reinforces the need for routine validation of administrative data reported by states. The numerator data used to compute coverage are based on data collated through tally-sheets summarized and transmitted from health facility, to ward, to LGA and finally, to State and National levels and is usually prone to human error and therefore the need to conduct a validation (PEC) survey.

The survey provides some information on possible causes of low coverage. Factors found to be significantly associated with receipt of VAS in Ekiti state were having heard of Vitamin A, having heard about VAS via health worker and ownership of a working radio. Because the delivery of VAS is conducted in the health facilities, where caregivers have to bring their children during the MNCHW, awareness among the population is critical. The survey findings highlight the importance of awareness creation and social mobilization using channels that reaches the majority of caretakers as preparation for the MNCHW.

Similarly, in Katsina, having heard of VAS, and being informed via radio, word of mouth, and town announcements were the significant factors related to receiving VAS. Other related factors include ownership of working radio, being educated, being employed, being married and being from a rural area.

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 Ekiti state weren't aware of or reported that the MNCHW campaign did not hold in their areas during the November, 2014 round. The percentage is even higher in Katsina state with over 50.0% not being aware of or reporting no MNCHW held. Comparing these figures with the percentages that reported not hearing about the campaign as the main reason why their children did not receive services (47.2% in Ekiti and 36.4% in Katsina respectively), it becomes clear that social mobilization was insufficient in both states. To reach more caregivers therefore, greater efforts need to be put into improving awareness creation and demand using a variety of effective social mobilization channels / strategies.

The PEC Survey also revealed that knowledge of VA among caregivers was poor. Quite a number (40.5% in Ekiti and 36.4% in Katsina respectively) did not know any benefit of VA. About half (47.9% and 59.9% respectively) didn't know the age at which children should receive VA for the first time. 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.

Among health workers, although many (96.7% in Ekiti and 85.7% in Katsina respectively) knew that VA prevents blindness, fewer percentage knew about the immune strengthening and child survival benefits of VA. This pattern is also similar to finding in the PECS conducted in Ebonyi, 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.

According to PECS, two key effective channels mentioned by caregivers of passing across information about VAS and the MNCHW were via Health workers and Town announcers. This suggest the need for these groups of people to be continually trained using 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 37.0% and 35.4% of eligible children aged 12 – 59 months received deworming tablets is a concern. In Ekiti state, administrative deworming coverage was put at 33.3% indicating that the

coverage was not over exaggerated. The low coverage in this state is most likely due to insufficient amount of deworming tablets procured by the state. Only 400 mg of Albendazole was provided in Ekiti and this was reportedly restricted to children 24 – 59 month. This low coverage found in Katsina could be due to poor data collection as over aged children were dewormed. Of concern is also the fact that in both states, caregivers also reported that children 6 – 11 months were dewormed (18.4% and 27.2% in Ekiti and Katsina respectively). This finding is similar to the PECS in Ebonyi state where 11.5% of children 6 -11 months were reportedly dewormed. 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.

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. Detailed knowledge of VA was also poor among caregivers and community leaders. Strategies to address these issues thus need to focus on improving social mobilization and knowledge as means for improving coverage. Similar findings were observed in the PECS conducted in Ebonyi state after the May 2014 round. A key strategy suggested then was on the need for stakeholders to develop a detailed training module for HWs in order for their training to be standardized across national, state and LGA level. This process has already been initiated as an online/offline training module is currently being developed. As a follow on to this suggestion therefore, the training module needs to be finalized, pilot tested and scaled up in order to improve the quality of HW training.

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 hard to reach areas will also likely lead to increase in coverage. Male involvement should also not be overlooked. Subsequent social mobilization strategies should target men especially in Northern Nigeria, as this has been seen to have a positive impact on service uptake and coverage.

5. General Recommendations

The findings from this PECS for Katsina and Ekiti states regarding VASD coverage have led to the following recommendations:

1. Key messages about MNCHW should be developed and disseminated through health talks at routine immunization clinics and weekly messages at worship centres prior to and during the campaign along with an ongoing generic radio jingles on the benefits of vitamin A and the twice yearly campaign to raise awareness and create demand.
2. More HF and mobile fixed post should be assigned to distributing interventions during MNCHW.
3. To address the issue of consistently of low deworming coverage, development partners may need to support the government in the procurement of adequate amount of tablets for the campaign. A detailed strategy on how government should transition towards owning the program also needs to be put in place.
4. Effective channels of communication need to be strengthened by the state. More funds should be allocated to training health workers and town announcers with key VAS messages.

6. Next Steps

- a. The results of the PEC Survey will be disseminated in Ekiti and Katsina states after the gubernatorial elections. Based on the findings and recommendations from this survey, the state team and other partners will agree 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.
- b. The PEC Survey results will also be shared during the HKI partners review 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 in Ekiti and Katsina states was far below the recommended 80% coverage level required for a public health effect of VAS. Poor social mobilization and knowledge among caregivers and community leaders were contributory factors to the low VAS coverages observed, as well as insufficient procurement of adequate amounts of deworming tablets. Improvements in these areas could lead to higher VAS and deworming coverages.

Developing key messages on VAS and passing these messages across via effective channels, during health talks at the health facility and via town announcements will also improve coverage.

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.