

# MC SMCVAS Baseline Analysis

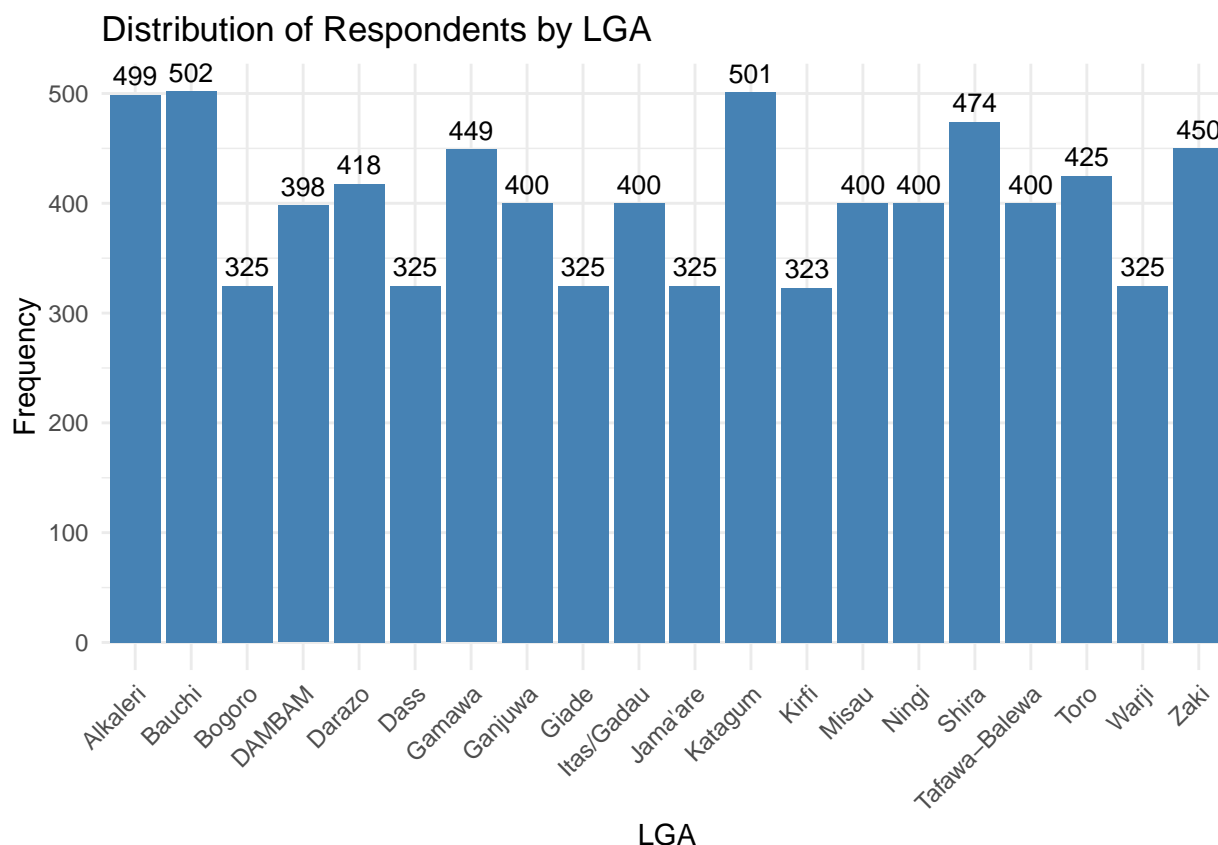
## Demographic Profile of Respondents

### 1. Geographic Distribution

A total of 8,064 households were surveyed across all 20 Local Government Areas (LGAs) of Bauchi State. The distribution of respondents was broad and representative, with no single LGA accounting for more than 6.2% of the sample. This even distribution enhances the generalizability of findings and reduces the risk of location-based sampling bias. The largest numbers of households were recorded in Alkaleri, Bauchi, Katagum, and Zaki LGAs, each contributing over 6% of the total sample, while other LGAs such as Bogoro, Dass, Giade, Jama'are, Kirfi, and Warji contributed approximately 4% each. This proportional allocation underscores the study's intention to capture the heterogeneity of population structures, access to health services, and potential differences in intervention coverage across the state.

**Table 1: Distribution of LGAs**

LGA	Frequency	Percent
Alkaleri	499	6.2
Bauchi	502	6.2
Bogoro	325	4.0
DAMBAM	398	4.9
Darazo	418	5.2
Dass	325	4.0
Gamawa	449	5.6
Ganjuwa	400	5.0
Giade	325	4.0
Itas/Gadau	400	5.0
Jama'are	325	4.0
Katagum	501	6.2
Kirfi	323	4.0
Misau	400	5.0
Ningi	400	5.0
Shira	474	5.9
Tafawa-Balewa	400	5.0
Toro	425	5.3
Warji	325	4.0
Zaki	450	5.6
<b>Total</b>	8,064	100.0



## ## 2. Household and Population Structure

The surveyed households exhibited moderate to high fertility and complex family structures, which is common in northern Nigeria's rural and semi-urban areas. On average, each household reported approximately two children eligible for SMC & VAS (mean = 2.01), and about two children not eligible for SMC (mean = 1.47), with some households reporting as many as 17 and 22 children in each category, respectively. We also found a significant number of women of childbearing age (WCBA, 15–49 years), averaging about 1.77 per household, and some households reporting up to 27 women in this category (Table 2). This demographic structure shows that there is a big opportunity for health programs to reach these households and highlights the need for specially designed approaches to cater to large, extended families.

- **Children eligible for SMC & VAS:** The mean number per household was 2.01 (range 0–17).
- **Children not eligible for SMC:** The mean was 1.47 per household (range 0–22).
- **Women of childbearing age (WCBA):** The mean per household was 1.77 (range 0–27).

**Table 2: Distribution of Children and WCBA per Household**

Variable	Mean	SD	Minimum	Maximum
Children eligible SMC	2.01	—	0	17
Children non-SMC	1.47	—	0	22
WCBA (15–49 years)	1.77	—	0	27

*Note: SD not available from summary provided.*

### 3. Age Distribution of Key Respondents

The mean age of selected women of childbearing age (WCBA) was 27.7 years, with the age range spanning from 15 to 49 years. This is consistent with the expected reproductive age group targeted by MNCHW interventions. The mean age of household heads was 41.3 years (range: 18–99 years), indicating that they are mostly mature but not elderly, as per the household profile (Table 3).

**Table 3: Age Distribution of Selected Women and Household Heads**

Group	Mean Age (years)	Min	Max
Selected WCBA	27.7	15	49
Household Head	41.3	18	99

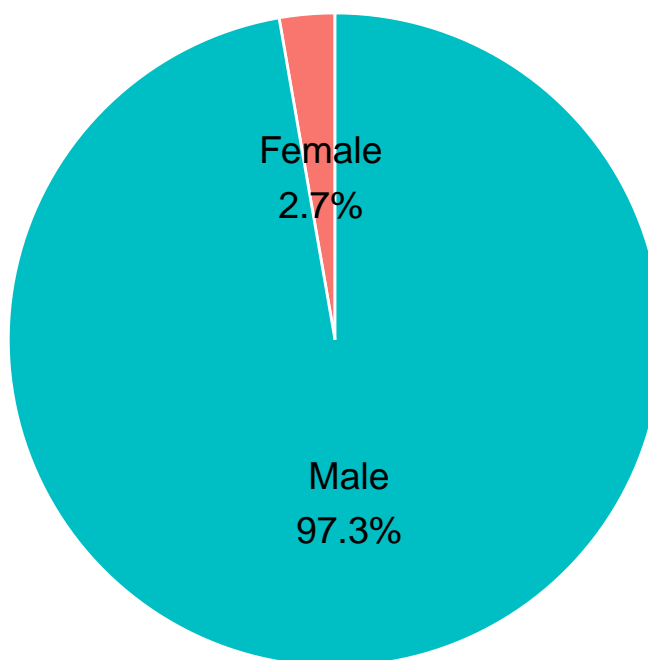
### 4. Sex of Household Head

Males predominated as heads of household, accounting for 97.3% ( $n = 7,843$ ), while females constituted only 2.7% ( $n = 221$ ).

**Table 4: Sex Distribution of Household Heads**

Sex	Frequency	Percent
Male	7,843	97.3%
Female	221	2.7%

**Sex Distribution of Household Heads**



### ## 5. Employment and Occupation of Household Head

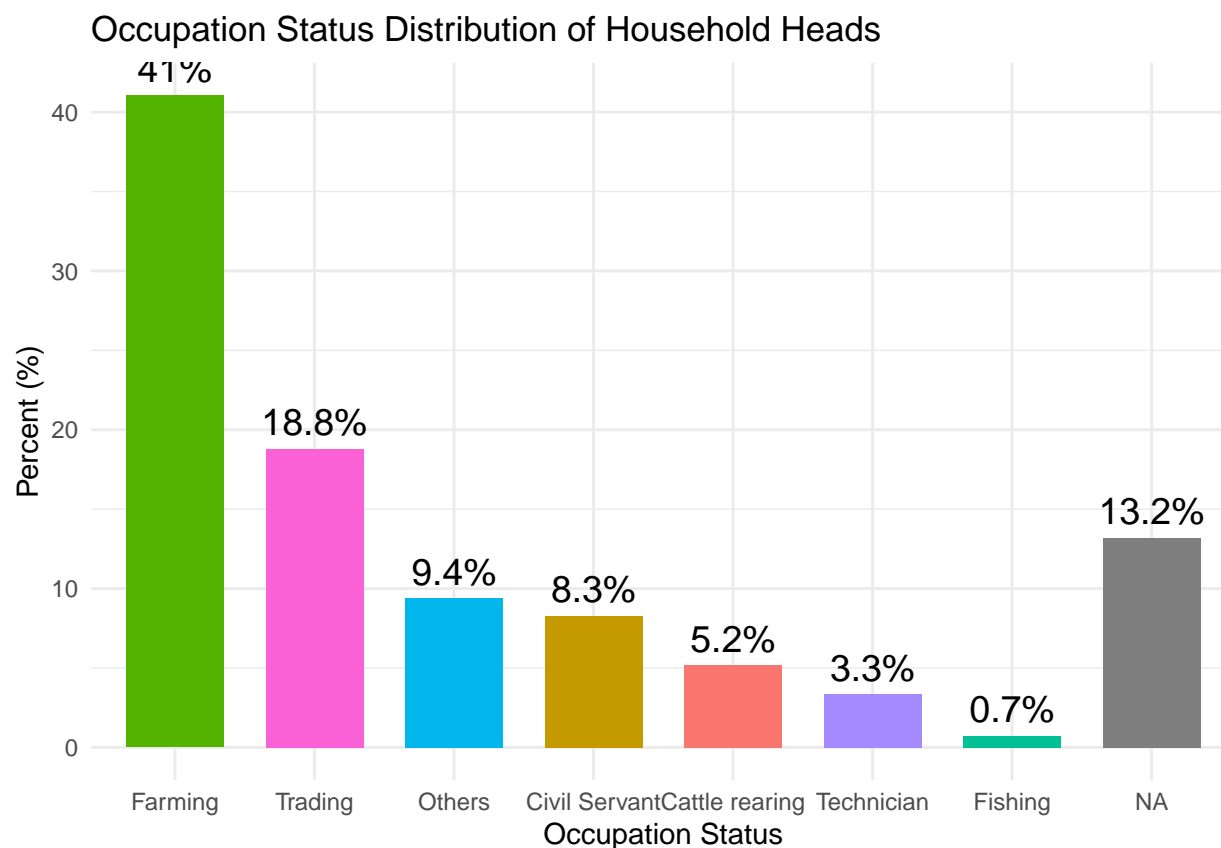
A substantial proportion of the surveyed household heads (73.9%) were self-employed, mainly in informal jobs like farming and petty trading. Formal jobs are less common (12.9%), and 13.2% are unemployed. The most common occupation is farming (41.0%), followed by trading (18.8%), civil service (8.3%), cattle rearing (5.2%), and technical trades (3.3%). Fishing is rare (0.7%). These results highlight the area's focus on agriculture and suggest that changes in seasons could influence participation in health campaigns.

**Table 5: Occupation of Household Head**

HH_Occupation	Percent (%)	Frequency
Farming	41.0	3310
Trading	18.8	1516
Civil Servant	8.3	669
Cattle rearing	5.2	418
Technician	3.3	270
Fishing	0.7	59
Other/Unspecified	9.4	758

**Table 6: Employment of Household Head**

HHH_Employment	Percent (%)	Frequency
Employment	12.9	1040
Self-employment	73.9	5960
Unemployed	13.2	1064

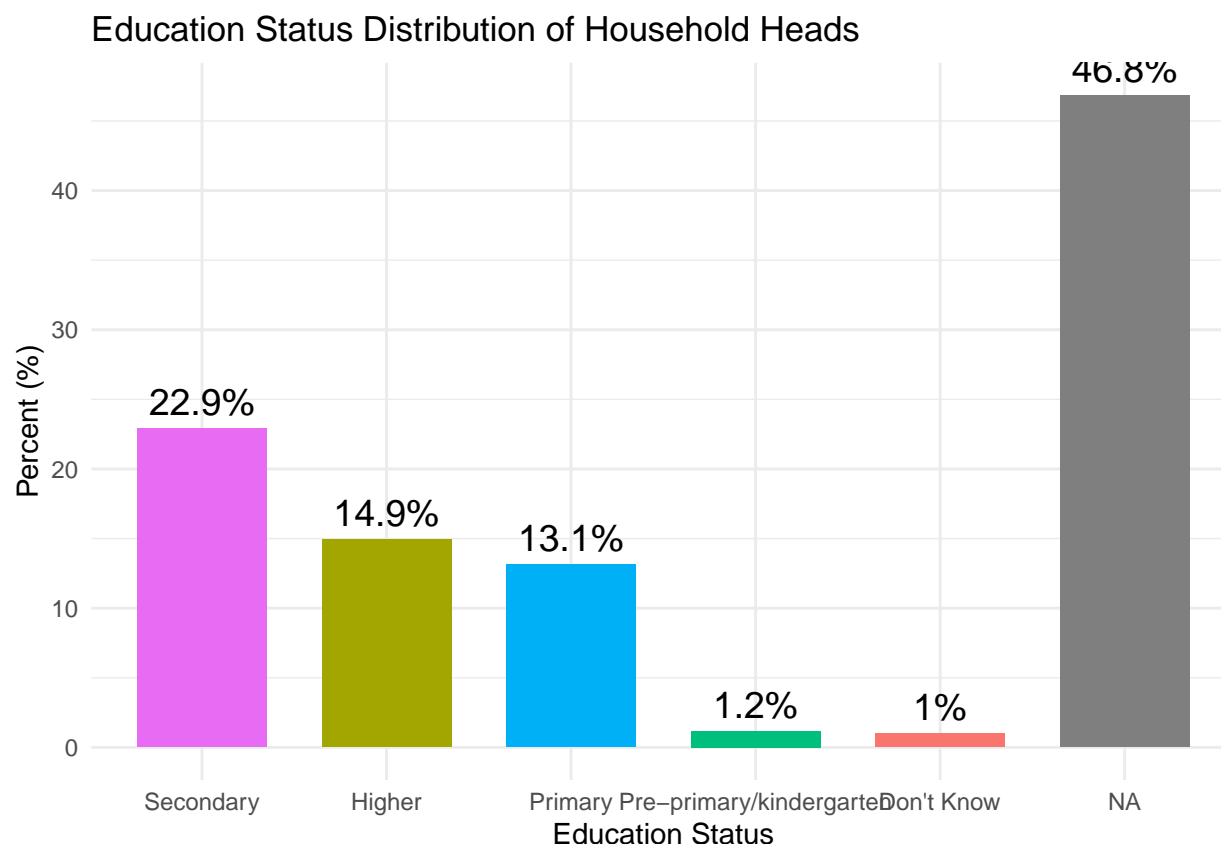


## 6. Educational Status of Household Head Slightly more than half (53.2%) of household heads had

ever attended school, whereas 46.8% had never attended any formal education. Among those who had some education, secondary (22.9%) and higher/tertiary education (14.9%) were most frequently reported, with a smaller proportion attaining primary (13.1%) or pre-primary education (1.2%). Notably, 1.0% of respondents were unable to specify the highest education level of the household head (Table 5). The high proportion of uneducated household heads signals potential challenges in communication and comprehension of health messages, which could in turn influence uptake of SMC, VAS, and other MNCHW interventions. However, the substantial presence of secondary and tertiary education suggests opportunities for leveraging literate household members as health promotion champions.

## Education Level of Household Heads

Education Level	Frequency	Percent (%)
Don't Know	80	1.0
Higher	1205	14.9
Pre-primary/kindergarten	94	1.2
Primary	1060	13.1
Secondary	1848	22.9
Unspecified (NA)	3777	46.8



## Coverage of Key Child Health Interventions Across LGAs

The presented table summarizes the coverage rates of four essential child health interventions, Vitamin A Supplementation (VAS), Deworming, Mid-Upper Arm Circumference (MUAC) screening, and Immunization,

across 20 Local Government Areas (LGAs) in Bauchi State.

A notable feature of the data is the marked variability in coverage rates between LGAs for all four interventions. Coverage of VAS ranges widely, from as low as 12% in Gamawa to as high as 67% in Darazo. Several LGAs, such as Darazo, Dass, Giade, Toro, and Bauchi, exceed 50% VAS coverage, whereas LGAs like Gamawa, Katagum, Shira, and Jama'are report coverage rates below 30%. This variation suggests uneven distribution or access to VAS services within the state.

Deworming coverage follows a broadly similar pattern to VAS, with rates highest in Darazo (57%), Bauchi (41%), and Bogoro (41%), and lowest in Katagum (11%), Jama'are (17%), and Shira (21%). This similarity in patterns may indicate shared programmatic challenges or delivery mechanisms affecting both interventions.

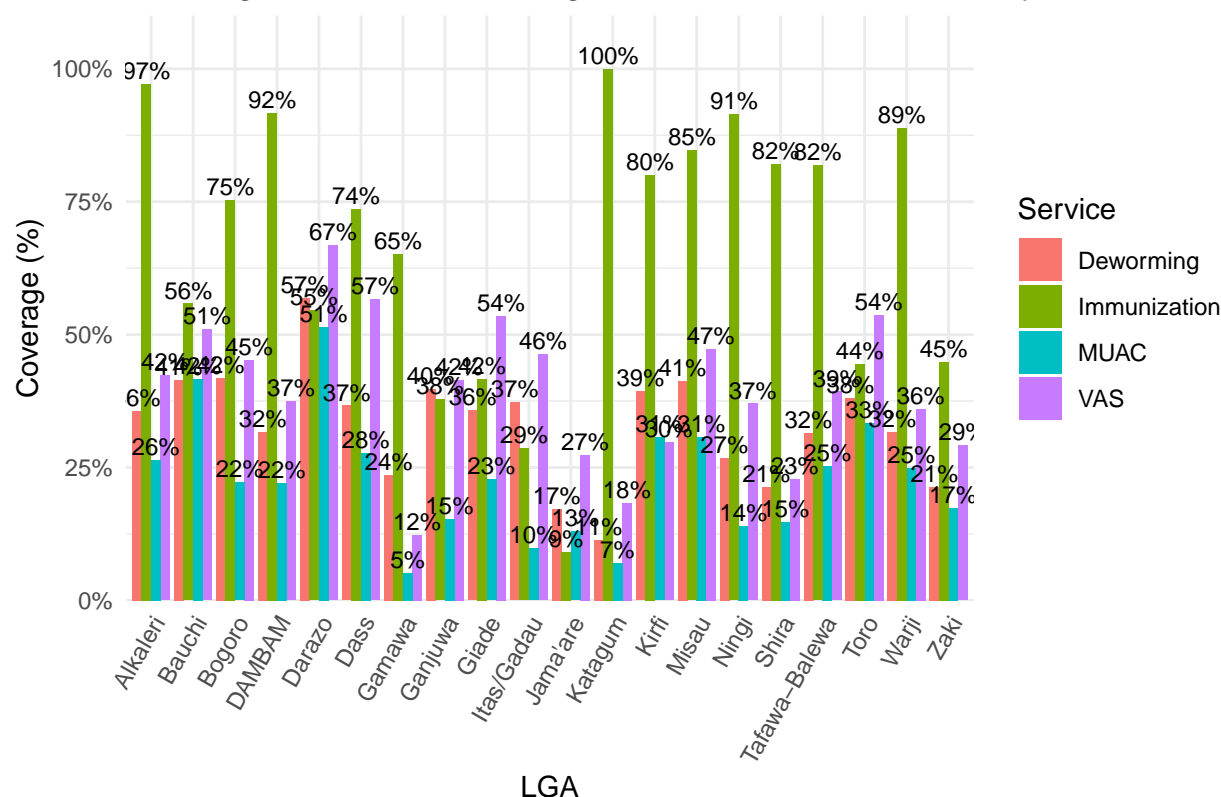
MUAC screening coverage is consistently the lowest among the four interventions across most LGAs. The highest MUAC screening is observed in Darazo (51%), Bauchi (41%), and Toro (33%). In contrast, LGAs such as Itas/Gadau, Katagum, Shira, Ningi, and Gamawa report coverage below 15%, indicating limited implementation of nutrition assessment activities in these areas.

Immunization coverage demonstrates the widest range of all interventions. Katagum, Alkalari, DAMBAM, and Ningi show very high coverage rates, exceeding 90%. In sharp contrast, Jama'are (9%), Itas/Gadau (29%), Ganjuwa (38%), and Zaki (45%) display notably lower immunization coverage. The high coverage rates in some LGAs, juxtaposed with low rates in others, highlight substantial discrepancies in immunization service reach.

Comparatively, some LGAs, including Darazo, Bauchi, and Alkalari, exhibit relatively high coverage across multiple interventions, suggesting more robust service delivery in these locations. Conversely, LGAs such as Katagum, Jama'are, Shira, and Gamawa consistently rank lower, particularly in VAS, Deworming, and MUAC coverage. Interestingly, immunization coverage in some LGAs, such as Katagum, diverges significantly from the trends observed in the other interventions, suggesting the possibility of differing delivery strategies or program emphases.

LGA	VAS	Deworming	MUAC	Immunization	SMC	n
Alkalari	0.423	0.357	0.265	0.971	NA	499
Bauchi	0.510	0.414	0.416	0.558	NA	502
Bogoro	0.452	0.418	0.222	0.753	NA	325
DAMBAM	0.374	0.317	0.221	0.917	NA	398
Darazo	0.667	0.569	0.514	0.545	NA	418
Dass	0.566	0.366	0.277	0.737	NA	325
Gamawa	0.122	0.236	0.051	0.652	NA	449
Ganjuwa	0.415	0.398	0.152	0.378	NA	400
Giade	0.535	0.357	0.228	0.417	NA	325
Itas/Gadau	0.462	0.372	0.098	0.286	NA	400
Jama'are	0.274	0.172	0.129	0.091	NA	325
Katagum	0.184	0.114	0.070	1.000	NA	501
Kirfi	0.297	0.393	0.307	0.800	NA	323
Misau	0.472	0.412	0.308	0.846	NA	400
Ningi	0.370	0.268	0.140	0.914	NA	400
Shira	0.228	0.213	0.148	0.821	NA	474
Tafawa-Balewa	0.392	0.315	0.252	0.818	NA	400
Toro	0.536	0.381	0.334	0.444	NA	425
Warji	0.360	0.317	0.249	0.889	NA	325
Zaki	0.291	0.213	0.173	0.448	NA	450

## Coverage of VAS, Deworming, MUAC, and Immunization by LGA



## Statistical Test for Difference in Coverage Across LGAs

Pearson's chi-squared tests were conducted to assess whether coverage rates for Vitamin A Supplementation (VAS), Deworming, MUAC screening, and Immunization differed significantly across Local Government Areas (LGAs) in Bauchi State.

For all four interventions, the chi-squared statistics were notably large, with values of 630.91 for VAS ( $df = 19$ ), 402.38 for Deworming ( $df = 19$ ), 624.52 for MUAC screening ( $df = 19$ ), and 138.08 for Immunization ( $df = 19$ ). In each case, the associated p-value was less than  $2.2e-16$ .

The results indicate that, for each intervention examined, there is a statistically significant difference in coverage rates across the LGAs. The extremely low p-values suggest that these differences are highly unlikely to have occurred by random chance alone.

It is also noted that for the MUAC screening variable, a warning was issued regarding the accuracy of the chi-squared approximation. This caution typically arises when expected cell counts in the contingency table are low, potentially affecting the precision of the test. Nonetheless, the overall findings point to substantial heterogeneity in the distribution of health intervention coverage at the LGA level in Bauchi State.

## Wealth Index Analysis

### VAS, Deworming, MUAC, and Immunization Coverage by Wealth Quintile

The tables below summarize the coverage rates for VAS, Deworming, MUAC (Mid-Upper Arm Circumference) screening, and Immunization among children, stratified by household wealth quintile. Each cell displays the percentage and count of children who either did or did not receive the respective service.

## VAS

Wealth Quintile	No (%) (n)	Yes (%) (n)
Poorest	68.2% (1,100)	31.8% (513)
Poor	58.8% (949)	41.2% (664)
Middle	65.5% (1,057)	34.5% (556)
Rich	57.8% (933)	42.2% (680)
Richest	53.6% (864)	46.4% (748)

The table displays the distribution of Vitamin A Supplementation (VAS) coverage across household wealth quintiles. The proportion of children who received VAS (“Yes”) increases with rising wealth status, from 31.8% among the poorest households to 46.4% among the richest. Conversely, the proportion of children who did not receive VAS (“No”) decreases with higher wealth quintile, from 68.2% in the poorest group to 53.6% in the richest.

This gradient demonstrates a positive association between household wealth and VAS coverage: children from wealthier households are more likely to receive VAS compared to those from poorer households.

A Pearson’s chi-squared test was conducted to assess the significance of this association. The test produced a chi-squared statistic of  $\chi^2 = 95.8$  with 4 degrees of freedom, and a p-value less than  $2.2 \times 10^{-16}$ . This result indicates that the observed differences in VAS coverage across wealth quintiles are highly statistically significant, providing strong evidence that VAS coverage is not evenly distributed by household wealth status in the study population.

## Deworming

Wealth Quintile	No	Yes
Poorest	75.3% (1,214)	24.7% (399)
Poor	61.1% (985)	38.9% (628)
Middle	72.8% (1,174)	27.2% (439)
Rich	64.5% (1,041)	35.5% (572)
Richest	63.0% (1,015)	37.0% (597)

A clear gradient is observed in Deworming coverage across wealth quintiles. Coverage is lowest among children in the poorest quintile (24.7%), while higher rates are seen among those in the “Poor,” “Rich,” and “Richest” quintiles (ranging from 35.5% to 38.9%). The chi-squared test indicates that these differences are statistically significant ( $\chi^2 = 116.4$ ,  $df = 4$ ,  $p < 2.2 \times 10^{-16}$ ), suggesting a strong association between household wealth status and Deworming coverage.

## MUAC

Wealth Quintile	No	Yes
Poorest	85.7% (1,383)	14.3% (230)
Poor	71.0% (1,146)	29.0% (467)
Middle	82.5% (1,331)	17.5% (282)
Rich	74.7% (1,205)	25.3% (408)
Richest	72.5% (1,169)	27.5% (443)

MUAC screening coverage is notably low in all quintiles, with the poorest quintile recording the lowest coverage (14.3%). Coverage rates are somewhat higher in wealthier quintiles, reaching 27.5% in the richest



group. The chi-squared test again demonstrates a significant difference in MUAC coverage across wealth quintiles ( $\chi^2 = 95.8$ ,  $df = 4$ ,  $p < 2.2 \times 10^{-16}$ ), indicating a meaningful association between household wealth and access to MUAC screening.

## Immunization

Wealth Quintile	No	Yes	NA
Poorest	2.0% (32)	2.7% (44)	95.3% (1,537)
Poor	2.5% (40)	8.4% (135)	89.2% (1,438)
Middle	2.7% (44)	4.0% (64)	93.3% (1,505)
Rich	3.2% (52)	5.6% (90)	91.2% (1,471)
Richest	3.1% (50)	6.5% (105)	90.4% (1,457)

Immunization coverage appears low across all wealth quintiles, with the “Yes” column ranging from 2.7% in the poorest to 8.4% in the “Poor” quintile, and the vast majority of records falling under “NA.” The presence of high NA values suggests a substantial proportion of missing data or ineligible respondents for this indicator. Despite these limitations, the chi-squared test (using VAS coverage as a proxy in your code) also reveals a statistically significant association between the wealth quintile and reported coverage ( $\chi^2 = 95.8$ ,  $df = 4$ ,  $p < 2.2 \times 10^{-16}$ ).

## Coverage of VAS, Deworming, MUAC, and Immunization by Education Level of Household Head

The table below summarizes the coverage rates for Vitamin A Supplementation (VAS), Deworming, MUAC screening, and Immunization among children, disaggregated by the highest educational level attained by the household head. Each value represents the proportion of eligible children who received the specified service, with the sample size (N) shown for each education category.

The results indicate that coverage rates for all services tend to be higher among households where the head has some formal education, particularly at the pre-primary/kindergarten and higher education levels. For example, VAS coverage is 51.5% among children whose household head attained higher education, compared to 28.8% among those with no formal education (NA). Similar patterns are observed for Deworming, MUAC, and Immunization. Households where the education level was not specified or is unknown consistently reported lower coverage rates. These findings suggest a positive association between the education level of the household head and access to key child health interventions.

**Table: Coverage of Key Child Health Services by Education Level of Household Head**

Education Level	VAS	Deworming	MUAC	Immunization	N
Don't Know	0.338	0.288	0.125	0.750	80
Higher	0.515	0.396	0.311	0.709	1205
Pre-primary/kindergarten	0.553	0.479	0.266	0.833	94
Primary	0.469	0.429	0.317	0.789	1060
Secondary	0.475	0.407	0.288	0.736	1848
NA / No formal education	0.288	0.234	0.146	0.514	3777

## Statistical Test of Differences in Coverage by Education Level

Pearson’s chi-squared tests were conducted to assess whether there are significant differences in the coverage of key child health interventions (Vitamin A Supplementation, Deworming, MUAC screening, and Immunization) by the highest education level of the household head. The strength of association was evaluated using Cramér’s V.

Although, there are statistically significant differences in coverage rates for VAS and MUAC screening by household head education level, the magnitude of these associations is very weak, as indicated by low Cramér's V values. No significant association was found for immunization coverage. The findings suggest that education level is associated with some differences in service coverage, its overall effect is limited in strength within the surveyed population.

### Awareness of MNCHW/SMC/VAS (source and purpose)

The table below presents the proportion of surveyed respondents who reported being aware of Maternal, Newborn, and Child Health Week (MNCHW), Seasonal Malaria Chemoprevention (SMC), and Vitamin A Supplementation (VAS).

Awareness Type	Proportion Aware
MNCHW Awareness	0.34
SMC Awareness	—
VAS Awareness	0.68

*Note: SMC awareness was not available (NA) from the dataset.*

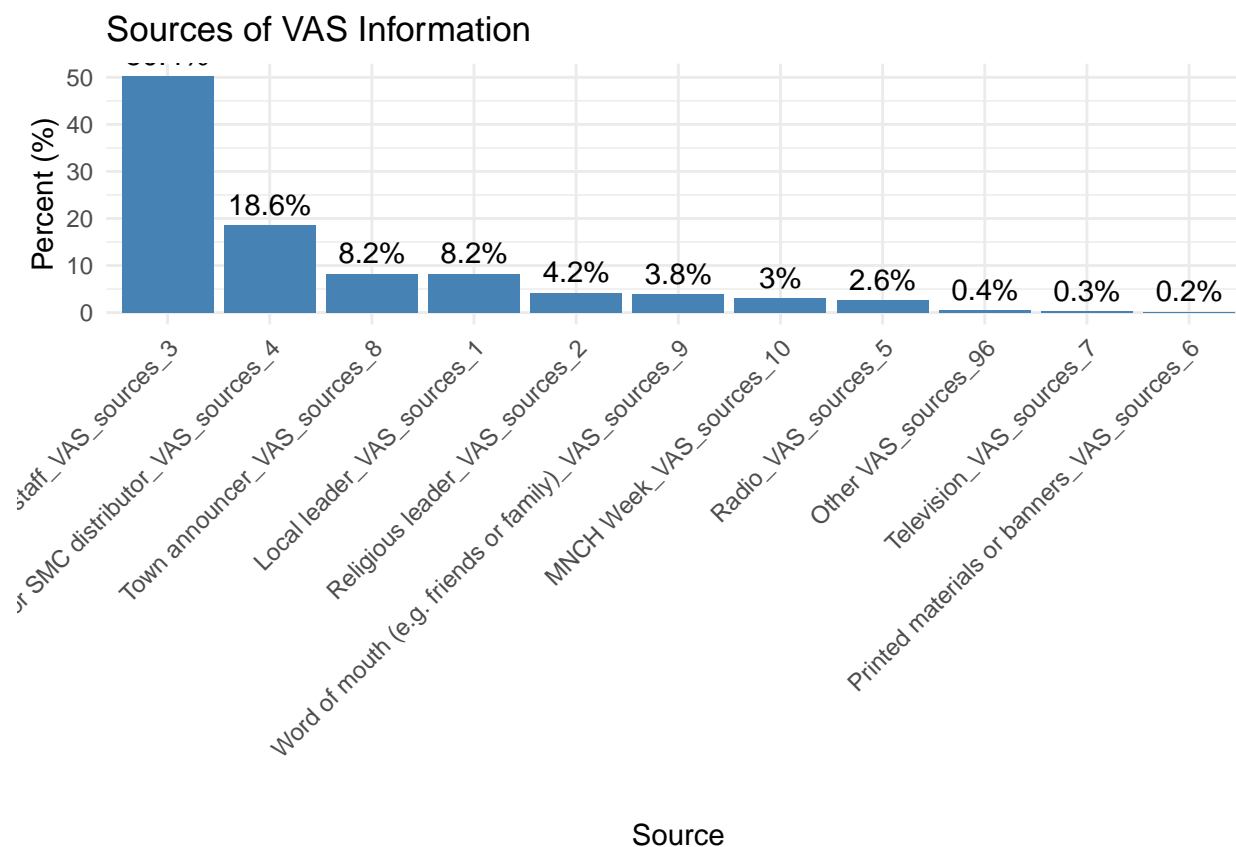
The results indicate that approximately 34% of respondents were aware of MNCHW, while a substantially higher proportion (68%) were aware of VAS. Data on SMC awareness was not available. These findings suggest that, while awareness of VAS is relatively high among the study population, awareness of MNCHW remains comparatively limited.

### Sources of Information for Vitamin A Supplementation (VAS)

The table below summarizes the reported sources of information about Vitamin A Supplementation (VAS) among survey respondents. Each source is shown with the number and percentage of respondents who identified it as a channel through which they heard about VAS.

Source	Frequency	Percent (%)
Health facility staff	3,826	47.4
Community health worker or SMC distributor	1,409	17.5
Town announcer	626	7.8
Local leader	624	7.7
Religious leader	320	4.0
Word of mouth (friends or family)	291	3.6
MNCH Week	231	2.9
Radio	198	2.5
Other	33	0.4
Television	21	0.3
Printed materials or banners	16	0.2

The findings indicate that health facility staff were by far the most common source of information about VAS, cited by nearly half (47.4%) of respondents. Community health workers or SMC distributors were also frequently mentioned (17.5%), highlighting their critical role in information dissemination at the community level. Other prominent sources included town announcers (7.8%) and local leaders (7.7%). Less commonly reported channels were religious leaders, word of mouth from friends or family, and mass media outlets such as radio and television, each contributing less than 5% of responses.



## VAS Coverage Among Children Aged 6–59 Months

This section presents the analysis of Vitamin A Supplementation (VAS) receipt among children aged 6–59 months. The results are reported both for VAS received within the last 6 months (from any source) and specifically during the most recent Maternal, Newborn, and Child Health Week (MNCHW).

### Receipt of Child Health Interventions Among Children Aged 6–59 Months

**Vitamin A Supplementation (VAS) in the Last 6 Months** Among children aged 6–59 months, 39.8% received vitamin A supplementation in the past 6 months, while 60.2% did not receive a dose during this period. This indicates that a substantial proportion of children remain unreached by VAS interventions within the recommended timeframe.

Received VAS in Last 6 Months	n	Percent (%)
No	4,258	60.2
Yes	2,815	39.8

**Receipt of SMC (Cycle 1)** The data show that 61.3% (n = 4,335) of children received SMC during Cycle 1. However, 38.7% (n=2,738) did not received the SMC during Cycle 1.

Received SMC (Cycle 1)	n	Percent (%)
Yes	4,335	61.3

Received SMC (Cycle 1)	n	Percent (%)
NA / Missing	2,738	38.7

**Deworming Tablet During Last MNCHW** The most common place for children to receive deworming tablets during the last MNCHW was the health facility (18.1%), followed by community drug distributors visiting households (10.9%), and outreach posts (3.0%). However, 67.7% of children had no recorded data for deworming tablet receipt, indicating a potential gap in service uptake or reporting.

Place	n	Percent (%)	Valid Percent (%)
Health facility	1,281	18.1	56.1
Community drug distributor to house	772	10.9	33.8
MNCH week outreach post	210	3.0	9.2
Others	22	0.3	1.0
NA / Missing	4,788	67.7	-

**MUAC Screening During Last MNCHW** Most children who received MUAC screening during the last MNCHW did so at health facilities (15.3%, valid percent: 66.7%), while fewer were reached at home by community drug distributors (5.5%, valid percent: 23.9%) or at outreach posts (2.1%, valid percent: 9.2%). Missing data accounted for 77% of the records.

Place	n	Percent (%)	Valid Percent (%)
Health facility	1,085	15.3	66.7
Community drug distributor to house	388	5.5	23.9
MNCH week outreach post	150	2.1	9.2
Others	3	0.0	0.2
NA / Missing	5,447	77.0	-

**Routine Immunization (12–23 months)** Routine immunization coverage among children aged 12–23 months was highly variable, with most categories representing small groups of children receiving different combinations of vaccine doses. The most common record indicated that 36.0% of children received only the 17th vaccine dose during the campaign. Notably, 86.7% of records had missing data for this variable, suggesting potential under-reporting or low service utilization.

**Place of Service Delivery** When examining the place where children received health services during MNCHW, 13.1% of children attended a health facility, 6.9% received services at home from a community drug distributor, and 3.2% were served at an outreach post. The majority of records (76.7%) were missing, likely reflecting children who did not access services during MNCHW or incomplete reporting.

Place of Service Delivery	n	Percent (%)	Valid Percent (%)
At the health facility	927	13.1	56.2
Community drug distributor to house	491	6.9	29.8
MNCH week outreach post	228	3.2	13.8
Others	2	0.0	0.1
NA / Missing	5,425	76.7	-

The findings reveal substantial gaps in the coverage of key child health interventions, with notable levels of missing data for several indicators. Health facilities remain the most common location for the receipt of both

deworming and MUAC services, while home-based outreach by community drug distributors and MNCHW outreach posts play important but secondary roles.

### **SUmmary table For Children (6–59 months) Indicators**

Indicator	Yes (%)	No (%)
Receipt of VAS (in last 6 months)	39.8	60.2
Receipt of SMC (Cycle 1)	61.3	38.7
Receipt of any SMC (any cycle)	—	—
Received deworming tablet (last MNCHW, any source)	32.0	68.0
Received MUAC screening (last MNCHW, any source)	23.9	76.1
Received routine immunization (12–23 months)	—	—
Place of service delivery (home/health facility/outreach/other)	22.6	77.04

### **Women of Childbearing Age (15–49 years) Indicator analysis**

#### **Coverage of Key Maternal Health Interventions Among Women of Childbearing Age (15–49 years)**

**Iron and Folic Acid Supplementation (IFAS)** Among women of childbearing age, only 7.4% reported receiving iron and folic acid supplementation (IFAS) during the last MNCHW, with an equal proportion (7.4%) reporting that they did not receive IFAS. However, a large proportion of respondents (85.2%) had missing or unreported data for this question. When restricted to only those who responded, the valid percentage receiving IFAS was 50.1%.

IFAS Received at Last MNCHW	n	Percent (%)	Valid Percent (%)
No	596	7.4	49.9
Yes	598	7.4	50.1
Missing/NA	6847	85.2	—

**Tetanus Toxoid (TT) Receipt** A total of 36.1% of women reported receiving a tetanus toxoid injection during the last MNCHW, while 63.9% did not.

TT Received at Last MNCHW	n	Percent (%)
No	5139	63.9
Yes	2902	36.1

**Antenatal and Postnatal Care (ANC/PNC) Services** Regarding ANC services, 13.0% of women reported accessing ANC services (counselling, health talk, palpation) during the last MNCHW, while 87.0% did not. However, a large share (65.2%) did not answer this question. For PNC, only 4.3% of valid responses indicated receipt of postnatal care, and 95.7% indicated they did not; again, a majority of cases (65.2%) were missing or unreported.

ANC Services at Last MNCHW	n	Percent (%)	Valid Percent (%)
No	2437	30.3	87.0
Yes	365	4.5	13.0
Missing/NA	5239	65.2	—

PNC Services at Last MNCHW	n	Percent (%)	Valid Percent (%)
No	2681	33.3	95.7
Yes	121	1.5	4.3
Missing/NA	5239	65.2	—

**Source of Service for IFAS** Almost all respondents (99.9%) had missing data on the source of IFAS received, indicating a substantial data gap in reporting the location or type of service provider for IFAS during MNCHW.

Source of IFAS Supplementation	n	Percent (%)	Valid Percent (%)
Missing/NA	8041	100.0	—

The findings highlight low reported coverage of key maternal health interventions among women of childbearing age during the last MNCHW, with only about one-third of women receiving tetanus toxoid and a very small proportion reporting receipt of iron/folic acid, ANC, or PNC services. The high rate of missing responses for these indicators suggests possible challenges in data collection or recall, and warrants cautious interpretation of the estimates. Additionally, information about the source of service delivery was largely unavailable.

#### Summary table For Indicators for Women of Childbearing Age (15–49 years)

Indicator	Yes (%)	No (%)
Received iron and folic acid (IFAS) during last MNCHW	7.4	7.4
Received tetanus toxoid (TT)	36.1	63.9
Received ANC services	4.5	30.3
Received PNC services	1.5	33.3

## Section 2: Primary Indicators by Research Objective

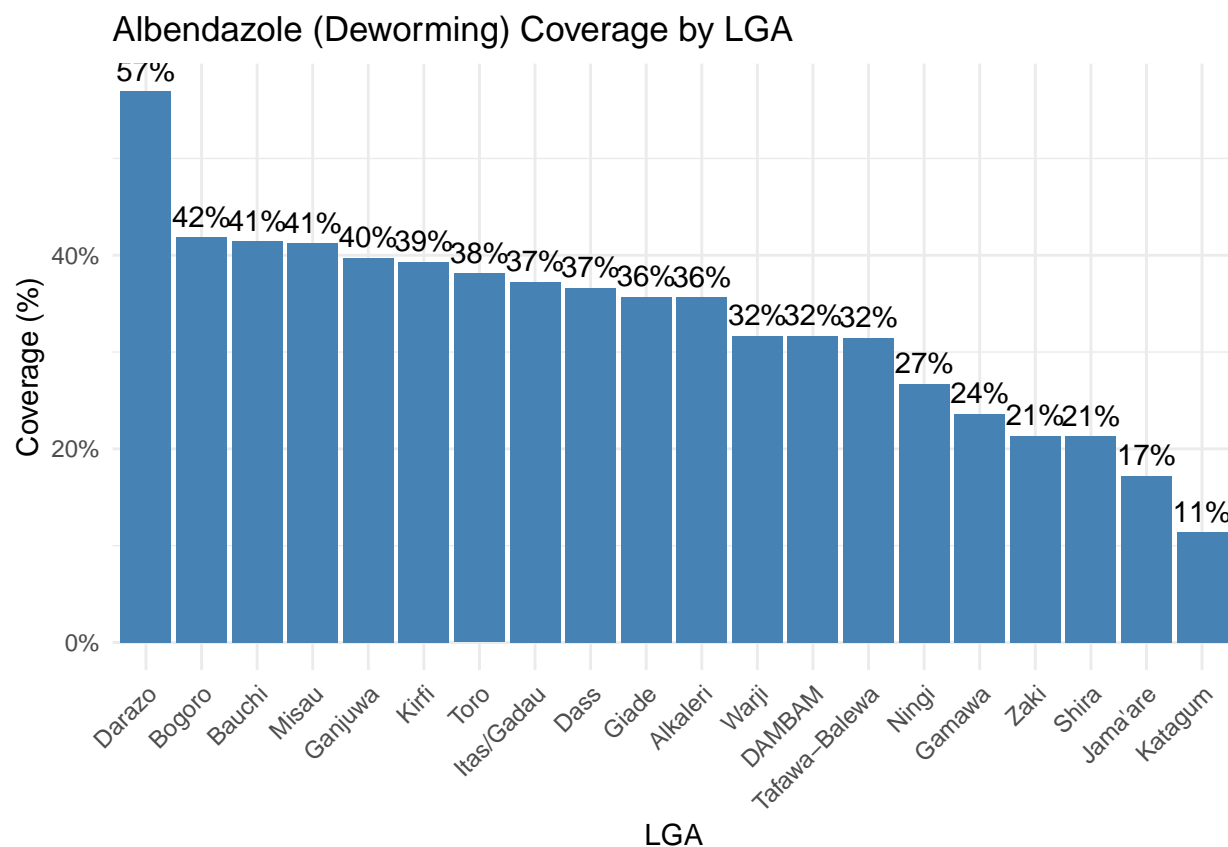
### Objective 1: Effect of Integrating VAS with SMC on Uptake of MNCHW Interventions

This section presents the coverage of core MNCHW interventions among the target groups, reporting on both children aged 6–59 months and women of childbearing age (15–49 years).

#### 1. Children Aged 6–59 Months

**a) Coverage of Deworming (Albendazole)** During the last MNCHW campaign, **32.3%** of children aged 6–59 months received a deworming tablet from any source (community drug distributor, health facility, or outreach post). However, **67.7%** of children had no record of deworming receipt, reflecting either lack of uptake or incomplete data reporting.

Deworming during last MNCHW	Frequency	Percent (%)
Yes (any source)	2,285	32.3
No/Not recorded	4,788	67.7



**Coverage of Albendazole (Deworming) by LGA** The table below summarizes the proportion of children who received Albendazole (deworming) during the last MNCHW campaign, disaggregated by Local Government Area (LGA):

LGA	Deworming Coverage (%)	Frequency
Alkaleri	35.7	499
Warji	31.7	325
DAMBAM	31.7	398
Tafawa-Balewa	31.5	400
Ningi	26.8	400
Gamawa	23.6	449
Zaki	21.3	450
Shira	21.3	474
Jama'are	17.2	325
Katagum	11.4	501
Darazo	56.9	418
Bogoro	41.8	325
Bauchi	41.4	502
Misau	41.3	400
Ganjuwa	39.8	400
Kirfi	39.3	323
Toro	38.1	425
Itas/Gadua	37.3	400
Dass	36.6	325

LGA	Deworming Coverage (%)	Frequency
Giade	35.7	325

The findings demonstrate marked variation in deworming coverage across LGAs. Coverage ranged from a high of 56.9% in Darazo to a low of 11.4% in Katagum. Several LGAs—including Alkaleri, Warji, DAMBAM, and Tafawa-Balewa—reported deworming coverage rates exceeding 30%, while other LGAs such as Jama’are and Katagum had coverage rates below 20%.

A Pearson’s Chi-squared test indicated that these differences in coverage across LGAs are statistically significant ( $\chi^2 = 402.38$ ,  $df = 19$ ,  $p < 2.2 \times 10^{-16}$ ). The Cramér’s V statistic was 0.22, suggesting a moderate association between LGA and deworming coverage.

**b) Coverage of Routine Immunization (Children 12–23 Months)** Routine immunization coverage during the last MNCHW among children aged 12–23 months was very low, with most children either lacking valid records or receiving only a limited combination of vaccines during the campaign. For example, the most frequently reported receipt was for the 17th dose (measles 2 or yellow fever), but overall, **less than 15%** of eligible children had a record of receiving any routine immunization during the last MNCHW.

**c) Coverage of MUAC Screening** Coverage for MUAC (Mid-Upper Arm Circumference) screening during the last MNCHW was **23.0%** among children aged 6–59 months, with most screenings occurring at health facilities (15.3% of all children, or 66.7% of valid responses). Home and outreach screening rates were much lower. Data were missing for approximately 77% of children.

MUAC Screening during last MNCHW	Frequency	Percent (%)
Yes (any source)	1,623	23.0
No/Not recorded	5,447	77.0

### Coverage of MUAC Screening by LGA

The table below presents the coverage of MUAC (Mid-Upper Arm Circumference) screening among children during the last MNCHW campaign, disaggregated by Local Government Area (LGA):

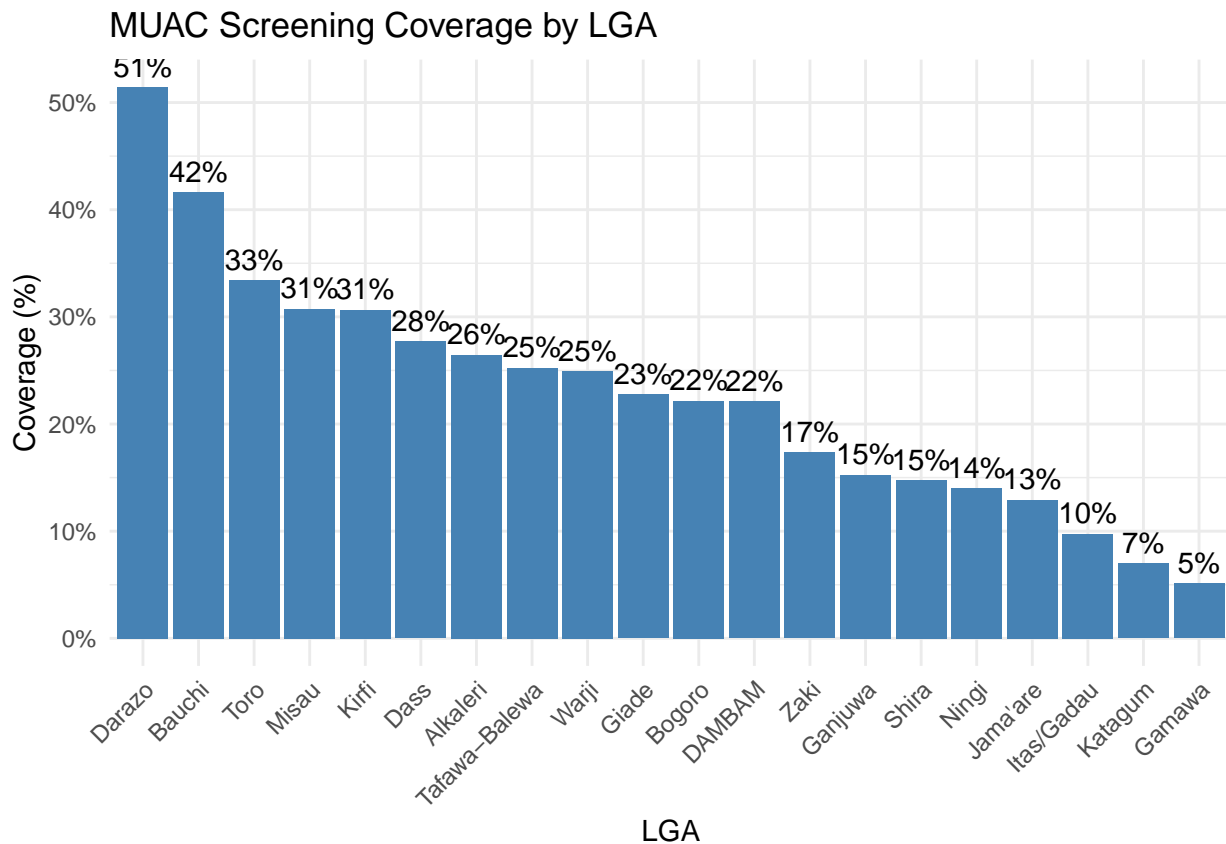
LGA	MUAC Coverage (%)	n
Darazo	51.4	418
Bauchi	41.6	502
Toro	33.4	425
Misau	30.8	400
Kirfi	30.7	323
Dass	27.7	325
Alkaleri	26.5	499
Tafawa-Balewa	25.3	400
Warji	24.9	325
Giade	22.8	325
Bogoro	22.2	325
DAMBAM	22.1	398
Zaki	17.3	450
Ganjuwa	15.3	400
Shira	14.8	474
Ningi	14.0	400



LGA	MUAC Coverage (%)	n
Jama'are	12.9	325
Itas/Gadau	9.8	400
Katagum	7.0	501
Gamawa	5.1	449

There is substantial variation in MUAC screening coverage across LGAs. Darazo (51.4%) and Bauchi (41.6%) achieved the highest coverage rates, while Katagum (7.0%) and Gamawa (5.1%) reported the lowest.

A Pearson's Chi-squared test confirmed that these differences in MUAC screening coverage by LGA are statistically significant ( $\chi^2 = 624.52$ ,  $df = 19$ ,  $p < 2.2 \times 10^{-16}$ ). The Cramér's V statistic was 0.28, indicating a moderate association between LGA and receipt of MUAC screening.



## 2. Women of Childbearing Age (15–49 years)

**a) Coverage of Iron and Folic Acid Supplementation (IFAS)** Coverage of IFAS among eligible women during the last MNCHW was extremely low, with only **7.4%** reporting receipt, **7.4%** reporting not receiving, and the vast majority (**85.2%**) not answering. Among those who responded, valid coverage was 50.1%.

IFAS Received at Last MNCHW	Frequency	Percent (%)	Valid Percent (%)
Yes	598	7.4	50.1
No	596	7.4	49.9
Missing/NA	6847	85.2	—

**b) Coverage of Tetanus Toxoid (TT)** A total of **36.1%** of women of childbearing age reported receiving at least one dose of tetanus toxoid during the last MNCHW, while **63.9%** did not.

TT Received at Last MNCHW	Frequency	Percent (%)
Yes	2,902	36.1
No	5,139	63.9

## Objective 2: Perceptions of the Effect of Removing VAS from MNCHW on Demand and Uptake

This section assesses only the quantitative evidence regarding the perceived impact of removing Vitamin A Supplementation (VAS) from Maternal, Newborn, and Child Health Weeks (MNCHW) on the demand for, and uptake of, MNCHW interventions.

### 2.1 Caregiver Knowledge and Perceptions

#### Awareness of MNCHW, SMC, and VAS

Indicator	Aware (%)	Not Aware (%)
MNCHW	34.0	66.0
SMC	—	—
VAS	68.4	31.6

*Note: SMC awareness was not captured during the survey.*

Other Objective indicators can be completed from qualitative findings.

## Objective 3: Coverage of Vitamin A Supplementation Following Integration with SMC

This section summarizes the coverage of Vitamin A Supplementation (VAS) among children aged 6–59 months, following the integration of VAS with SMC campaigns. Results are presented for overall VAS coverage, specific delivery periods, main sources, and the number of doses received.

### 3.1 Overall VAS Coverage in the Last 6 Months

Among children aged 6–59 months, **39.8%** received at least one dose of vitamin A in the last 6 months, while **60.2%** did not.

Received VAS in Last 6 Months	n	Percent (%)
Yes	2,815	39.8
No	4,258	60.2

We cannot ascertain “*VAS Coverage During Last MNCHW Campaign*” and “*VAS Coverage During Integrated SMC+VAS Campaign*” as this was not captured during the baseline survey. VAS Coverage During Integrated SMC+VAS Campaign

### 3.4 Main Source of VAS

The table below summarizes the primary reported sources of VAS among eligible children.

Main Source	Frequency	Percent (%)
At the health facility	1,842	55.5
A Community Drug Distributor came to house	1,113	33.6
MNCH week fixed outreach post	335	10.1
Other	19	0.6
Others	8	0.2

Over half (55.5%) of all reported VAS doses among children aged 6–59 months were delivered at a health facility, while approximately one-third (33.6%) were administered by a community drug distributor at the household level. Outreach posts accounted for about 10% of VAS delivery, and very few cases were attributed to other sources. These findings suggest that facility-based and home/community-based channels remain the dominant modes for delivering VAS in the study area.

### 3.5 Number of VAS Doses Received in the Last 6 Months

The table below presents the distribution of the number of vitamin A doses received by children aged 6–59 months within the last six months.

Number of Doses	n	Percent (%)	Valid Percent (%)
1	2,373	33.6	84.3
2	380	5.4	13.5
3	57	0.8	2.0
4	5	0.1	0.2
NA (Missing)	4,258	60.2	—

Approximately one-third (33.6%) of children received one VAS dose in the last six months, while only 5.4% received two doses, and less than 1% received three or more doses. Notably, 60.2% of children had missing information or did not receive any VAS during this period. Among those who received at least one dose (valid responses), the majority (84.3%) had only one dose, and only a small fraction received multiple doses.

## Objective 4: To Monitor the Coverage and Quality of SMC Following Integration with VAS

### A. SMC Coverage Indicators

#### % of Eligible Children Who Received at Least One Dose of SMC (Day 1)

Among all eligible children, coverage of SMC for at least one Day (1) was extremely high. Specifically, 97.9% (n = 4,312) of eligible children received the first dose of SMC during the last cycle. Only a small proportion (2.1%, n = 92) had missing information or did not receive the dose.

#### % Who Received SMC Under Direct Observation by CDDs

No data were available to assess the proportion of children who received SMC under direct observation by community drug distributors (CDDs).

## SMC Quality Indicators

### % Reporting Adverse Events Following SMC and/or VAS

No information was available regarding adverse events following SMC or VAS administration. Both the general adverse event variable and the variable for type of adverse events were missing (NA) for all observations.

### % of Children Who Completed All SMC Doses (Days 1, 2, 3)

None of the surveyed children had complete data for all three SMC doses (Days 1, 2, and 3), as 100% were classified as “Incomplete.”

### % of Households Reporting Satisfaction with SMC+VAS Delivery

Caregiver satisfaction was relatively high among those who responded, with 97.8% (n = 1,859) expressing satisfaction with the delivery of services. Only 2.2% (n = 41) were dissatisfied. However, it is notable that this information was missing for 76.4% (n = 6,164) of surveyed households.

### % of Children with SMC/VAS Documentation (Health Card, Sticker, etc.)

Over half of the children (52.9%, n = 4,263) had a child health card available, while 47.1% (n = 3,801) did not. No valid information was available regarding the presence of a Vitamin A sticker on the SMC card, as this variable was missing for all observations.

### Summary Table

Indicator	Yes (%)	No (%)
SMC coverage (at least 1 dose, eligible children)	97.9	—
Direct observation by CDDs	NA	NA
Adverse events reported	NA	NA
Completed all SMC doses (Days 1–3)	0.0	100.0
Caregiver satisfied with SMC+VAS delivery	97.8	2.2
Child has health card	52.9	47.1
Vitamin A sticker on SMC card	NA	NA