POST EVENT COVERAGE SURVEY OF THE HEALTHCARE INTEGRATED VITAMIN A SUPPLEMENTATION DISTRIBUTION (VASD) EXERCISE IN AKWA IBOM, BENUE AND NASARAWA STATES, NIGERIA.

February 2022

EXECUTIVE SUMMARY

Title	Post event Coverage Survey of the Healthcare Integrated Vitamin A Supplementation Delivery (VASD) Exercise in Akwa Ibom, Benue and Nasarawa states, Nigeria
Objectives	• To validate administrative VAS and deworming coverage data. • To identify factors associated with the receipt of VAS in the states. • To assess the contribution made by the social mobilization strategy on caregivers' awareness and participation during the November / December 2021 VAS distribution in the states.
Methods	Post event coverage (PEC) survey was conducted within six weeks of the implementation of the November / December 2021 VAS distribution in the states. Thirty clusters (30) were randomly selected in each state using probability proportionate to size (PPS) sampling. In each cluster, 30 caregivers, 1 health worker (HW) and 1 community leader were interviewed.
Results	**Akwa Ibom** VAS coverage in Akwa Ibom among children 6-59 months of age was 64.7%; much lower than state administrative coverage data (87.7%). Similarly, deworming coverage was found to be 34.4%, which is surprisingly higher than the administrative coverage of 17.7% reported by the state. More caregivers heard about the VASD event from town announcers (63.2%), health workers (33.5%) and religious leaders (21.6%). Although there was good understanding of Vitamin A among health workers interviewed, detailed knowledge of key VAS messages was poor among caregivers and community leaders in Akwa Ibom State. **Benue** VAS coverage in Benue among children 6-59 months of age was 68.1%; much lower than state administrative coverage data (97.1%).

	Similarly, deworming coverage was found to be 60.0%, which is also lower than the administrative coverage of 72.2% reported by the state. More caregivers heard about the VASD event from town announcers (57.7%), health workers (39.6%) and religious leaders (35.1%). Although there was good understanding of Vitamin A among health workers interviewed, detailed knowledge of key VAS messages was poor among caregivers and community leaders in Benue State. **Nasarawa** VAS coverage in Nasarawa among children 6-59 months of age was 76.1%; 11.7% lower than state administrative coverage data (87.8%). Meanwhile, deworming coverage was found to be 66.6%, similar to the administrative coverage of 67.1% reported by the state. Many caregivers heard about the MNCHW from health workers (36.4%), and town announcers (34.3%). Although there was good understanding of Vitamin A among health workers interviewed, detailed knowledge of key VAS messages was poor among caregivers and community leaders in Nasarawa State.
Discussion and Recommendations	**Akwa Ibom** The results highlight findings from the PEC survey conducted in Akwa Ibom State, Nigeria. Coverage of VAS was much lower than the administrative coverage reported by the state. The delivery model used (mainly health facility-based delivery) coupled with poor awareness creation and mobilization efforts could be largely responsible for the low coverage. Town announcers were found to be effective channels for creating awareness about the VASD among caregivers. Adopting a modified delivery model that integrates house-to-house teams with health facility-based and outreach teams would ensure higher coverages in subsequent VASD exercises. Ensuring adequate funding through advocacy visit to key decision makers as well as continued capacity strengthening of key personnel such as health workers and town announcers is also recommended. Involving community leaders from the pre-implementation stage for the purpose of adequate sensitization and proper mobilization. **Benue** The results highlight findings from the PEC survey conducted in Benue State, Nigeria. Coverage of VAS was much lower than the administrative coverage reported by the state. The delivery model used (mainly health facility-based delivery) coupled with poor awareness creation and mobilization efforts could be largely responsible for the low coverage. Town announcers were found to be effective channels for creating awareness about the VASD among caregivers. Adopting a

	modified delivery model that integrates house-to-house teams with health facility-based and outreach teams would ensure higher coverages in subsequent VASD exercises. Ensuring adequate funding through advocacy visit to key decision makers as well as continued capacity strengthening of key personnel such as health workers and town announcers is also recommended. Involving community leaders from the pre-implementation stage for the purpose of adequate sensitization and proper mobilization. **Nasarawa** The results highlight findings from the PEC survey conducted in Nasarawa State, Nigeria. Coverage of deworming was similar to administrative coverage reported by the state, on the contrary, coverage of VAS was not similar to the admin coverage reported by state. The modified delivery model (mainly door-to-door delivery) used last year could be largely responsible for the high coverage reported for the last implementation, the shift from door-to-door to facility based possibly affected uptake as beneficiaries may be on the verge of adjusting to this change. As such, 81.2% reported that VAS was distributed in their community but only 76.1% reported that they received the intervention. Town announcers were found to be effective channels for creating awareness about the VASD among caregivers, ultimately also leading to improved uptake of services by the beneficiaries. Continued use of the modified delivery model, especially considering the COVID-19 context, increased funding through advocacy visit to key decision makers as well as continued capacity strengthening of key personnel such as health workers and town announcers would ensure that the high coverage is achieved in subsequent VASD events. Involving community leaders from the pre-implementation stage for the purpose of adequate sensitization and proper mobilization.

ACKNOWLEDGEMENT

The PEC survey in Akwa Ibom, Benue and Nasarawa states, Nigeria for the November / December 2021 VAS distribution exercise for children 6-59 months was conducted by Helen Keller International (Helen Keller) in collaboration with the Primary Health Care Development Agencies/Board of the states.

Helen Keller Nigeria takes this opportunity to express its gratitude to all those who, directly or indirectly, contributed to this survey.

Firstly, our sincere thanks to the GiveWell for their financial support towards the implementation of the Post Event Coverage Survey in the states.

Our thanks also go to the local, political and administrative authorities and particularly the Primary Health Care Development Agencies/Board of the states without which this study would have been difficult to conduct. We will not fail to appreciate the caregivers, health workers and community leaders who were willing to spare few minutes of their time to answer our questions which led to the realization of this data.

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

ACRONYM GUIDE

AMEPI	Africa Mideast Progressive Initiative
AKSPHDA	Akwa Ibom State Primary Healthcare Development Agency
BSPHDB	Benue State Primary Healthcare Development Board
NASPHDA	Nasarawa State Primary Healthcare Development Agency
CHEW	Community Health Extension Workers
COVID-19	Novel Coronavirus Disease 2019
EPI	Expanded Programme on Immunization
FANC	Focused Antenatal Care
FMOH	Federal Ministry of Health
GAVA	Global Alliance for Vitamin A
H2RA	Hard-to-Reach Areas
HF	Health Facility
HW	Health Worker
LLIN	Long Lasting Insecticide Treated Nets
LGA	Local Government Area
NBS	National Bureau of Statistics
NDHS	Nigerian Demographic and Health Survey
NGO	Non-Governmental Organization
NPHCDA	National Primary Health Care Development Agency
NPC	National Population Commission
MNCHW	Maternal New-born and Child Health Week

ORS	Oral Rehydration Solution
PECS	Post Event Coverage Survey
PHC	Primary Health Centre
PHF	Private Health Facility
SDG	Sustainable Development Goal
SPSS	Statistical Package for the Social Sciences
VA	Vitamin A
VAC	Vitamin A Capsule
VAD	Vitamin A Deficiency
VADI	Vitamin A and Deworming Intervention
VAS	Vitamin A Supplementation
VASD	Vitamin A Supplementation 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. In Nigeria, the rate of VAD amongst children aged 6 to 59 months is high at 29.5%.[1] Based on the 2018 National demographic and Health Survey (NDHS) findings, the under-5 mortality rate has decreased since 2008, from 157 deaths per 1,000 live births to 132 deaths per 1,000 live births. Similarly, there has been a slight reduction in infant mortality, from 75 to 67 deaths per 1,000 live births.[2] However, there has been no noticeable change in the neonatal mortality rate over the same period.

In settings where VAD is a public health problem, bi-annual high-dose 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.[3]

Vitamin A supplementation (VAS) is a cost-effective intervention that reduces the risk of all-cause child mortality by 24% in areas 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 during the bi-annual Maternal, Newborn and Child Health Week (MNCHW) campaign. These campaigns are usually implemented in May / June and November / December of each year. Interventions such as VAS, deworming, focused antennal care (FANC), routine immunization, Zinc/Lo-ORS, nutrition assessment and education among others are delivered free-of-charge by trained health workers / volunteers at designated health facilities (HF) and fixed outreach posts during the week-long campaign.

Prior to the implementation of the MNCHW, advocacy visits for fund mobilization and trainings of health personnel are carried out at different levels. Various social mobilization activities such as community dialogues, town announcements, rallies, sensitization of religious leaders, airing of radio jingles, flag off, among others are also carried out at the community level to enlighten caregivers. These activities usually culminate in the

[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] National Population Commission, MEASURE DHS, ICF International. Nigeria Demographic and Health Survey 2018 Report.

[3] WHO, Geneva, 2010. WHO Guidelines: Vitamin A Supplementation in Infants and Children 6 - 59 Months of Age

[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

mobilization of caregivers and eligible children to the health facilities / outreach posts to receive services.

Late 2019 / early 2020 saw the emergence of the new Coronavirus disease - COVID-19. This led to the World Health Organization (WHO) suspending all mass campaigns (vaccination, Vitamin A supplementation, Nets distribution, NTDs etc.) in March 2020. As a result, the MNCHW campaign was also suspended across all States in Nigeria. Following the WHO suspension, the Global Alliance for Vitamin A (GAVA) developed guidelines for the safe administration of Vitamin A in the context of COVID-19.[6] Following this development, states were supported to carry out 2020/2021 MNCH campaigns.

In November / December 2021, Akwa Ibom state implemented a "*controlled*" MNCHW event. The aim of this "*controlled"* event was to limit the spread of COVID-19 by preventing crowds of caregivers and children gathering in-masse, at the health facilities (HF) in line with the GAVA guidelines. Vitamin A, deworming, and other key child and maternal health interventions were instead delivered as part of routine services in designated HFs and temporary fixed posts in hard-to-reach areas during a 5-day period. Other services delivered during the Vitamin A Supplementation distribution (VASD) exercise include routine immunization, nutrition screening, health promotion, iron-folate, family planning, and HIV counselling and testing for pregnant women and adolescent girls.

1.2 Statement of the Problem

VAS coverage figures in Nigeria are based on administrative data collected during the implementation days using tally sheets. Administrative reporting usually takes up to two (2) months to aggregate and reach national level for official coverage estimates, putting the accuracy of the data into question. Adding up tallies at various levels also exposes the data to errors and could potentially affect the numerator. Over the years, 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 Helen Keller Intl 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 80.0% 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 in several states in Nigeria.

Table 1: Difference in Coverage between Administrative (Tally Sheet) and PECS Data

FCT R1 2012		Akwa Ibom R2 2013		Benue R2 2013		Ebonyi R1 2014		Ekiti R2 2014		Katsina R2 2014		Benue R2 2020		Nasarawa R1 2020	
Admin (%)	PECS (%)	Admin (%)	PECS (%)	Admin (%)	PECS (%)	Admin (%)	PECS (%)	Admin (%)	PECS (%)	Admin (%)	PECS (%)	Admin (%)	PECS (%)	Admin (%)	PECS (%)

[6] GAVA 2020: Administration of Vitamin A Supplementation for Preschool Aged-Children in the Context of Covid-19

66.6	66.9	97.0	45.8	92.0	50.7	106.0	56.6	81.0	66.3	80.0	43.5	103.4%	44.8%	97.0%	93.0%

Among the challenges affecting uptake of VAS is the poor awareness 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 on the part of caregivers. Likewise, responses from the client exit interviews which are usually conducted during the MNCHW campaigns show that majority of caregivers are not often aware of the campaign, they just happen to bring their children for routine immunization.

Over the years, Helen Keller has supported some aspect of social mobilization across several states in Nigeria to increase awareness among caregivers, community participation and uptake of services during the MNCHW. Aspects supported include printing of IEC materials (banners, posters, job aids, stickers, VAS envelopes e.t.c), production and airing of radio jingles (in English and local languages) with key messages about the campaign, training and deployment of town announcers, sensitization of religious and community leaders and community dialogues. However, despite awareness creation, activities are usually not fully implemented due to inadequate funding of the campaign especially by the State and LGAs, and this often contributes to low coverage.

In the 4th quarter of 2020, Helen Keller received a 3-year grant (2020 – 2023) from GiveWell to expand its support for the implementation of Vitamin A supplementation (VAS) among children 6 – 59 months of age to a second (2nd) state in Nigeria, the first being Nasarawa state. Benue state was chosen based on poor nutrition and health indices as well as the paucity of partners funding health interventions in the state. In 2021, Helen Keller received an additional grant from GiveWell to expand its support to 3 additional states in Nigeria namely: Adamawa, Akwa Ibom and Taraba. These states were chosen based on poor nutrition and health indices as well as the paucity of partners funding health interventions in the state.

1.3. Objectives of the Survey

The objectives of the PEC survey were:

a. To validate administrative VAS and Deworming coverage data.

b. To identify factors associated with the receipt of VAS in the states.

c. To assess the contribution made by the social mobilization strategy on caregiver awareness and participation during the November / December 2021 VASD in the 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 / December 2021 VASD in the states to ensure accurate recall by caregivers. To ensure the selection of a representative sample of households, 30 clusters (communities) were randomly selected from the 2006 projected population census list of communities in Akwa Ibom State, 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] Five teams of four (4) enumerators each were trained to collect data from caregivers in thirty (30) communities. After proper community entry, the map of each community was drafted by the teams with the help of a community member. Using a map of each community, each cluster (community) was then divided into four (4) quadrants. In each of the first two quadrants, eight (8) households were randomly surveyed while in each of the last two quadrants, seven (7) households were interviewed. Thus, giving a total of thirty (30) caregivers interviewed in each community.

To determine the households to be included in the survey, one of five starting points was 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 2021 VAS distribution in Akwa Ibom state 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.

If 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.

[7] 2006 Nigeria Census, National Bureau of Statistics
[8] Immunization Coverage Cluster Survey-Reference Manual. World Health Organization, 2005

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 interviewed must have been involved with the last VASD exercise in order to be eligible to participate. All data were collected with mobile phones using ODK-collect app and uploaded to the ONA platform for aggregation and analysis. 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 and adjusting the survey tools 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 November / December 2021 VASD in Akwa Ibom State.

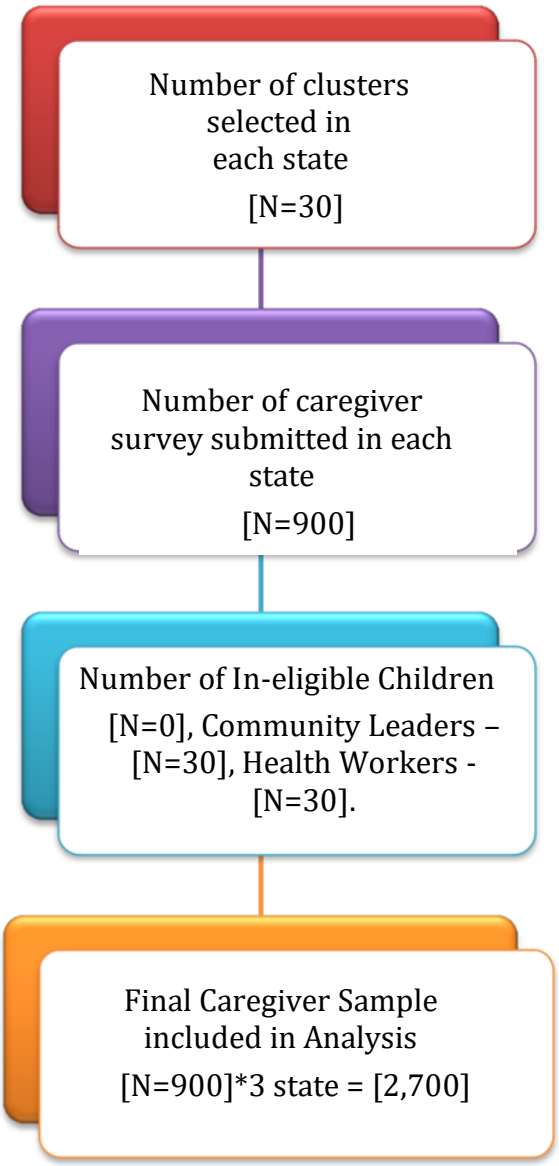
For children whose exact day of birth was unknown, an estimated date was arrived at by using the 15th day of the month and year of birth given by the caregiver. StataSE 17 was used to compute frequencies and cross-tabulations to compare children who were supplemented and those who were not. A p-value of <0.05 was considered as significant. The 95% confidence interval was also calculated.

3. SURVEY FINDINGS

3.1 Enrolment and Final Sample

The final sample used for analysis comprised of nine hundred (900) caregivers, thirty (30) community leaders and thirty (30) health workers who participated in the last VASD in Akwa Ibom state.

Figure 1: Flow of Participants in Final Analytical Sample for Each State



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. In all states, majority of the children were aged 12- 59 months and more than half did not have birth certificates/health cards in Akwa Ibom and Benue. Among the caregivers surveyed in Akwa Ibom and Benue, farming was the main source of income while trading/business was more common among the Nasarawa caregivers.

3.2.1 Descriptive Statistics of Children and Caregivers Surveyed

Table 2 provides a descriptive overview of the caregivers and children surveyed. In all states, a larger percentage (Akwa Ibom - 89.7%, Benue 89.7% and Nasarawa – 99.2%) of the children assessed fell within the 12 – 59 months age group, while only 10.3% in Akwa Ibom/Benue and 0.8% in Nasarawa were aged 6 – 11 months. There were more female in Akwa Ibom and Nasarawa (Akwa Ibom – 52.4%, Nasarawa – 50.2%) and more males in Benue (51.7%) sampled population.

In all the states, most of the caregivers interviewed were the child's mother (Akwa Ibom - 70.3%, Benue – 71.8%, Nasarawa – 83.6%). About a fifth of the caregivers (Akwa Ibom – 16.9%, Benue – 23.6% and Nasarawa – 26.3%) fell within the 18 to 25 years age range, second to the 26 to 35 years age range (Akwa Ibom - 43.6%, Benue – 50.4%, Nasarawa – 58.9%). Less than a third of the caregivers (Akwa Ibom - 6.7%, Benue – 14.4%, Nasarawa – 27.7%) had no form of education. With about 83.8% Akwa Ibom has the highest number of caregivers that have completed both primary and secondary school, closely followed by Benue 79.5% and Nasarawa 58.8%. Majority of the respondents in Akwa Ibom and Benue (Akwa Ibom - 99.1%, Benue – 91.3%) were Christians, with an almost equal but slightly higher ratio (Christian 52.4%, Muslim – 47.3%) in Nasarawa.

Table 2: Descriptive Statistics of Children and Caregivers Surveyed

Child Characteristics						
	Akwa Ibom		**Benue**		**Nasarawa**	
Age in months	**(N = 900)**	**(%)**	**(N = 900)**	**(%)**	**(N = 900)**	**(%)**
6-11	93	10.3%	93	10.3%	113	12.6%
12-59	807	89.7%	807	89.7%	787	87.4%
Gender	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Male	428	47.6%	465	51.7%	448	49.8%
Female	472	52.4%	435	48.3%	452	50.2%
Health Card/Birth Certificate	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Yes	614	68.2%	474	52.7%	585	65.0%
No	286	31.8%	426	47.3%	315	35.0%
Caregiver / Informant Characteristics						
Relationship with the Child	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Mother	633	70.3%	646	71.8%	752	83.6%
Father	132	14.7%	156	17.3%	76	8.4%

Grand father / Grand mother	75	8.3%	46	5.1%	27	3.0%
Aunt / Uncle	40	4.4%	25	2.8%	25	2.8%
Sibling [Brother / Sister]	18	2.0%	25	2.8%	19	2.1%
Others	2	0.2%	2	0.2%	1	0.1%
Age (years)	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
<18 years	9	1.0%	16	1.8%	9	1.0%
18 to 25 years	152	16.9%	212	23.6%	237	26.3%
26 to 35 years	392	43.6%	454	50.4%	530	58.9%
36 to 45 years	222	24.7%	157	17.4%	102	11.3%
46 to 55 years	67	7.4%	31	3.4%	10	1.1%
>55 years	58	6.4%	30	3.3%	0	0%
Level of Education	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
None	60	6.7%	130	14.4%	249	27.7%
Primary Education	292	32.4%	374	41.6%	256	28.4%
Secondary Education	462	51.3%	341	37.9%	274	30.4%
University / College of Education / Polytechnic	81	9.0%	45	5.0%	107	11.9%
Post graduate education	2	0.2%	1	0.1%	0	0.0%
Others	3	0.3%	9	1.0%	14	1.6%
Religion	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Muslim	0	0.0%	77	8.6%	426	47.3%
Christian	892	99.1%	822	91.3%	472	52.4%
Traditional	6	0.7%	0	0.0%	1	0.1%
No Religion	2	0.2%	1	0.1%	1	0.1%
Others	0	0.0%	0	0.0%	0	0%

3.2.2 Descriptive Statistics of Households

Table 3 below provides an overview of the characteristics of households. Most of households were in rural areas in Akwa Ibom and Benue (Akwa Ibom - 83.1%, Benue – 76.7%) with almost equal percentages (rural – 46.8%, non-rural-53.2%) in Nasarawa. Majority of the caregivers indicated trading/business as their main source of income (Akwa Ibom - 39.8%, Nasarawa – 48.8%); while Benue caregivers are predominantly farmers (59.4%).

In all the states, the main source of drinking water for majority of the households was well / borehole (Akwa Ibom - 57.1%, Benue – 63.0%, Nasarawa – 72.1%), and most used firewood (Akwa Ibom 77.2%, Benue – 87.3%, Nasarawa – 67.4%) as their main source of cooking fuel. About half of the caregivers (Akwa Ibom - 61%, Benue – 53%, Nasarawa – 41.9) lives over 20 minutes' walk away from the PHC.

Table 3: Descriptive Statistics of the Household

	Akwa Ibom		Benue		Nasarawa	
Type of the Area	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Rural	748	83.1%	690	76.7%	421	46.8%
Non-rural	152	16.9%	210	23.3%	479	53.2%
Income Source	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Farmer	236	26.2%	535	59.4%	247	27.4%
Trader / Business	358	39.8%	270	30.0%	439	48.8%
Civil Servant	36	4.0%	9	1.0%	38	4.2%
Artisan	63	7.0%	27	3.0%	15	1.7%
Fisherwoman or Fisherman	55	6.1%	4	0.4%	0	0.0%
Unemployed / Stay-at-home	105	11.7%	38	4.2%	136	15.1%
Others (Artisa, Civil servant, Fisherman, Fisherwoman)	47	5.2%	17	1.9%	25	2.8%
Main Source of Drinking Water	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Private pipe/tap	16	1.8%	0	0.0%	7	0.8%
Public tap/pipe	192	21.3%	20	2.2%	21	2.3%
Well/Bore Hole	514	57.1%	567	63.0%	649	72.1%
River, lake	151	16.8%	305	33.9%	217	24.1%
Pond	3	0.3%	0	0.0%	1	0.1%
Others (Stream water, Sachet water)	24	2.7%	8	0.9%	5	0.6%
Type of Household Toilet	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Pit Latrine	548	60.9%	321	35.7%	274	30.4%
Bush	68	7.6%	354	39.3%	309	34.3%
River	31	3.4%	9	1.0%	15	1.7%

Water closet / system	251	27.9%	117	13.0%	186	20.7%
VIP Latrine	2	0.2%	99	11.0%	116	12.9%
Others	0	0.0%	0	0.0%	0	0%
Primary Source of Cooking Fuel	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Electricity	1	0.1%	3	0.3%	3	0.3%
Gas	99	11.0%	33	3.7%	113	12.6%
Kerosine	89	9.9%	18	2.0%	56	6.2%
Firewood	695	77.2%	786	87.3%	607	67.4%
Charcoal	14	1.6%	60	6.7%	121	13.4%
Others	2	0.2%	0	0.0%	0	0%
Distance of Household from Health Facility	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Less than 5 minutes	45	5.0%	52	5.8%	55	6.1%
Between 5 to 10 minutes	147	16.3%	206	22.9%	231	25.7%
Between 11 to 20 minutes	159	17.7%	165	18.3%	236	26.2%
Between 21 to 30 minutes	205	22.8%	191	21.2%	189	21.0%
More than 30 minutes but less than 1 hour	243	27.0%	161	17.9%	128	14.2%
More than 1 hour	86	9.6%	124	13.8%	58	6.4%
Others	15	1.7%	1	0.1%	3	0.3%
Ownership of working	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
	Yes		**Yes**		**Yes**	
Cell phone	728	80.9%	714	79.3%	760	84.4%
Radio	537	59.7%	413	45.9%	508	56.4%
TV	364	40.4%	243	27.0%	391	43.4%

3.3 VAS Coverage among Children 6 - 59 Month of Age

Key Finding: *The percentages of children aged 6 - 59 months who received VAS during the November / December 2021 VASD exercise in the 3 states are as follows; Akwa Ibom – 64.7%, Benue – 68.1%, Nasarawa – 76.1%*

The primary objective of the survey was to validate administrative VAS coverage data and identify factors associated with the receipt of VAS in the states. The survey results

showed that only 64.7% of eligible children were supplemented in Akwa Ibom, 68.1% in Benue and 76.1% in Nasarawa, as seen in Table 4 below. This is considerably lower than the administrative coverage (tally sheet data) reported by the states (Akwa Ibom - 87.7%, Benue – 97.1%, Nasarawa – 87.8%). This suggests that about one third (Akwa Ibom - 35.3%, Benue – 31.9% and Nasarawa – 23.9%) of eligible children were missed in the 2021 VASD in Akwa Ibom state.

Table 4: Coverage of Vitamin A Supplementation (VAS) among Children 6-59						
	Akwa Ibom		**Benue**		**Nasarawa**	
	(n/N)	**(%)**	**(n/N)**	**(%)**	**(n/N)**	**(%)**
Overall	582/900	64.7%	613/900	68.1%	685/900	76.1%
By Sex	**(n/N)**	**(%)**	**(n/N)**	**(%)**	**(n/N)**	**(%)**
Female	312/472	66.1%	302/435	69.4%	343/452	75.9%
Male	270/428	63.1%	311/465	66.9%	342/448	76.3%
By Type of Area	**(n/N)**	**(%)**	**(n/N)**	**(%)**	**(n/N)**	**(%)**
Rural	495/748	66%	454/690	66%	368/421	87.4%
Non-Rural	87/152	57%	159/210	76%	317/479	66.2%

3.4 Deworming Coverage among Children 12 - 59 Month of Age

Key Finding: *The percentages of children aged 12 - 59 months dewormed during the November / December 2021 VASD exercise in the states were as follows; Akwa Ibom – 34.4%, Benue – 60.0% and Nasarawa – 66.6%.*

The survey results revealed that between 34.4%-66.6% (Akwa Ibom - 34.4%, Benue – 60.0%, Nasarawa – 66.6%) of eligible children (12 - 59 months) received deworming tablets during the last VASD in Akwa Ibom state, as seen in Table 5 below. For Benue, the survey coverage was much lower than the admin coverage of 72.2% (tally sheet data) , signifying that the coverage was unduly exaggerated. In Nasarawa, PECS coverage validated the admin coverage (67.1%) signifying that the coverage was not unduly exaggerated. In Akwa Ibom, PECS coverage was surprisingly higher than the administrative coverage (17.7%) reported by the state signifying that the coverage was either unduly under reported or that deworming activities by other programs may have affected the outcome.

Table 5: Coverage of Deworming among Children 12-59						
	Akwa Ibom		**Benue**		**Nasarawa**	
	(n/N)	**(%)**	**(n/N)**	**(%)**	**(n/N)**	**(%)**
Overall	310/900	34.4%	484/807	60.0%	595/893	66.6%
By Sex	**(n/N)**	**(%)**	**(n/N)**	**(%)**	**(n/N)**	**(%)**

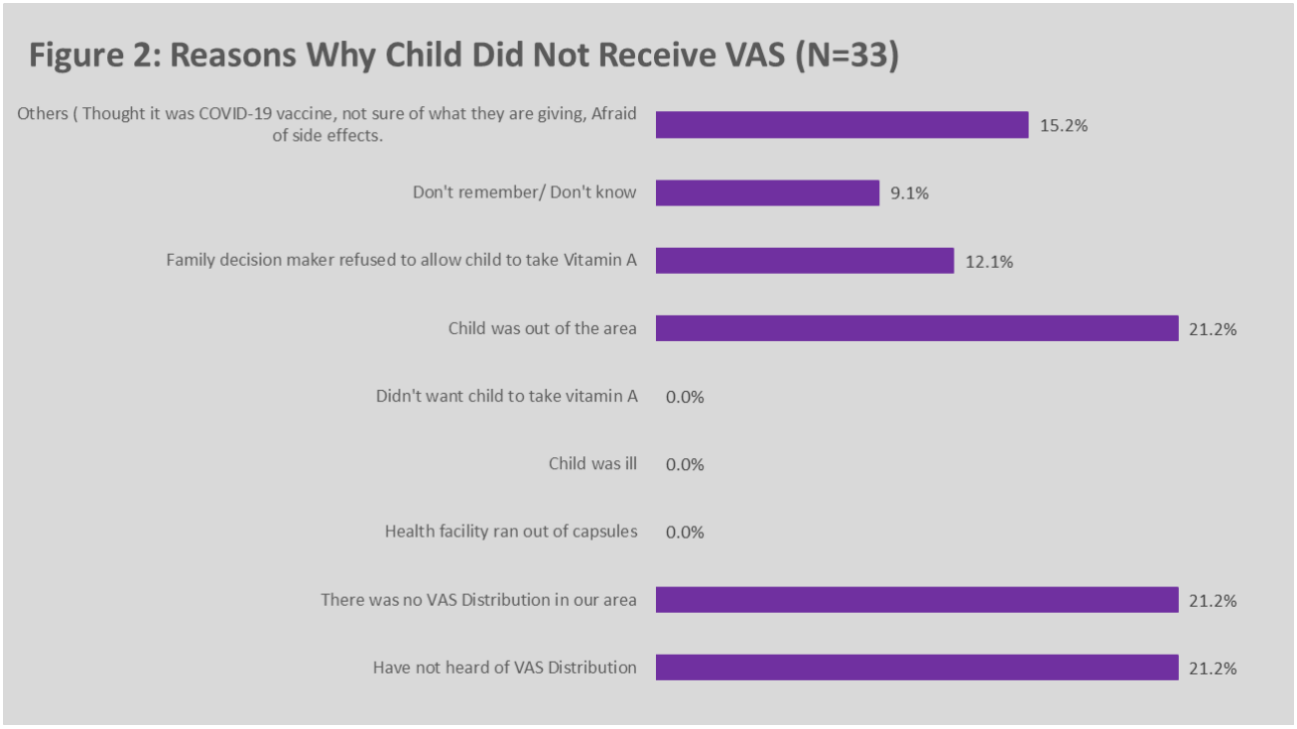
Female	178/472	37.7%	245/435	56.3%	290/452	64.2%
Male	132/428	30.8%	239/465	51.4%	305/448	68.1%

3.5 Characteristics of Children Missed During the Last Campaign

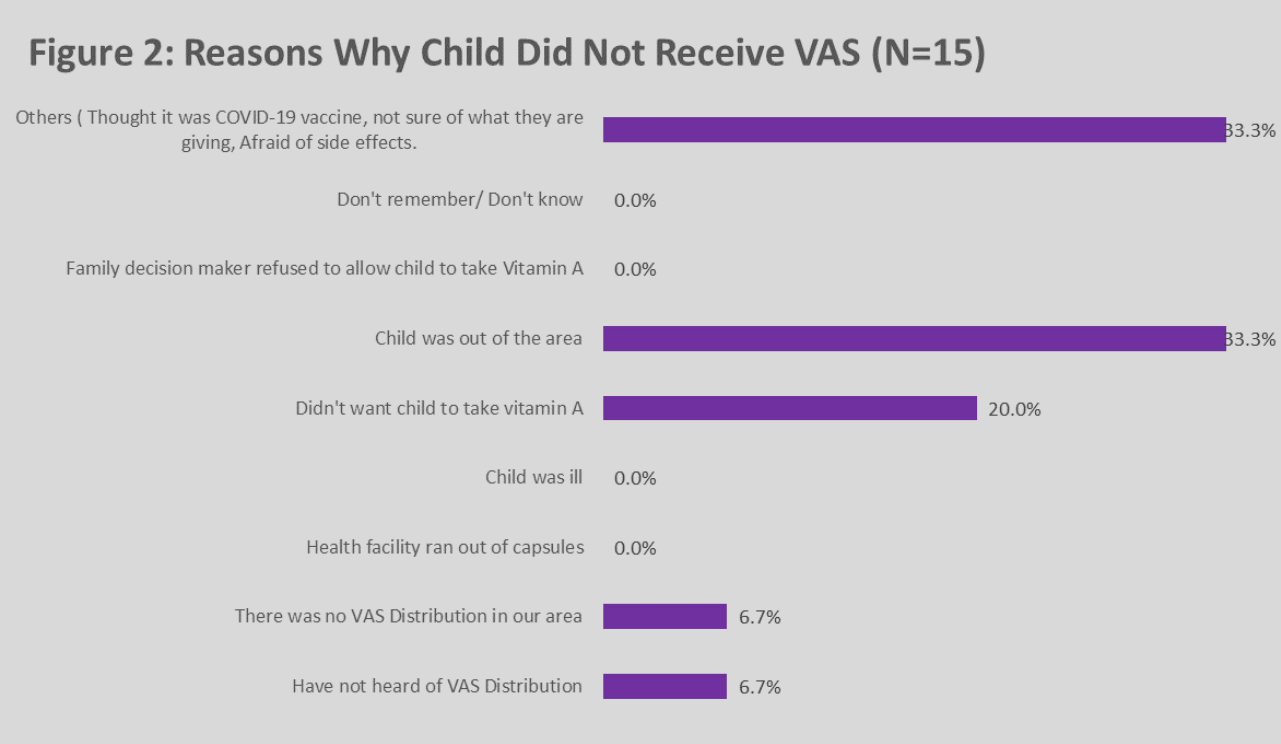
Key Finding: *The main reasons given by caregivers of whose eligible children were missed during the last VASD in states where as follows; Akwa Ibom and Nasarawa- they did not hear about the program (21.2% and 16.7% respectively), Benue – they thought it was COVID-19 and as such were afraid of side effects – 33.3%.*

Figures 2 for the states below provides information on the reasons why eligible children missed being supplemented during the November / December 2021 VASD exercise in Akwa Ibom state. About a fifth of the caregivers (21.2%) interviewed said their children did not receive VAS either because they have not heard of VAS distribution, there was no VAS distribution in the area and the child was out of the area. In Benue state. A third of the caregivers (33.3%) interviewed said their children did not receive VAS either because they thought it was COVID-19 vaccine, they were not sure of the medication, they were scared of side effects, or the child was out of the area. One fifth (20.0%) reported that they do not want their children to take VAS. In Nasarawa state. 18.8% of children did not receive VAS because not offered. About 20.8% of children were missed because they were out of the area during the MNCHW. while an equal percentage (16.7%) were missed because their caregivers were not aware of the event.

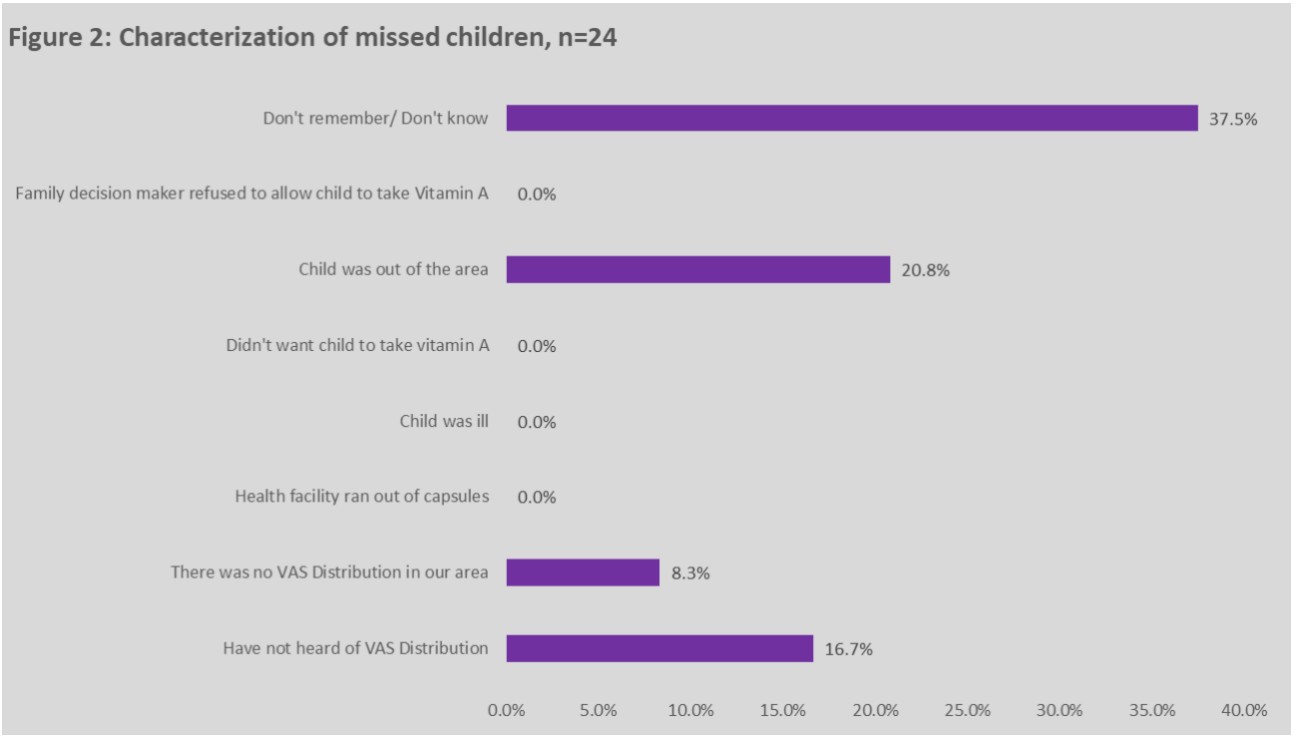
Akwa Ibom



Benue



Nasarawa



3.6 Caregiver Knowledge about Vitamin A

Key Finding: *More than a fifth of the caregivers interviewed in all the states did not know any benefit of Vitamin A (Akwa Ibom - 32.6%, Benue – 22.8%, Nasarawa – 20.7%)*

3.6.1 Caregivers' Awareness about Vitamin A and its benefits

Table 6 below shows that more than a fifth of the caregivers (Akwa Ibom - 32.6%, Benue – 22.8, Nasarawa – 20.7%) don't know or can't remember any benefit of vitamin A, while the following respondents Akwa Ibom – 50.4%, Benue – 51.9%, Nasarawa – 44.4 reported that Vitamin A prevent blindness.

Table 6: Caregivers' Awareness of and Knowledge about Vitamin A and Its Benefits

	Akwa Ibom		**Benue**		**Nasarawa**	
Have you ever heard about Vitamin A?	**(N=900)**	**(%)**	**(N=900)**	**(%)**	**(N=900)**	**(%)**
Yes	702	78.0%	632	70.2%	695	77.2%
No	198	22.0%	268	29.8%	205	22.8%
What are the Benefits of Vitamin A?	**(N=702)**	**(%)**	(N=547)	(%)	(N=900)	(%)
Prevents blindness/helps vision	354	50.4%	328	51.9%	400	44.4%
Protects against disease	177	25.2%	196	31.0%	148	16.4%
Reduces risk of death	44	6.3%	79	12.5%	14	1.6%
Improves child health	150	21.4%	185	29.3%	116	12.9%
Helps with growth	96	13.7%	155	24.5%	103	11.4%
Don't know/ Don't remember	229	32.6%	144	22.8%	186	20.7%
Others (Helps the body grow strong, Prevents weakness)	4	0.6%	7	1.1%	5	0.6%

3.6.2 Caregivers' Knowledge of the Recommended Age of 1st VAS Receipt among Children

On table 7 below, only about a third or more of the caregivers (Akwa Ibom - 36.0%, Benue – 54.6%, Nasarawa – 47.8%) knew the correct age at which a child should receive Vitamin A for the first time (i.e. at 6 months).

Table 7: Caregivers' Knowledge about the Age of First VAS Receipt among Children (N=702)						
	Akwa Ibom		Benue		Nasarawa	
At what Age should a Child Receive Vitamin A for the 1st Time?	**(N)**	**(%)**	**(N)**	**(%)**	**(N)**	**(%)**
At birth	25	3.6%	7	1.1%	5	0.7%
6 months	253	36.0%	345	54.6%	332	47.8%
9 months	37	5.3%	26	4.1%	45	6.5%
At 1 year	0	0.0%	0	0.0%	0	0.0%
Don't know	362	51.6%	238	37.7%	308	44.3%
Others	25	3.6%	16	2.5%	5	0.7%

Other: 2 months, 2 - 3 months, less than 1 year, 1 year, 1 or 2 years, 1 to 5 years, 2 years, 3 to 4 years, 4 years and below, under 5 years*

3.6.3 Caregivers' Knowledge of the Frequency of VAS for Eligible Children

Table 8 below shows that many caregivers (Akwa Ibom - 30.5%, Benue – 51.3%, Nasarawa – 55.6%) could not correctly state the frequency of VAS receipt among eligible children (i.e. every 6 months).

Table 8: Caregivers' Knowledge about the Frequency of VAS for Eligible Children (N=547)						
	Akwa Ibom		Benue		Nasarawa	
How often should a Child 6 - 59 months receive Vitamin A capsules?	**(N)**	**(%)**	**(N)**	**(%)**	**(N)**	**(%)**
Every 6 months (2 times/year) or during each VADI	215	30.5%	311	49.2%	311	44.7%
Every day	20	2.8%	5	0.8%	3	0.4%
Don't know	442	62.6%	288	45.6%	370	53.2%
Others	29	4.1%	31	4.9%	14	2.0%

Other: once per year, 2 to 3 times per year, every 3 months, 3 times per year, 4 times, 9 months - 59 months, 2 times or more, anytime, once a month, when announced*

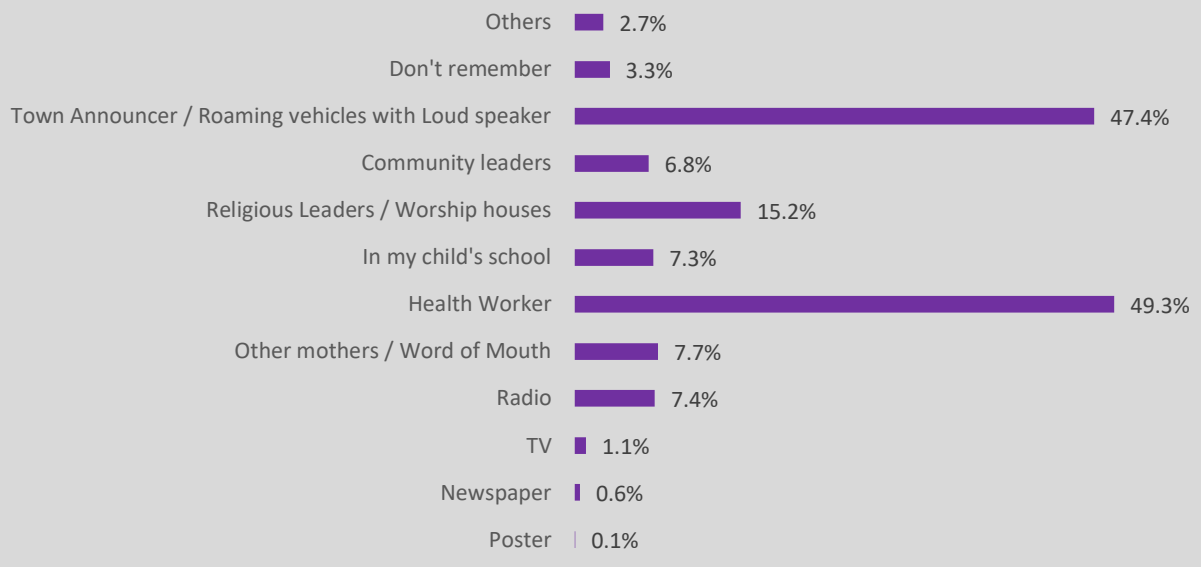
3.6.4 Caregivers' Source of Knowledge of Vitamin A

Figures 3 below indicates that in Akwa Ibom, the most common source of information about Vitamin A was from the health workers (49.3%), followed by the town announcers (47.4%) and then Religious Leaders (15.2%). In Benue however, it was the Town

Announcers (44.6%), followed by the Health workers (40.4%) and then Religious Leaders (33.8%). In Nasarawa it was the health workers (44.6%), closely followed by the Town Announcers (44.5%), and then Community Leaders (18.6%).

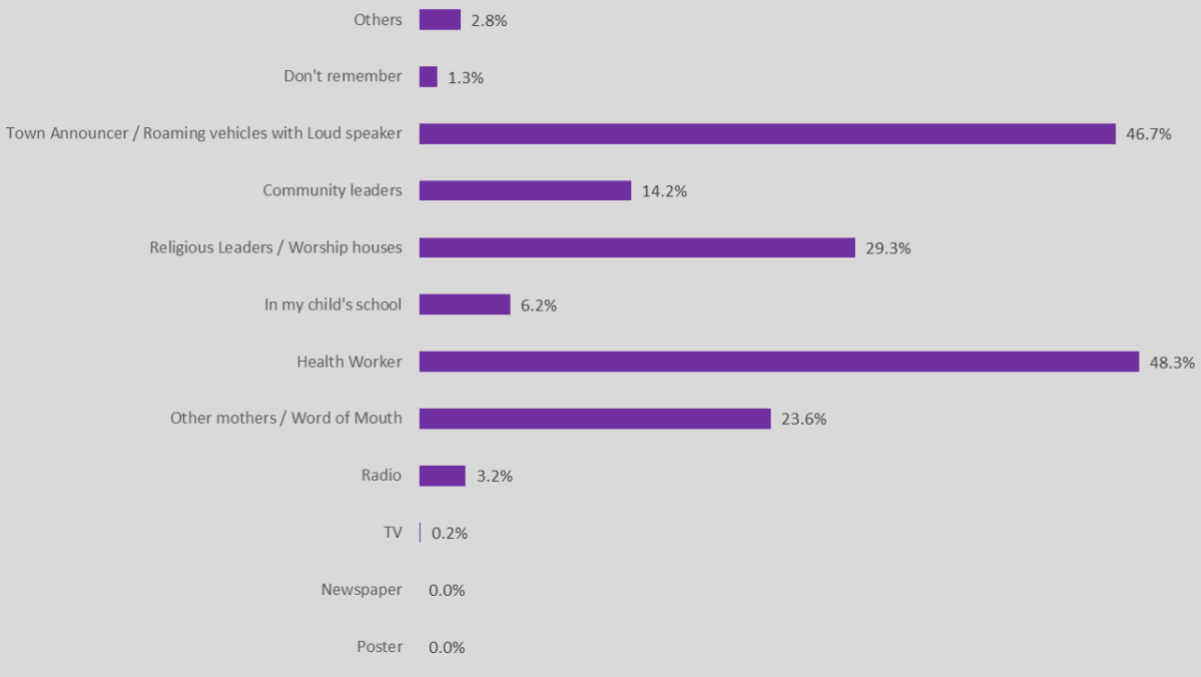
Akwa Ibom

Figure 3: Caregivers' Source of knowledge about Vitamin A (N=702)

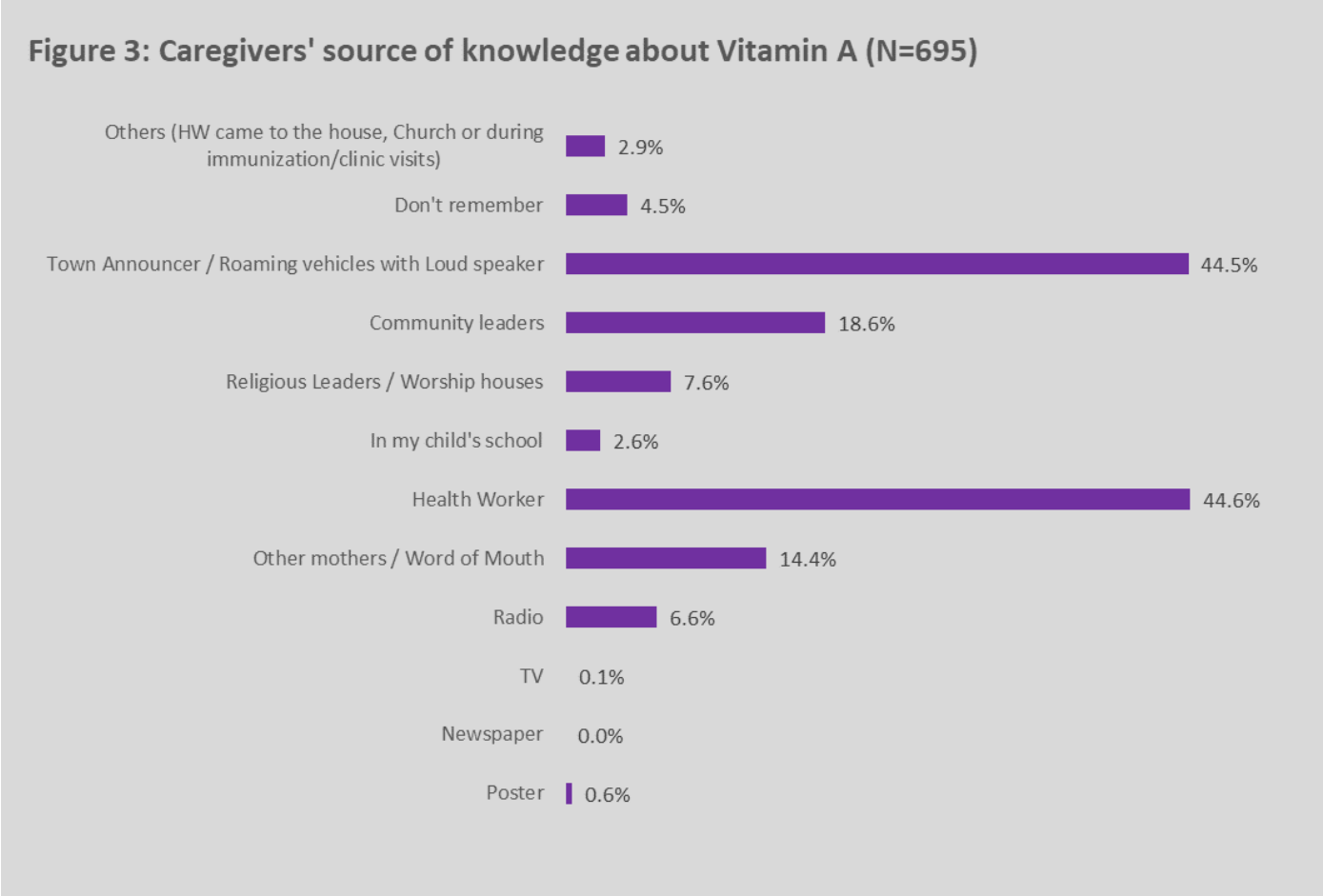


Benue

Figure 3: Caregivers' Source of Knowledge about Vitamin A (N=632)



Nasarawa



Other: *Respondent's school, Market, Internet, LGA, Women's meeting*

3.7 Caregivers Knowledge about Deworming

3.7.1 Caregivers' Knowledge about the Benefits of Deworming

Less than half (Akwa Ibom - 42.1%, Benue – 42.1%, Nasarawa – 42.7%) of caregivers knew that the key benefit of deworming was to treat intestinal worms while very few (Akwa Ibom - 7.2%, Benue – 7.2%, Nasarawa – 1.2%) knew that it protects against anaemia. However, more than a third (Akwa Ibom -37.6%, Benue – 37.6%, Nasarawa – 37.4%) did not know any benefit as shown in Table 9 below:

Table 9: Caregivers' Knowledge about the Benefits of Deworming (N=900)

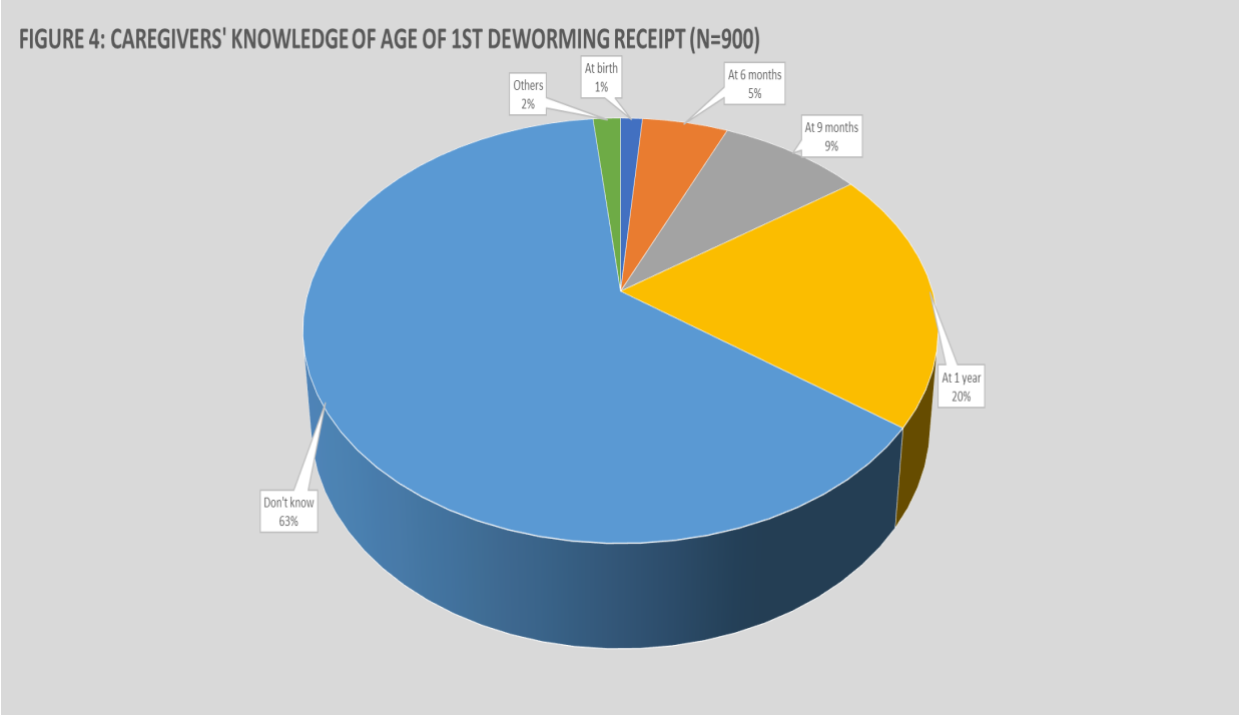
	Akwa Ibom		Benue		Nasarawa	
What are the Benefits of Deworming?	**(N)**	**(%)**	**(N)**	**(%)**	**(N)**	**(%)**
Treatment of intestinal worms	446	49.6%	379	42.1%	384	42.7%
Treatment of stomach pain	172	19.1%	283	31.4%	278	30.9%

Protects against illness	96	10.7%	114	12.7%	67	7.4%
Protects against anaemia	43	4.8%	65	7.2%	11	1.2%
Improves child's health	94	10.4%	148	16.4%	90	10.0%
I don't know	369	41.0%	338	37.6%	337	37.4%
Others	1	0.1%	4	0.4%	384	42.7%

Other: *Improves appetite, treats itching*

3.7.2 Caregivers' Knowledge about the Age of First Receipt of Deworming

Akwa Ibom



As shown in Figure 4 (Akwa Ibom) above, majority of the caregivers did not know the age at which a child should begin receiving deworming tablets (i.e. at 12 months or 1 year). Only, 19.9% of caregivers knew the correct age of 1st receipt for deworming.

Benue

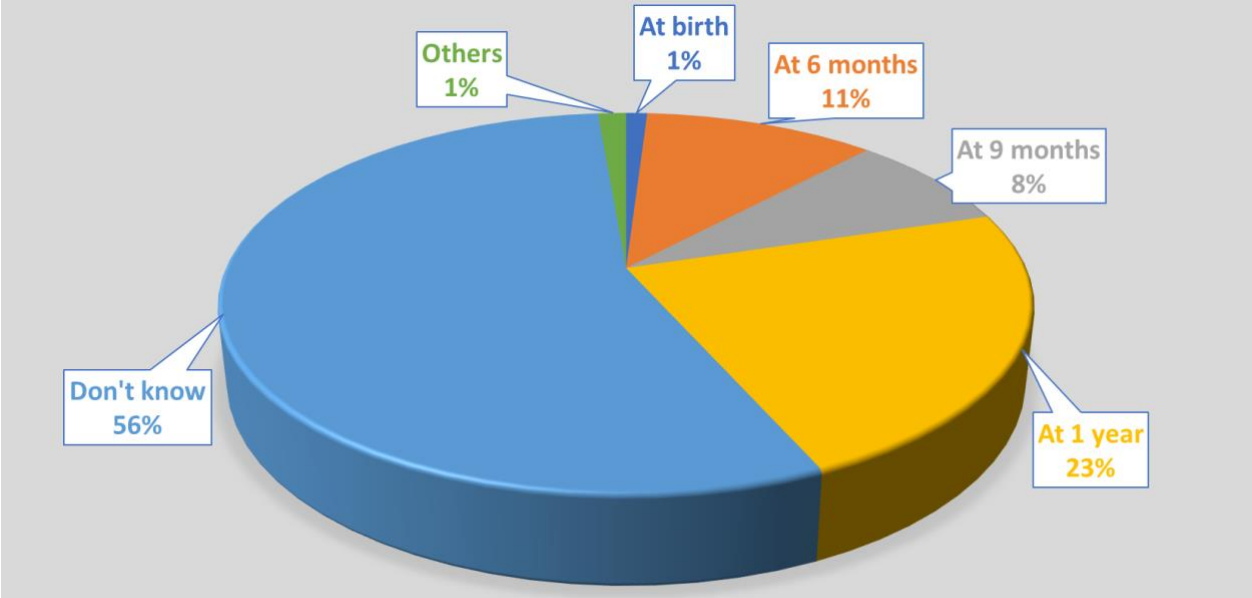
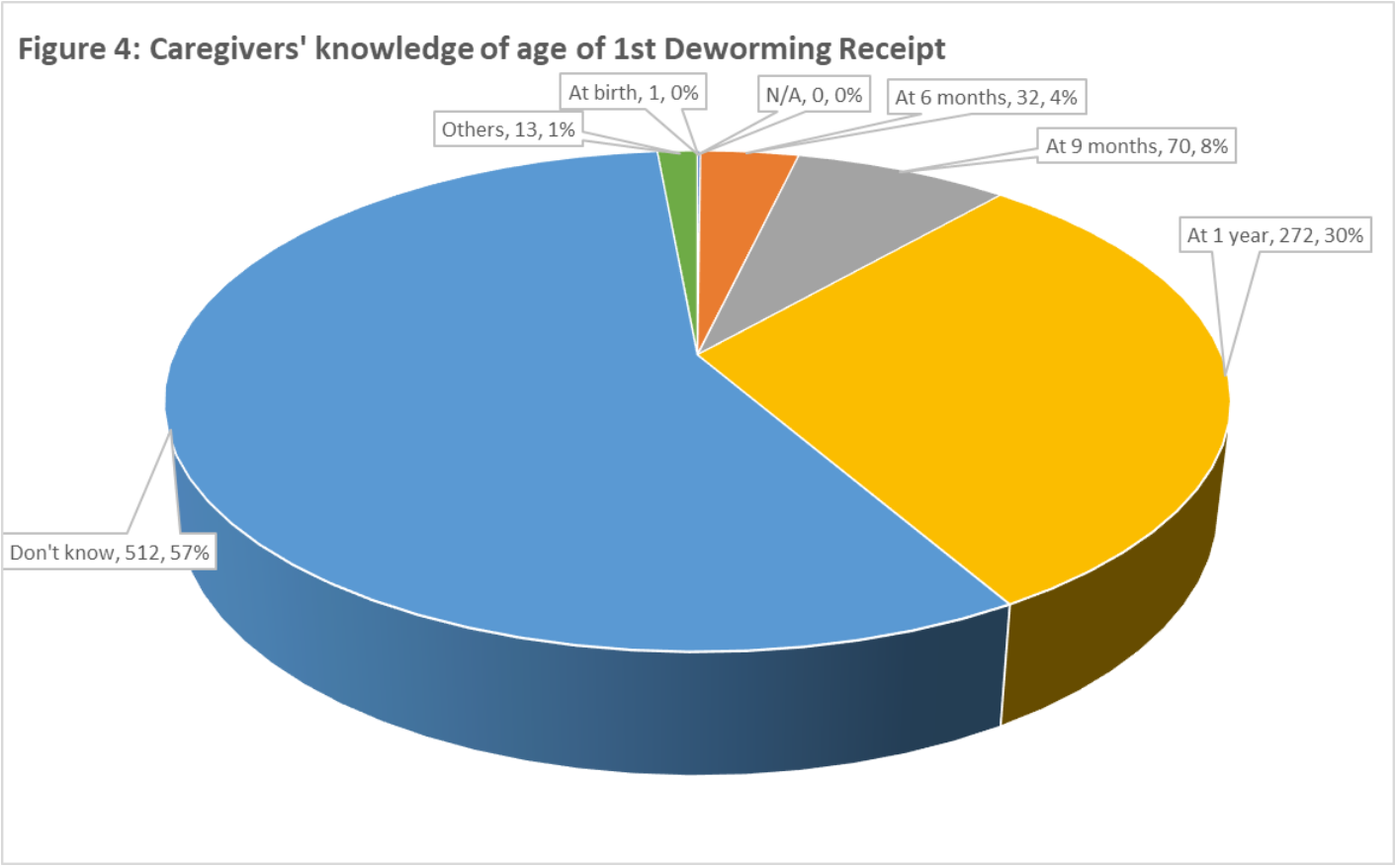


FIGURE 4: CAREGIVERS' KNOWLEDGE OF AGE OF 1ST DEWORMING RECEIPT (N=900)

As shown in Figure 4 (Benue) above, majority of the caregivers did not know the age at which a child should begin receiving deworming tablets (i.e. at 12 months or 1 year). Only, 11.0% of caregivers knew the correct age of 1st receipt for deworming.

Nasarawa



As shown in Figure 4 (Nasarawa) above, more than half of the caregivers did not know the age at which a child should begin receiving deworming tablets (i.e. at 12 months or 1 year). Only, 30.2% of caregivers knew the correct age of 1st receipt for deworming.

3.8. Caregivers Knowledge about VASD

Data in Table 10 below shows that in Akwa Ibom, 70.6% of the caregivers were aware that a VASD exercise held in their community in November / December 2021. However, less than half (33.5%) knew the key target group of the VASD exercise (i.e. children 6 - 59 months). Almost forty percent (34.3%) recalled that the VASD exercise took place mostly in the health facilities. Majority of the caregivers recalled that VAS (84.7%) and deworming (37.8%) were the 2 key commodities administered to eligible children during the exercise. The main source of awareness creation about the VASD mentioned by the caregivers was town announcer (63.2%), followed by health workers (33.5%) and religious leaders (21.6%). Almost half recalled that the venue (41.9%) and benefit (39.3%) of the VASD exercise were the main key messages passed across to them about the distribution.

Similarly, in Benue, 71.9% of the caregivers were aware that a VASD exercise held in their community in November / December 2021. About half (51.3%) knew the key target group of the VASD exercise (i.e. children 6 - 59 months). Over forty percent (45.0%) recalled that the VASD exercise took place mostly in the health facilities. Majority of the caregivers recalled that VAS (91.0%) and deworming (66.9%) were the 2 key commodities administered to eligible children during the exercise. The main source of awareness creation about the VASD mentioned by the caregivers was town announcer (57.7%), followed by health workers (39.6%) and religious leaders (35.1%). Almost half recalled that the venue (42.3%) and benefit (43.6%) of the VASD exercise was the main key messages passed across to them about the distribution.

More so, in Nasarawa, majority (81.2%) of the caregivers were aware that a VASD event held in their community in November 2021. However, only 46.6% knew the key target group of the VASD exercise (i.e. children 6 - 59 months). Majority (53.4%) recalled that the VASD exercise took place mostly in their homes with the health workers going door-to-door supplementing eligible children, while 38.0% recalled that the exercise took place in the health facility. Majority of the caregivers recalled that VAS (89.7%) and deworming (70.3%) were the 2 key commodities administered to eligible children during the event. The main source of awareness creation about the VASD mentioned by the caregivers were the health workers (45.3%), closely followed by town announcers (45.1%) and community leaders (18.8%). More than half (50.1%) recalled that the date of the MNCHW exercise was the main key messages passed across to them about the VASD.

Table 10: Caregivers' Awareness of and Knowledge about VASD						
Was there VASD in your	**(N=900)**	**(%)**				

community in November / December 2021?			**(N=900)**	**(%)**	**(N=900)**	**(%)**
Yes	635	70.6%	647	71.9%	731	81.2%
No	97	10.8%	96	10.7%	68	7.6%
I don't know	168	18.7%	157	17.4%	101	11.2%
Who should attend the VASD?	**(N=635)**	**(%)**	**(N=647)**	**(%)**	**(N=731)**	**(%)**
Everyone	13	2.0%	21	3.2%	11	1.5%
All children	219	34.5%	153	23.6%	229	31.3%
Children 6-59 months	213	33.5%	332	51.3%	341	46.6%
Women of reproductive age	29	4.6%	34	5.3%	10	1.4%
Don't know	188	29.6%	153	23.6%	174	23.8%
Others (1 monh, 5 years, my children, I just know that my child is elligible)	17	2.7%	9	1.4%	6	0.8%
Where did the VASD exercise take place?	**(N=635)**	**(%)**	**(N=613)**	**(%)**	**(N=731)**	**(%)**
Church or mosque	79	12.4%	40	6.2%	21	2.9%
Health facility or hospital	218	34.3%	291	45.0%	278	38.0%
Homes, door to door	145	22.8%	184	28.4%	390	53.4%
School	160	25.2%	58	9.0%	19	2.6%
Market	2	0.3%	26	4.0%	2	0.3%
Others	23	3.6%	35	5.4%	2	0.3%
N/A	265	41.7%	253	39.1%	0	0%
What services were provided during the last VASD?	**(N=635)**	**(%)**	**(N=647)**	**(%)**	**(N=731)**	**(%)**

Deworming tablets	240	37.8%	433	66.9%	514	70.3%
Vitamin A capsules	538	84.7%	589	91.0%	656	89.7%
Don't know, cant remember	102	16.1%	74	11.4%	64	8.8%
Others	10	1.6%	9	1.4%	0	0%
How did you find out about the VASD event?	**(N=582)**	**(%)**	**(N=613)**	**(%)**	**(N=685)**	**(%)**
Poster	1	0.2%	0	0.0%	4	0.6%
Newspaper	1	0.2%	0	0.0%	0	0.0%
TV	3	0.5%	0	0.0%	1	0.1%
Radio	18	3.1%	8	1.3%	46	6.7%
Other mothers / Word of Mouth	46	7.9%	124	20.2%	100	14.6%
Health Worker	195	33.5%	243	39.6%	310	45.3%
In my child's school	60	10.3%	56	9.1%	18	2.6%
Religious Leaders / Worship houses	126	21.6%	215	35.1%	53	7.7%
Community leaders	45	7.7%	119	19.4%	129	18.8%
Town Announcer / Roaming vehicles with Loud speaker	368	63.2%	354	57.7%	309	45.1%
Don't remember	18	3.1%	9	1.5%	31	4.5%
Others	13	2.2%	9	1.5%	0	0%
What specific message were you given about the VASD event?	**(N=613)**	**(%)**	**(N=613)**	**(%)**	**(N=685)**	**(%)**
Dates when the VAS Distribution will take place	252	43.3%	206	33.6%	343	50.1%
Time when the VAS	132	22.7%	198	32.3%	159	23.2%

Distribution will commence and end daily						
Venue of the VAS Distribution	244	41.9%	322	52.5%	158	23.1%
Target group of beneficiaries for the VAS Distribution	94	16.2%	153	25.0%	149	21.8%
Benefits of the VAS Distribution	229	39.3%	267	43.6%	256	37.4%
Others	72	12.4%	51	8.3%	41	6.0%

3.9 Health Workers and Community Leaders' Recollection of VASD

3.9.1 Channels and Messages about VASD to Caregiver

The survey team also conducted key informant interviews with health workers and community leaders in the 30 selected communities of each state. All the health workers (All the 3 states – 100%) and more than half of the community leaders (Akwa Ibom - 76.7%, Benue/Nasarawa – 90.0%) affirmed that a VASD event held in their community in November / December 2021.

Majority of health workers (Akwa Ibom - 83.3%, Benue 86.7%, Nasarawa – 93.3%) and (Akwa Ibom - 70.4%, Benue – 74.1&, Nasarawa – 77.8%) of community leaders recalled that town announcers were the main channel used to sensitize caregivers about the VASD, with religious leaders and health workers being other common channels mentioned. Most health workers in Akwa Ibom – (76.7%) mentioned the benefits of VAS while their counterparts in Benue (93.3%) suggested venue and those of Nasarawa suggested date of the activity as the major key message delivered across to the caregivers during sensitization.

Table 11 A: Channels and Messages about VASD to Caregivers

	Akwa Ibom			
	Health Workers		**Community Leaders**	
Was there VASD in your community / HF in November / December 2021?	**(N=30)**	**(%)**	**(N=30)**	**(%)**
Yes	30	100.0%	23	76.7%
No	0	0.0%	2	6.7%
I don't know	0	0.0%	5	16.7%

What channels were used to inform caregivers about the VASD?	**N=30**	**(%)**	**(N=27)**	**(%)**
Posters	0	0.0%	0	0.0%
Newspapers	0	0.0%	0	0.0%
TV	0	0.0%	0	0.0%
Radio	0	0.0%	0	0.0%
Word of mouth or other mothers	13	43.3%	3	11.1%
Health worker	9	30.0%	4	14.8%
Via child's school	19	63.3%	4	14.8%
Religious Leaders	23	76.7%	10	37.0%
Community Leaders	14	46.7%	2	7.4%
Town Announcers	25	83.3%	19	70.4%
I don't remember	0	0.0%	1	3.7%
Others (Community mobilizers)	2	6.7%	0	0.0%
What specific message were the caregivers told about the VASD?	**(N=30)**	**(%)**	**(N=27)**	**(%)**
Dates when the VAS Distribution will take place	21	70.0%	11	40.7%
Time when the VAS Distribution will commence and end daily	13	43.3%	4	14.8%
Venue of the VAS Distribution	18	60.0%	11	40.7%
Target group of beneficiaries for the VAS Distribution	22	73.3%	13	48.1%
Benefits of the VAS Distribution	23	76.7%	12	44.4%
Others (Drugs are free)	2	6.7%	3	11.1%
Services provided during the last VASD	**(N=30)**	**(%)**	**(N=27)**	**(%)**
Deworming	29	96.7%	12	44.4%
Vitamin A capsules	30	100.0%	18	66.7%
Immunizations	15	50.0%	5	18.5%
Health / Nutrition Education	13	43.3%	2	7.4%
Other (specify)	7	23.3%	4	14.8%
Deworming	29	96.7%	0	0.0%
Location where VAS was given to Child during the last VASD (multiple responses allowed)	**(N=30)**	**(%)**	**(N=15)**	**(%)**
Health facility	28	93.3%	4	23.5%
Market	7	23.3%	1	5.9%
School	26	86.7%	4	23.5%
Church / Mosque	23	76.7%	6	35.3%

Door to door/homes	12	40.0%	5	29.4%
Other (community leader's house, open field, refugee camp, temporary outpost)	1	3.3%	1	5.9%

Table 11 B: Channels and Messages about VASD to Caregivers				
	Benue			
	Health Workers		**Community Leaders**	
Was there VASD in your community / HF in November / December 2021?	**(N=30)**	**(%)**	**(N=30)**	**(%)**
Yes	30	100.0%	27	90.0%
No	0	0.0%	2	6.7%
I don't know	0	0.0%	1	3.3%
What channels were used to inform caregivers about the VASD?	**N=30**	**(%)**	**(N=27)**	**(%)**
Posters	0	0.0%	1	3.7%
Newspapers	0	0.0%	0	0.0%
TV	0	0.0%	0	0.0%
Radio	0	0.0%	1	3.7%
Word of mouth or other mothers	4	13.3%	3	11.1%
Health worker	4	13.3%	7	25.9%
Via child's school	1	3.3%	1	3.7%
Religious Leaders	20	66.7%	13	48.1%
Community Leaders	8	26.7%	4	14.8%
Town Announcers	28	93.3%	20	74.1%
I don't remember	0	0.0%	3	11.1%
Others (Announcement by CL secretary)	5	16.7%	1	3.7%
What specific message were the caregivers told about the VASD?	**(N=30)**	**(%)**	**(N=27)**	**(%)**
Date of the VASD	26	86.7%	15	55.6%
Daily Time of the VASD	14	46.7%	10	37.0%
Venue of the VASD	16	53.3%	10	37.0%
Target group of the VASD	18	60.0%	9	33.3%
Benefits of the VASD	17	56.7%	12	44.4%
Other (Drugs are free)	1	3.3%	5	18.5%

Services provided during the last VASD	(N=30)	(%)	(N=27)	(%)
Deworming	30	100.0%	19	70.4%
VAS	30	100.0%	23	85.2%
Immunization	12	40.0%	4	14.8%
Health / Nutrition Education	17	56.7%	4	14.8%
Don't remember / Don't know	7	23.3%	5	18.5%
Other services (HCT, MUAC, IFA for pregnant women)	30	100.0%	2	7.4%
Location where VAS was given to Child during the last VASD (multiple responses allowed)	**(N=30)**	**(%)**	**(N=15)**	**(%)**
Health Facility	29	96.7%	11	64.7%
Market	12	40.0%	3	17.6%
School	17	56.7%	6	35.3%
Church / Mosque	12	40.0%	6	35.3%
Door-to-door / Homes	6	20.0%	3	17.6%
Other (community leader's house, open field, refugee camp, temporary outpost)	12	40.0%	3	17.6%

Table 11 C: Channels and Messages about VASD to Caregivers				
	Health Workers		Community Leaders	
Was there VASD in your community in November 2021?	**(N=30)**	**(%)**	**(N=30)**	**(%)**
Yes	30	100%	27	90.0%
No	0	0%	3	10.0%
What channels were used to inform caregivers about the VASD?	**N=30**	**(%)**	**(N=27)**	**(%)**
Posters	1	3.3%	1	3.7%
Newspapers	0	0.0%	0	0.0%
TV	0	0.0%	0	0.0%
Radio	2	6.7%	1	3.7%
Word of mouth or other mothers	7	23.3%	9	33.3%
Health worker	11	36.7%	10	37.0%
Via child's school	2	6.7%	2	7.4%
Religious Leaders	9	30.0%	8	29.6%

Community Leaders	15	50.0%	12	44.4%
Town Announcers	28	93.3%	21	77.8%
I don't remember	0	0.0%	0	0.0%
Others (Announcement by my secretary)	2	6.7%	1	3.7%
What specific message were the caregivers told about the VASD?	**(N=30)**	**(%)**	**(N=27)**	**(%)**
Dates when the VAS Distribution will take place	24	80.0%	23	85.2%
Time when the VAS Distribution will commence and end daily	22	73.3%	16	59.3%
Venue of the VAS Distribution	22	73.3%	17	63.0%
Target group of beneficiaries for the VAS Distribution	17	56.7%	18	66.7%
Benefits of the VAS Distribution	21	70.0%	16	59.3%
Others	0	0.0%	1	3.7%
Services provided during the last VASD	**(N=30)**	**(%)**	**(N=27)**	**(%)**
Deworming	27	90.0%	23	85.2%
Vitamin A capsules	27	90.0%	24	88.9%
Immunizations	22	73.3%	7	25.9%
Health education	21	70.0%	6	22.2%
Don’t remember / Don’t know	6	20.0%	3	11.1%
Other (specify)	0	90.0%	2	7.4%
Location where VAS was given to Child during the last VASD (multiple responses allowed)	**(N=30)**	**(%)**	**(N=22)**	**(%)**
Health Facility	28	93.3%	18	81.8%
Market	11	36.7%	4	18.2%
School	13	43.3%	4	18.2%
Church / Mosque	5	16.7%	1	4.5%
Door-to-door / Homes	7	23.3%	9	40.9%
Others (specify)	5	16.7%	0	0.0%

3.9.2 Health Workers’ Sociodemographic Characteristics

Among the HWs surveyed, majority worked in the community PHC (Akwa Ibom - 83.3%, Benue - 96.9%, Nasarawa – 100.0%). In Akwa Ibom and Benue, most were females (90.0% and 63.3% respectively), many are Community Health Extension Workers (Akwa

Ibom - 60.0%, Benue – 56.7%, Nasarawa – 50.0%) and most (Akwa Ibom - 93.3%, Benue – 100%, Nasarawa – 80%) had been HWs for more than 1 year as shown in Table 12 below:

Table 12: Health Workers' Sociodemographic Characteristics

	Akwa Ibom		Benue		Nasarawa	
Gender	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**
Female	27	90.0%	19	63.3%	13	43.3%
Male	3	10.0%	11	36.7%	17	56.7%
Title/Position	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**
Nurse	3	10.0%	3	10.0%	1	3.3%
Midwife	0	0.0%	1	3.3%	0	0.0%
Clinical officer	0	0.0%	0	0.0%	0	0.0%
Nutritionist	0	0.0%	0	0.0%	1	3.3%
Community Health Extention Worker	18	60.0%	17	56.7%	15	50.0%
Community Health Officer	6	20.0%	2	6.7%	2	6.7%
Other (Community volunteer, environmental Health Technician, RI focal person, Volunteer)	3	10.0%	7	23.3%	11	36.7%
How many years have you been in this position?	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**
< or = 1 year	2	6.7%	0	0.0%	6	20.0%
> 1 year	28	93.3%	30	100.0%	24	80.0%
Type of Health Facility	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
General Hospital	1	3.3%	0	0.0%	0	0.0%
Government Health center	0	0.0%	0	0.0%	0	0.0%
Primary Health centre	25	83.3%	29	96.7%	30	100.0%
Private Health Facility	1	3.3%	0	0.0%	0	0.0%
Other (Modern Health Centre)	3	10.0%	1	3.3%	0	0%

3.9.3 Knowledge of VAS among Health Workers

Table 13 below summarizes the knowledge of HW about VAS. Majority of health workers (Akwa Ibom - 93.3%, Benue/Nasarawa – 90.0%) reported that they had attended a training on VAS, with the last training being received by most of them (Akwa Ibom - 88.9%, Benue – 92.6%, Nasarawa – 51.9%) barely less than 3 months before the study was conducted. These findings are also corroborated by fact that most of HWs (Akwa Ibom - 83.3%, Benue – 90.0%, Nasarawa – 86.7%) mentioned trainings / workshops / seminars as their main source of information about VAS. It is therefore not surprising that many of the health workers were knowledgeable about the target group for VAS (Akwa Ibom - 96.7%, Benue – 60.0%, Nasarawa – 93.9%), the benefits (Akwa Ibom - 100.0%, Benue – 100.0%, Nasarawa - 96.7%), the correct dosage (Akwa Ibom – 93.3%, Benue – 100.0%, Nasarawa – 93.3%), the age of first receipt (Akwa Ibom - 100.0%, Benue – 96.7%, Nasarawa – 93.3%) and frequency of VAS receipt (Akwa Ibom - 86.7%, Benue – 93.3%, Nasarawa 93.3%).

Table 13: Health Workers' Knowledge of VAS

	Akwa Ibom		**Benue**		**Nasarawa**	
Have you ever attended training on VAS?	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**
Yes	28	93.3%	27	90.0%	27	90.0%
No	2	6.7%	3	10.0%	3	10.0%
Last Training on Vitamin A	**(N = 27)**	**(%)**	**(N = 27)**	**(%)**	**(N = 27)**	**(%)**
Less than 3 months	24	88.9%	25	92.6%	14	51.9%
3- 6 months	0	0.0%	2	7.4%	5	18.5%
7 -12 Months	2	7.4%	0	0.0%	5	18.5%
Over One year	2	7.4%	0	0%	3	11.1%
Target Group for VAS	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**	**(N = 30)**	**(%)**
Children 6-59 months	29	96.7%	29	96.7%	28	93.3%
Children with infectious disease such as diarrhea, measles, lower respiratory tract infection	0	0.0%	0	0.0%	2	6.7%
Children with malnutrition	1	3.3%	2	6.7%	1	3.3%
Pregnant women	0	0.0%	3	10.0%	0	0.0%
Postpartum women within 1 month of delivery	0	0.0%	0	0.0%	0	0.0%
Postpartum women within 8 weeks of delivery	0	0.0%	0	0.0%	0	0.0%
Don't know	0	0.0%	1	3.3%	3	10.0%
Other (specify)	1	3.3%	0	0%	0	0.0%

What are the benefits of Vitamin A (multiple responses allowed)	**(N = 30)**	**(%)**	**(N)**	**(%)**	**(N)**	**(%)**
Prevents blindness/helps vision	30	100.0%	30	100.0%	29	96.7%
Protects against disease	17	56.7%	12	40.0%	9	30.0%
Reduces risk of death	0	0.0%	1	3.3%	1	3.3%
Improves child health	11	36.7%	13	43.3%	18	60.0%
Helps with growth	7	23.3%	8	26.7%	10	33.3%
Increases appetite	1	3.3%	0	0.0%	1	3.3%
At what age should children receive Vitamin A capsule for the 1st time	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
At birth	0	0.0%	0	0.0%	0	0.0%
Six months	30	100.0%	29	96.7%	28	93.3%
Nine months	0	0.0%	1	3.3%	0	0.0%
Don't know	0	0.0%	0	0.0%	2	6.7%
Others (specify)	0	0.0%	0	0.0%	0	0.0%
At what age should children receive deworming tablet for the 1st time?	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
At birth	0	0.0%	0	0.0%	1	3.3%
Six months	30	100.0%	4	13.3%	1	3.3%
Nine months	0	0.0%	0	0.0%	26	86.7%
Don't know	0	0.0%	23	76.7%	2	6.7%
Others (specify)	0	0.0%	2	6.7%	(N=30)	(%)
At birth	0	0.0%	1	3.3%	1	3.3%
How often should children 6 -59 months receive Vitamin A capsules	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
Every 6 months or during each VADI	26	86.7%	28	93.3%	28	93.3%
Every day	0	0.0%	0	0.0%	0	0.0%
Don't know	0	0.0%	1	3.3%	1	3.3%
Others (specify)	4	13.3%	1	3.3%	1	3.3%
Dosage of VAS for children 6-11 months	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
One blue/100,000 IU capsule	26	86.7%	30	100.0%	28	93.3%
One red/200,000 IU capsule	0	0.0%	0	0.0%	3	10.0%
Half red/200,000 IU capsule	5	16.7%	9	30.0%	9	30.0%

Others (specify)	1	3.3%	0	0%	2	6.7%
Dosage of VAS for children 12 – 59 months	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
One blue/100,000 IU capsule	0	0.0%	0	0.0%	5	16.7%
One red/200,000 IU capsule	28	93.3%	30	100.0%	28	93.3%
Two blue/100,000 IU capsule	2	6.7%	9	30.0%	10	33.3%
Sources of Information about VAS	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
FMOH/SMOH Staff	4	13.3%	7	23.3%	3	10.0%
NGO	5	16.7%	0	0.0%	3	10.0%
TV	1	3.3%	0	0.0%	2	6.7%
Radio	2	6.7%	3	10.0%	5	16.7%
Posters or Job Aids	8	26.7%	2	6.7%	4	13.3%
Policy document	0	0.0%	0	0.0%	2	6.7%
Trainings/Workshops/seminars	25	83.3%	27	90.0%	26	86.7%
School curriculum	14	46.7%	3	10.0%	15	50.0%
Others (specify)	3	10.0%	3	10.0%	0	0.0%

3.9.4 Community Leaders' Sociodemographic Characteristics

Table 14 captures the sociodemographic characteristics of the Community Leaders surveyed. All (All states - 100.0%) were males with about half of them (Akwa Ibom - 46.7%, Benue – 56.7%, Nasarawa – 46.7%) being village heads. About a fifth or more of them (Akwa Ibom - 53.3%, Benue – 30.0%, Nasarawa – 20.0%) had been community leaders for between 1 - 5 years. However, only about a fifth (Akwa Ibom/Benue - 33.3%, Nasarawa – 26.6%) of them had completed their tertiary (university / polytechnic / college of education) education. About a fifth of the community leaders (Akwa Ibom - 20.0%, Benue – 43.3%, 22.2%) said they played no role during the last VAS distribution, while others were involved in mobilizing their communities to receive services during the last VASD (Akwa Ibom - 30.0%, Benue – 36.7%, Nasarawa – 55.6%).

Table 14: Community Leaders' Sociodemographic Characteristics

	Akwa Ibom		Benue		Nasarawa	
Gender	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
Male	30	100.0%	30	100.0%	30	100%
Female	0	0.0%	0	0.0%	0	0%
Title/Position	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
Politician	1	3.3%	0	0.0%	0	0.0%
Traditional ruler	8	26.7%	7	23.3%	6	20.0%
Religious leader	0	0.0%	1	3.3%	0	0.0%
Teacher	0	0.0%	0	0.0%	0	0.0%
Ward chairperson	2	6.7%	0	0.0%	0	0.0%
Group Leader	3	10.0%	0	0.0%	1	3.3%

Village Head	14	46.7%	17	56.7%	14	46.7%
Others (Community Chairman, Second son to His Royal Highness)	2	6.7%	5	16.7%	9	30.0%
Highest Level of Education Received	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
None	2	6.7%	2	6.7%	10	33.3%
Primary education	10	33.3%	7	23.3%	6	20.0%
Secondary education	7	23.3%	11	36.7%	5	16.7%
University / Polytechnic / College of education	10	33.3%	10	33.3%	7	23.3%
Post graduate education	0	0.0%	0	0.0%	1	3.3%
Others (Quranic)	1	3.3%	0	0.0%	1	3.3%
How many years have you been a community leader?	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
1-5 years	16	53.3%	9	30.0%	6	20.0%
6-10 years	3	10.0%	8	26.7%	8	26.7%
11-15 years	4	13.3%	5	16.7%		
16-20 years	1	3.3%	4	13.3%	6	20.0%
21-25 years	2	6.7%	1	3.3%	0	0.0%
26-30 years	0	0.0%	2	6.7%	1	3.3%
31 years and above	4	13.3%	1	3.3%	3	10.0%
Role during the last VADI	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=27)**	**(%)**
No role	6	20.0%	13	43.3%	6	22.2%
Advising local leaders on informing and engaging the community	8	26.7%	3	10.0%	11	40.7%
Informing and mobilizing the community	9	30.0%	11	36.7%	15	55.6%
Administering VAS	0	0.0%	1	3.3%	0	0.0%
Recording / Tallying VAS at the distribution point	0	0.0%	0	0.0%	0	0.0%

Compiling coverage data	0	0.0%	0	0.0%	0	0.0%
Others (Told town announcer to announce, When the actual event came, nobody told me)	2	6.7%	2	6.7%	2	7.4%

3.9.5 Knowledge of VAS among Community Leaders

Table 15 below shows that most of the community leaders (Akwa Ibom - 90.0%, Benue – 80.0%, Nasarawa – 86.7%) have heard about Vitamin A. A third or more of the CLs said that helps vision by preventing blindness (Akwa Ibom - 33.3%, Benue – 66.7%, Nasarawa – 53.8%).

Only a little more than twenty percent of the community leaders knew the age by which children should receive VAS for the 1st time (Akwa Ibom - 29.2%, Benue – 41.7%, Nasarawa – 23.1%).

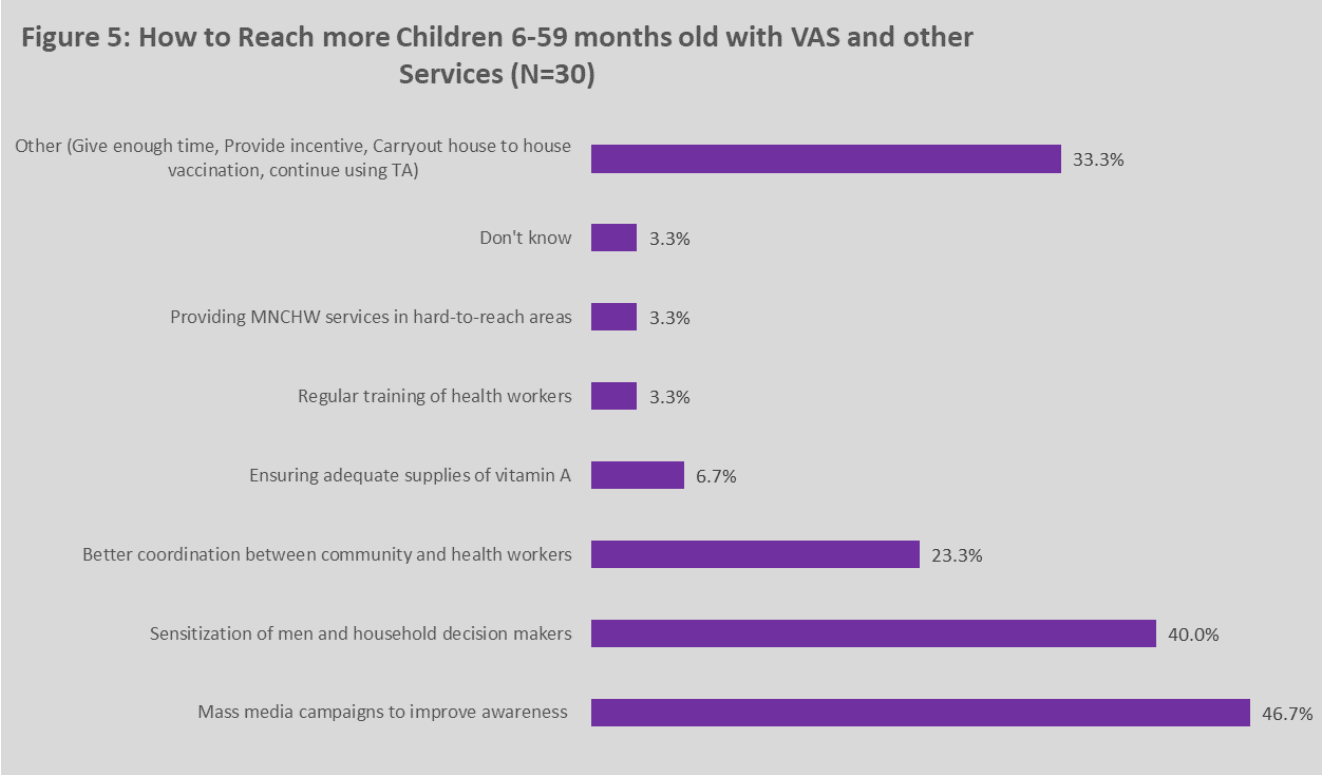
Table 15: Community Leaders' Awareness of and Knowledge about VAS

	Akwa Ibom		**Benue**		**Nasarawa**	
Have you ever heard of Vitamin A?	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
Yes	27	90.0%	24	80.0%	26	86.7%
No	2	6.7%	5	16.7%	3	10.0%
I don't know	1	3.3%	1	3.3%	1	3.3%
What are the benefits of Vitamin A (multiple responses allowed)	**(N=24)**	**(%)**	**(N=24)**	**(%)**	**(N=30)**	**(%)**
Prevents blindness/helps vision	9	37.5%	16	66.7%	29	96.7%
Protects against disease	8	33.3%	6	25.0%	9	30.0%
Reduces risk of death	1	4.2%	1	4.2%	1	3.3%
Improves child health	5	20.8%	12	50.0%	18	60.0%
Helps with growth	2	8.3%	4	16.7%	10	33.3%
Increase appetite	0	0.0%	0	0.0%	1	3.3%
Don't know/ Don't remember	8	33.3%	3	12.5%	0	0.0%
Others (Good for internal heat)	1	4.2%	0	0.0%	0	0.0%
At what age should children receive Vitamin A capsule for the 1st time	**(N=24)**	**(%)**	**(N=24)**	**(%)**	**(N=26)**	**(%)**
At birth	1	4.2%	1	4.2%	1	3.8%

Six months	7	29.2%	10	41.7%	6	23.1%
Nine months	0	0.0%	0	0.0%	1	3.8%
Don't know	14	58.3%	10	41.7%	17	65.4%
Others (I can't remember)	5	20.8%	3	12.5%	1	3.8%
At what age should children receive deworming tablet for the 1st time?	**(N=30)**	**(%)**	**(N=30)**	**(%)**	**(N=30)**	**(%)**
At birth	0	0.0%	2	6.7%	0	0.0%
At 6 months	4	13.3%	2	6.7%	2	6.7%
At 9 months	1	3.3%	3	10.0%	2	6.7%
At 1 year	1	3.3%	6	20.0%	7	23.3%
Don't know	24	80.0%	17	56.7%	19	63.3%
Others	0	0.0%	0	0.0%	0	0.0%
How often should children 6 -59 months receive Vitamin A capsules	**(N=24)**	**(%)**	**(N=24)**	**(%)**	**(N=25)**	**(%)**
During each MNCHW event	1	4.2%	2	8.3%	3	11.5%
Every 6 months	1	4.2%	9	37.5%	9	34.6%
Every day	1	4.2%	0	0.0%	0	0.0%
Don't know	20	83.3%	12	50.0%	14	53.8%
Others (specify)	4	16.7%	1	4.2%	0	0.0%
Sources of Information about VAS	**(N=24)**	**(%)**	**(N=24)**	**(%)**	**(N=25)**	**(%)**
Health worker	22	91.7%	19	79.2%	22	84.6%
NGO	1	4.2%	5	20.8%	0	0.0%
TV	1	4.2%	1	4.2%	0	0.0%
Radio	6	25.0%	3	12.5%	2	7.7%
Posters/Fliers/Banners	2	8.3%	1	4.2%	4	15.4%
Policy document	0	0.0%	0	0.0%	0	0.0%
Trainings/Workshops/seminars	0	0.0%	1	4.2%	4	15.4%
School curriculum	2	8.3%	2	8.3%	1	3.8%
Other (During intervention)	2	8.3%	3	12.5%	0	0.0%

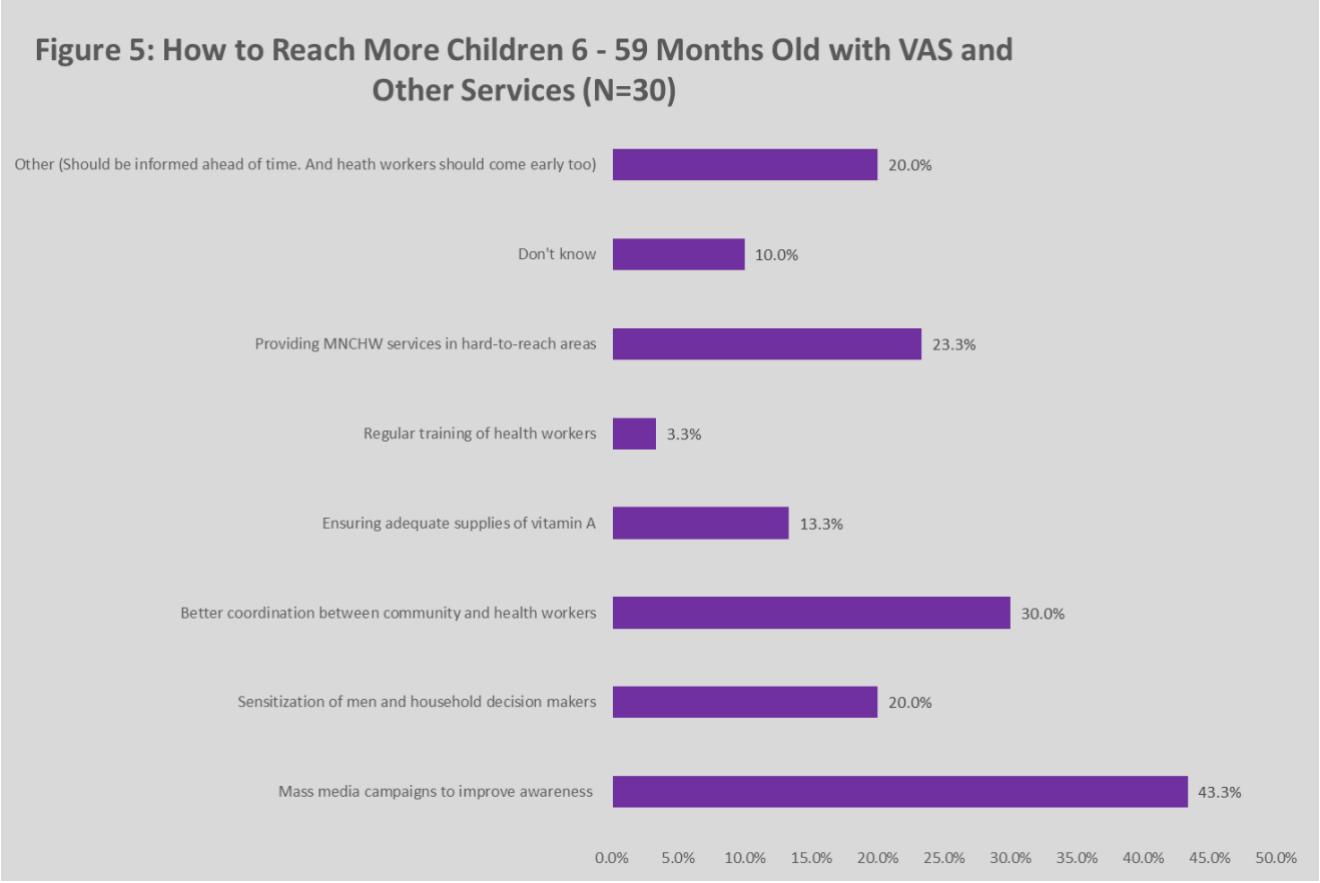
3.9.6 Community Leaders' Perception on How to Reach More Eligible Children

Akwa Ibom



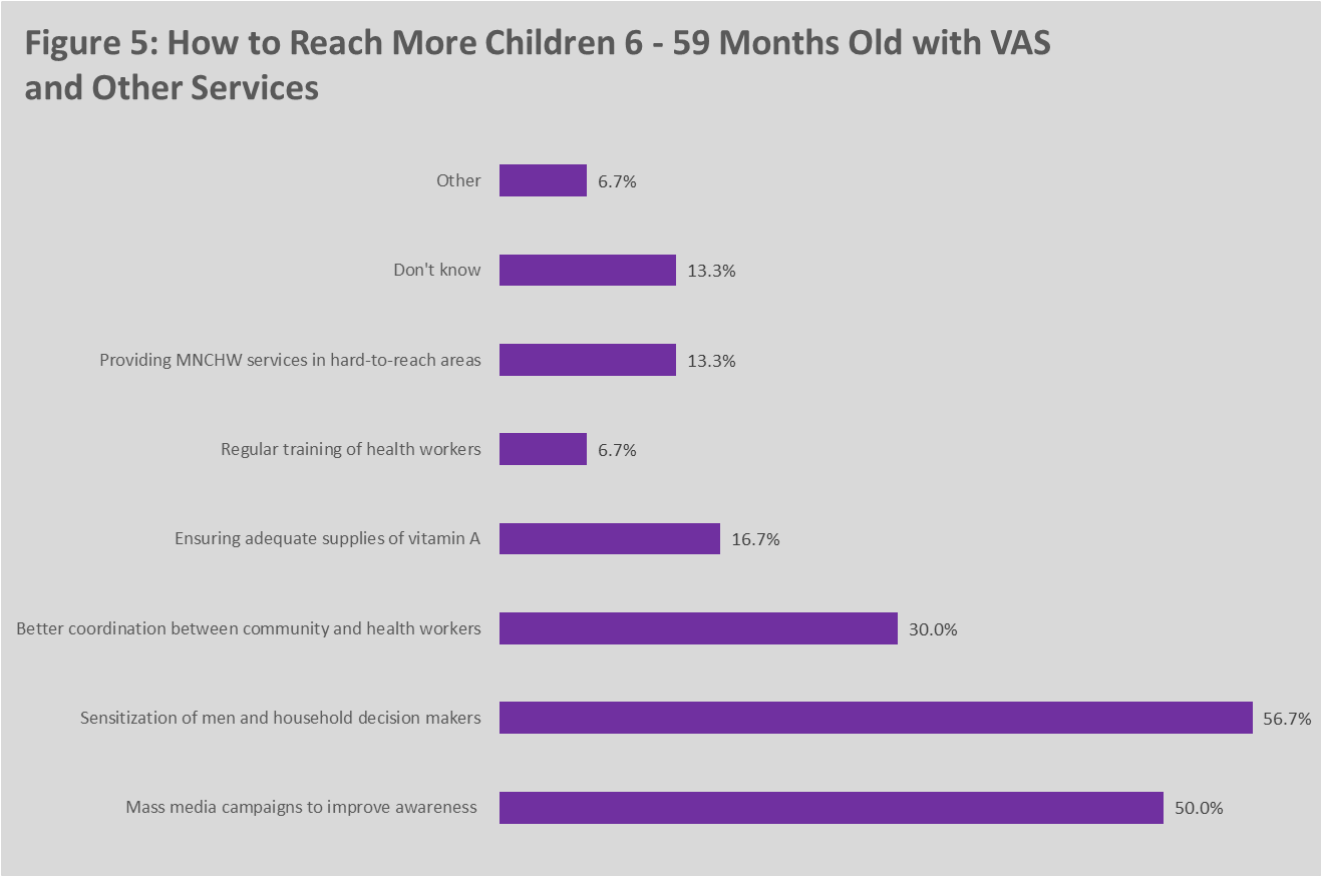
When asked on what could be done to reach more eligible children in their communities with VAS and other key child survival services, almost half of the community leaders (46.7%) stressed the need for mass media campaign as shown in Figure 5 (Akwa Ibom) above.

Benue



When asked on what could be done to reach more eligible children in their communities with VAS and other key child survival services, almost half of the community leaders (43.3%) stressed the need for mass media campaign as shown in Figure 5 (Benue) above.

Nasarawa



*Other: *Should be informed ahead of time. And health workers should come early too*

When asked on what could be done to reach more eligible children in their communities with VAS and other key child survival services, About half of the community leaders (Akwa Ibom - 46.7%, Benue – 43.3%, Nasarawa – 50.0%) stressed the need for mass media campaign and continued sensitization of men or household decision makers (Akwa Ibom - 40.0%, Benue – 20.0%, Nasarawa – 56.7%) as shown in Figure 5 above for each state.

4. DISCUSSION

The PEC survey was conducted in the states within six weeks of the November / December 2021 MNCHW. The main reasons for conducting the survey were to validate administrative VAS coverage data and identify factors associated with the receipt of VAS in the states and to assess the contribution made by the social mobilization strategy on caregiver awareness and participation during the November / December 2021 VASD.

Findings from the survey revealed that only 64.7% of eligible children were supplemented in Akwa Ibom, 68.1% in Benue and 76.1% in Nasarawa. This is considerably lower than the administrative coverage (tally sheet data) reported by the states (Akwa Ibom - 87.7%, Benue – 97.1%, Nasarawa – 87.8%). This suggests that a considerable number of eligible children were not supplemented during the last VASD in the states. In Akwa Ibom and Benue, the disparity in the VAS coverage could be as a result of an under-estimation of the target population used for the VASD exercise. A projection of the outdated 2006 census figure was

used in calculating the denominator. The fact that administrative VAS coverage reported for some LGAs was above 100% also point to errors in the estimation of the target population (i.e. the denominator), suggesting the need for proper training of health workers in this regard and there is also need for a proper microplanning to validate the population figures. For Nasarawa, change in delivery strategy from VADI which was mainly house to house to MNCHW which was mainly facility based could be a contributing factor to the low PECS coverage. This is amplified with the fact that a COVID-19 campaign at the health facility level which eventually clashed with the MNCHW intervention. Generally, limiting the exercise to mainly health centres during campaigns with few temporary fixed posts may also have contributed to the low coverages found, especially if awareness creation and social mobilization efforts prior to the implementation was poor and inadequate, as was also the case during the VASD

Findings on deworming coverage (Akwa Ibom - 34.4%, Benue – 60.0%, Nasarawa – 66.6%) showed close results with the administrative coverage reported for Nasarawa (67.1%), signifying that the deworming coverage was not unduly exaggerated. For Benue, the survey coverage (60.0%) was lower than the admin coverage (tally sheet data) (72.2%), signifying that the coverage was unduly exaggerated. For Akwa Ibom, PECS coverage was surprisingly higher than the administrative coverage (17.7%) reported by the state signifying that the coverage was either unduly under reported or that other programs deworming activities may have affected the outcome. The general low deworming coverages across states could be explained by the insufficient quantity of deworming tablets procured due to inadequate funding. The total doses available for the exercise was therefore not enough to reach the target population of children aged 12 - 59 months old.

As earlier noted, findings from the survey, one-third of the caregivers (33.3%) interviewed in Benue said their children did not receive VAS either because they thought it was COVID-19 vaccine, they were not sure of the medication, they were scared of side effects, or the child was out of the area. One fifth (20.0%) reported that they do not want their children to take VAS. In Nasarawa state. 18.8% of children did not receive VAS because not offered. About 20.8% of children were missed because they were out of the area during the MNCHW. while an equal percentage (16.7%) were missed because their caregivers were not aware of the event. This finding further indicates the importance of and need for early and consistent awareness creation activities and sensitization of caregivers and the communities in general prior to and during the distribution.

The PEC Survey also revealed that detailed knowledge of VA among caregivers was very poor. Many caregivers (Akwa Ibom - 30.5%, Benue – 51.3%, Nasarawa – 55.6%) could not correctly state the frequency of VAS receipt among eligible children (i.e. every 6 months). Several others did not know any benefit of vitamin A, the age at which children should receive VA for the first time or the benefits. These findings suggest that health workers may not be consistently educating caregivers on VAS during health talks or after supplementing their children. This is not surprising as it has been observed from the field during previous supportive supervision visits that HWs often only give health talk on the 1st and 2nd days of

the MNCHW campaign and only 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 distribution and be provided with job aids containing specific key messages about VAS, deworming and COVID-19 prevention. This will guide the HWs on what exactly to tell caregivers as they go about their duties.

According to PECS, in Akwa Ibom, the most common source of information about vitamin A was from the health workers (49.3%), followed by the town announcers (47.4%) and then Religious Leaders (15.2%). In Benue however, it was the Town Announcers (44.6%), followed by the health workers (40.4%) and then Religious Leaders (33.8%). In Nasarawa it was the health workers (44.6%), closely followed by the Town Announcers (44.5%), and then Community Leaders (18.6%). This is not surprising as trained town announcers usually walk through communities passing information about the event prior to and during the VASD. These town announcers are usually trained and supported by the health workers. Caregivers are also in close contact with religious leaders whenever they visit places of worship (churches or mosques) and these religious leaders are usually sensitized prior to the VASD exercise. It is therefore important to keep sensitizing and strengthening the capacity of these key information channels using specific / targeted key messages to further improve mobilization, uptake of services and subsequently coverage among the target beneficiaries of VASD.

Survey findings show that an appreciable number of the health workers had detailed knowledge about VAS, its benefits (Akwa Ibom - 100.0%, Benue – 100.0%, Nasarawa - 96.7%), the correct dosage (Akwa Ibom – 93.3%, Benue – 100.0%, Nasarawa – 93.3%), age of first receipt (Akwa Ibom - 100.0%, Benue – 96.7%, Nasarawa – 93.3%) and frequency of VAS receipt (Akwa Ibom - 86.7%, Benue – 93.3%, Nasarawa 93.3%).

This is encouraging because previous surveys have found only a general awareness about Vitamin A among health workers with very few (37.5%)[9] having detailed knowledge about the intervention. This suggests that the training given to the health teams prior to the VASD event was effective in terms of knowledge retained and should continue.

The same can however not be said for the Community Leaders. While many of them (Akwa Ibom - 90.0%, Benue – 80.0%, Nasarawa – 86.7%) had heard about Vitamin A, fewer knew that it prevents blindness (66.7%). Fewer knew of other key details about Vitamin A such as it's important role in strengthening the child's immune system by protecting against diseases and thus reducing the risk of death. The age by which children should receive VAS for the 1st time and only about a quarter knew the frequency of VAS receipt among eligible children is also largely not known among community leaders. Most of the CLs (Akwa Ibom - 91.7%, Benue - 79.2%, Nasarawa - 84.6%) received information about VAS from health workers. This suggests that although the HWs are well trained and knowledgeable, they are not taking the time to effectively pass down this knowledge to others such as community leaders and

[9] Helen Keller International 2016, Report of Post Event Coverage Survey of the Maternal Newborn and Child Health Week Conducted in FCT

caregivers. Community leaders are important, not just as gatekeepers but also as a trusted source of information about health events in their communities.

Given this fact, HWs therefore need to properly educate community leaders and beneficiaries about Vitamin A prior to the VASD event (e.g. during community dialogues) and during implementation, needs to be stressed during the training of HWs and even during the supportive supervision and monitoring visits conducted during implementation.

It is imperative to note that about half of the community leaders (more than half of the community leaders (Akwa Ibom - 56.7%, Benue – 43.3%, Nasarawa – 56.7%) suggested continued sensitization of men and household decision makers and mass media campaign as an effective way to reach more eligible children with Vitamin A and other child-survival services in their communities. This is already being done via the community dialogues which often includes community leaders, religious leaders, leaders of market unions, school administrators, caregivers e.t.c. Efforts should therefore be made to continue strengthening this pre-implementation aspect of the VASD, to ensure fair representation of men, who are also often the household decision makers.

Additional Observations

1. Insecurity and its impact: some communities visited during PECS activity had been impacted negatively with insecurity leading to poor coverage of these areas during the MNCHW by health workers. For example, in Guma LGA of Benue state – zazan & Kwande LGA of Benue – Abande, community members are only beginning to return to their communities. Most of them were displaced and sought shelter with relatives in neighbouring state Nasarawa. However, other members of this community were reached in the IDP camps which were not selected for PECS.
2. Poor Incentives: The health workers were not properly motivated to adequately cover the hard-to-reach areas, where some of the surveys have covered during the PECs, which also unravelled the poor administrative coverage in these communities. The State Government was also owing civil servants' salaries and arrears due to them in the time of MNCHW implementation which also resulted in nonchalant attitude of health workers to put in more effort to reach eligible children in the identified hard to reach communities with little or no government presence. These factors could be considerable reasons for the poor administrative coverage in the identified communities surveyed during the PECs. This does may not mean the results and administrative coverage were not real figures. It may mean the population reached in those instances were in areas of easy accessibility.

Comments and Observations from Respondents.

A. Community Leaders -

- There should be a plan to follow up on and reach missed beneficiaries in subsequent interventions.
- Subsequently, VAS should be taken to the hard-to-reach communities to ensure that the intervention gets to all eligible children.

- With support from Helen Keller, state government (SPHCDA) should map out a strategy to recapture the population so that commodities made available will be sufficient.
- Vitamin A should be left with the parents during campaigns for onward delivery to children who were absent.
- VAS campaigns should be carried out in schools, mosques, and other places of worship in form of outreach.
- There is need for more sensitization before the next intervention.
- Some communities like Pamugwe in Benue are lagging because of the absence of a PHC, some communities that have hard to reach also have PHC but need health posts, the program plans to address these gaps for such communities in subsequent rounds by using the bringing in outreach/temporal fixed posts.
- Adults in the communities also want VA and have been asking for it.
- There is an urgent need to post health workers to some health facilities as these are lacking manpower and almost under lock most of the time.
- Large communities like Ebukpun Abla in Benue state should be looked into and planned better. Community segmentation will be explored but this is subject to the availability of resources.
- There is also need for government to provide portable water as many communities rely on well, streams and ponds thereby increase the worm burden of the community even after several interventions.

B. Heath workers –

- Many health facilities need more workers as they are short staffed.
- More supply of zinc should be made to cover all eligible pregnant women and encourage them to come with their children for supplementation and deworming. Supply for all other MNCHW commodities should also be given a boost.
- Caregivers need more sensitization and awareness on the services being provided. Improve supply and increase awareness.
- The payment of 4,000NGN fixed post and 6500 temporal post/outreach sites is too low for HWs. The program will reach out to the SPHCDA on the need to possibly provide counterpart support in this area.
- MNCHW interventions like VAS and Deworming should be house to house while ANC others should be facility based. House to house interventions in most communities is better because most women are not allowed out of their homes and most of them, especially those staying far from the facility complained that they are tired of trekking to the health facility.
- Trainings for more staff from the facilities.
- Need to add other commodities to the intervention.
- VAS and Deworming tablets should be made available at facility level even after MNCHW.
- Sufficient provisions should be made available for mobility to cover the area especially during the raining season.
- Better coverage will be recorded if MNCHW is done house to house.
- Adults want to receive vitamin A.

- Some facilities are not carried along during trainings, but are compelled to do the intervention, this should be addressed.

C. Caregivers –

- There should be a follow up visit to ensure all children are administered VAS.
- VAS and deworming should be given frequently and Deworming tablets.
- VAS is really good and helping our children.
- Prior information should be given to avoid some children being missing out.
- More deworming tablets should be provided for the children.
- Increased awareness so everyone can be sensitized.
- Well experienced personnel to enlighten them more and better.
- Health workers should be empowered to give these interventions in our houses.
- Interventions should be backed with provision of portable water.
- Other lifesaving commodities should be provided for free to ease the suffering of the common man.
- The program should be sustained to reach more children.

5. CONCLUSION AND RECOMMENDATIONS

The PEC survey conducted in the 3 states found that VAS coverages among children 6 - 59 months were below the recommended 80% coverage level required for a public health effect. The delivery model used in the states (delivering VAS and other interventions via selected PHCs during campaigns with a few temporarily fixed posts), coupled with poor sensitization and social mobilization and inadequate funding of the exercise seemed to be the key contributors to the large proportion of eligible children missed and consequently, the low coverage recorded. Even though these mobilization efforts have greatly improved when compared to the pre-intervention phase in the states, there is need to improve this.

For those children who received VAS, using community structures such as trained town announcers seemed to be effective in sensitizing caregivers, creating awareness, and ensuring uptake of VAS and deworming during the distribution exercise, despite the challenge posed by COVID-19.

Training of health personnel prior to the VASD was also found to be effective, as seen by their detailed knowledge of VAS. However, the need to effectively cascade this detailed knowledge of VAS and deworming down to the community leaders and key beneficiaries (caregivers) was also seen.

Based on the survey findings, the following actions are recommended:

Akwa Ibom;

- Meeting with Traditional Rulers Council in the state for an advocacy visit on the program.
- Production of more IEC materials (Posters, Fliers, Stickers etc)
- More collaboration with UNICEF who have before now been supporting the state on social mobilization.
- Radio Jingles

- the need to have a data validation meeting with stakeholders from the LGAs and state.
- Have a micro plan to compare denominators
- More involvement of IM in commodity distribution down to the facilities.
- Have a distribution plan from State down to facility level
- A plan for reverse logistics
- Have an urban plan for distribution
- Deploy more Independent monitors at least have two for urban LGAs
- Use of radio jingles, more fixed post, (churches and Mosques), increase the number of mobile teams
- Possibly increase the number of implementing facilities.
- Come up with a facility directory in all implementing ward to help identify hard to reach, security compromised and riverine communities,

Benue;

- Advocacy for timely and sufficient release of counterpart funds by the State and LGAs to facilitate the full implementation of the VASD, including procurement of adequate quantities of other key child health interventions such as Albendazole.
- Need for proper training of HWs on how to accurately estimate the target population for VAS and deworming
- There is need to review social mobilization strategies from the state to the community level putting into consideration hard to reach communities with consideration to enhancing the community dialogue and emphasis on involving more action leaders, religious leaders, and greater community representation. Continued use of trained town announcers to create awareness among caregivers and the community prior to and during the VASD is also encouraged. Also including radio jingles where the budget permits.
- Capacity strengthening of HWs on VAS, deworming and COVID-19 key messages during training and using neck tag job aids should also be adopted and HWs should be reminded to consistently pass across these key messages to community leaders and caregivers prior to and during implementation.
- Continued sensitization of men and household decision makers during community dialogues is also recommended.
- More health worker should be allocated to mobile teams. This will improve coverage across communities. There should also be more fixed post, (churches and Mosques), increase the number of mobile teams
- Detailed micro plan should be done at health facility level to validate population information in preparation for the next round which is the current denominator of the Vitamin A, and Deworming implementation and also compare population figures with the state most recent Immunized population data.
- Develop and deploy a comprehensive distribution plan from State down to facility level
- Plan for reverse logistics
- Have an urban plan for distribution
- Deploy more independent monitors at least have two for urban LGAs

- Come up with a facility directory in all implementing ward to help identify hard to reach, security compromised and riverine communities,

Nasarawa

- Advocacy for timely and sufficient release of fund by the State and LGAs to facilitate the full implementation of the MNCHW.
- Revisiting the delivery method especially for VAS and deworming during MNCHW to include outreach/special teams to reach large communities, hard to reach areas and frequently missed populations.
- A need for a rural versus urban implementation strategy to address the difference in coverages and reach.
- Proper planning and forecasting should be done to ensure no stock out of VACs any service delivery point during MNCHW.
- Capacity strengthening of HWs on VAS, deworming and COVID-19 key messages during training and using the neck tag job aids should also continue and HWs should be reminded to consistently pass across these key messages to community leaders and caregivers prior to and during implementation.
- Increasing the number of health workers per health team to reduce the workload on the health workers and ensure health talks are given to caregivers after each supplementation.
- Adequate provision of logistics for health workers assigned to hard-to-reach areas.
- General need for a more robust social mobilization plan with specific strategies to reach rural and non-rural areas. Increasing the number of town announcers to about one per community and continued use of trained town announcers to create awareness among caregivers and the community prior to and during the MNCHW is also encouraged
- Continued sensitization of men and household decision makers during community dialogues is also recommended.
- There should be adequate monitoring and supervision during implementation to ensure health workers do the right thing.
- The state should develop a workplan in collaboration with all stakeholders capturing all activities with specific timelines to avoid conflicting activities.
- MNCHW should be planned in such a way that weekends are considered to allow civil servants who are caregivers to participate especially in the non-rural areas, as these areas was shown in the study to have relative low coverage when compared to the rural areas.
- In collaboration with the state, ensure that whenever there is a conflicting activity, the MNCHW should be postponed by a week or two. This is to ensure adequate attention is given to MNCHW.
- Possibility of blending house-to-house with fixed post models of distribution so as to reach those who may not be willing to go to the health facilities for the intervention. By this, the number of mobile teams will be increased as well.
- Ensure that last mile distribution of commodities is fully achieved before kick-starting MNCHW.

- Social mobilization activities should be increased to boost the awareness of the intervention through the use of Radio/TV jingles, community dialogue, engagement of community Leaders to sensitize the members of their communities. This also includes supporting the state to write letters to the schools, Churches and Mosques in the communities regarding MNCHW.
- Development and adherence to comprehensive micro plan for implementation including the distribution of commodities.
- Develop and deploy security plan for implementation in security compromised LGAs.
- Adequate documentation should be maintained at all levels from facility to ward, to LGA and to state.
- Get more people involved in the MNCHW so as to avoid giving too much work to one person to do. This is to address the inadequate staff strength across the state at the facilities.

6. PICTURES