Survey to evaluate post-campaign vitamin A supplementation coverage of children aged 6 to 59 months in Mali

Final report

Ce rapport présente les résultats de l'enquête de couverture du premier passage conduit du 14 au 17 juillet 2021 à Ségou, du 3 au 6 aout 2021 à Koulikoro et du 5 au 8 aout 2021 à Kayes 2021 au Mali.

Post-campaign vitamin A supplementation coverage assessment survey for children aged 6 to 59 months in August 2021 in Mali

website :	Mali, health districts
Type of study:	Mixed cross-sectional study: --quantitative, WHO-type cluster sampling --qualitative, individual interviews
Study sponsor:	Helen Keller International
Principal Investigator:	Helen Keller International *Alkaya KOUNTA* *Dr Boureima GUINDO* *Dr Ouassa SANOGO* *Mr Moussa Traore* *Dr Fatou Berete Ndiaye*
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Study period:	July- August 2021

ACRONYMS AND ABBREVIATIONS

CSA	Community Health Worker
CSCom	Community Health Center
DGSHP	General Directorate of Health and Public Hygiene
EDSM	Mali Demographic Health Survey
IPPF	Women in Immediate Postpartum
GPS:	Global Positioning System
Helen Keller	Helen Keller International
IT Manager	Information Technology Manager
NID	National Vaccination Days
MCD	District Chief Medical Officer
MS-Excel	Microsoft Excel
WHO	World Health Organization
PECS	Post Event Coverage Survey
PPT	Probability Proportional to Size
GDPR	Population and Housing Census 2009 updated
RND	District Nutrition Manager
RNG	Random Number Generator
SIAN	Nutrition Activities Intensification Week
SPSS	Statistical Package for the Social Sciences
VAS	Vitamin A supplementation
USAID/SSGI	High Impact Health Services
UI	International Unit
UNICEF	UNICEF

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SUMMARY OF THE STUDY

Study title	**Post-campaign vitamin A supplementation coverage assessment survey for children aged 6 to 59 months**
context	Since 1982, Mali began coupling national poliomyelitis immunization days with vitamin A supplementation for children. he biannual administration of vitamin A was institutionalized with the organization of the first Week of Intensification of Nutrition Activities (SIAN) throughout the country. From 2005, SIAN was reintegrated into NID-Polio in order to minimize the use of financial resources and maximize supplementation coverage. With funding from Good Venture, Helen Keller INTL supported the implementation of the vitamin A administration campaign from July 14 to 17, 2021 in Ségou, from August 3 to 6, 2021 in Koulikoro and from August 5 to 8 2021 in Kayes 2021. To measure the quality of the data and have reliable coverage rates, Helen Keller INTL undertook this year to conduct a post-campaign coverage survey (PECS) in collaboration with the Nutrition Sub-Directorate of the General Directorate of Health and of Public Hygiene from the Ministry of Health and Social Affairs in August 2021. The main objective of the survey is to determine the level of vitamin A coverage in the areas supported by Helen Keller INTL and others for the July_August 2021 campaign and to determine the main reasons for non-administration of the vitamin HAS.
Goals	The study aims to assess the quality of the implementation of the July and August 2021 vitamin A supplementation campaign for children aged 6 to 59 months in the regions of Kayes, Ségou, Sikasso, Koulikoro and in the district of Bamako. . Specifically, this study aims to: - Evaluate the coverage rates of vitamin A supplementation among children aged 06-59 months during the July -August 2021 campaign in the regions of Kayes, Ségou, Koulikoro, Sikasso and the District of Bamako ; - Describe the level of involvement of community actors (customary leaders/chiefs, distributors, mobilizers, etc.) in the implementation of the VAS for each of the areas concerned; - Describe the level of knowledge of health workers on vitamin A for each of the areas concerned; - Describe the level of knowledge of mothers/caregivers of children on the benefits of vitamin A and foods rich in vitamin A for each of the areas concerned; - Determine the main reasons for non-administration of vitamin A in uncovered areas and for unsupplemented children. - Formulate/propose strategies and actions to be taken to improve vitamin A supplementation activities
Methods	***Type of study*** : This is a cross-sectional study which was implemented according to two approaches which are: 1. Investigation qualitative consisting of individual interviews with actors implementing vitamin A supplementation activities in the field (health workers and community relays/distributors) 2. Investigation Post-campaign coverage will be a cross-sectional study with two-stage WHO-type cluster sampling, stratified by Helen Keller-supported and non-supported areas. The clusters will be drawn randomly by stratum in accordance with the Probability Proportional to Estimated Size (PPTE) method of the population in urban and rural areas (22.5% in urban areas, 77.5% in rural areas) based on RGPH data 2009. ***Framework of*** the study: This study took place in 4 (Kayes, Ségou, Sikasso, Koulikoro) of the 10 regions of Mali and the district of Bamako ***Study population*** : households with at least one child aged 6 to 59 months at the time of the SIAN campaign from July 10 to 13, 2021 and with health workers and community relays / community distributors in the study area who participated in said campaign and/or involved in vitamin A supplementation activities. ***Collection technique:*** Direct interview with the use of mobile technology for the collection and daily transmission of data via the internet. ***Sample size*** : **1694** households

	Study period : September 12 to 28, 2021
Principle results	**Household survey (N= 1695)** **Sociodemographic characteristics** - 65.2% surveyed households live in rural areas; - Nearly 80% of survey respondents are women; - Only 17.2% of respondents live in households considered to be the most affluent in the study area; - 70.9% of the children surveyed are between 24 and 59 months old and - 51.8% of the children surveyed are boys. **Vitamin A supplementation** - Coverage of vitamin A supplementation is 84.4% in the study area, it is slightly higher in rural areas (87.3%) than in urban areas (76.4%); **Communication strategy** - Overall, 54.5% of households were informed about the campaign before it started. Information on the start of the campaign reached more households in rural areas than in urban areas (61.7% for rural areas against 41% in urban areas); - The main reason for not supplementing children is the fact that the agents did not pass (51.9%); - Mobilizers/distributors (28.6%), radio (27.9%) and health workers (21.7%) are the main information channels for the campaign.

I. STUDY CONTEXT

In Mali, the infant and child mortality rates according to the results of the EDSM-III (1), IV (2), V (3) decreased respectively from 229 to 191 then to 95 per thousand live births. However, the EDSM VI (4) shows an increase in the infant and child mortality rate from 95 to 101 per 1000 live births. Childhood undernutrition affects child survival, globally the prevalence of vitamin A deficiency among children under five is 29% worldwide and 48% in Africa (Stevens, et al. 2015). Data for this deficiency are not available in Mali. However, according to a 2004 study by Nutrition International (NI), UNICEF and WHO, vitamin A deficiency affects 45% of preschool children and would be responsible for 24,000 deaths each year without any intervention.

In addition, analysis of the 2014 PROFILES advocacy tool showed that vitamin A deficiency was the basis of 110,303 deaths of children under 5 between 2012 and 2017.
To reverse the trend in countries where the under-five mortality rate is above 50 deaths per 1000 live births, WHO recommends that all children aged 6 to 59 months receive two doses of Vitamin A each year spaced over a period of six months to ensure a significant impact on child survival.
With funding from Givewell , since 2018, Helen Keller INTL has been supporting the implementation of vitamin A supplementation in Mali and particularly in the regions of Kayes, Ségou (since 2018), support for Sikasso (2019) and Koulikoro (2021).

In addition, Helen Keller INTL also supports the implementation of the post-campaign coverage survey. Thus between 2018, 2019 and 2020, four surveys were implemented. The national coverage data is respectively 80.5%, 73.90% and 72% in 2018, 2019 and 2020.

Thus, Helen Keller INTL has undertaken to conduct a fifth post-campaign coverage survey (PECS) after the SVA campaign held from July 14 to 17, 2021 in Ségou, from August 3 to 6, 2021 in Koulikoro and from August 5 to 8, 2021. in Kayes 2021 in collaboration with the General Directorate of Health and Public Hygiene of the Ministry of Health and Social Development through the Nutrition Sub-Directorate in August 2021.

II. STUDY OBJECTIVES

1. General objective

The study aims to assess the quality of the implementation of the July and August 2021 vitamin A supplementation campaign for children aged 6 to 59 months in the regions of Kayes, Ségou, Sikasso, Koulikoro and in the district of Bamako. .

2. Specific objectives

Specifically, each of the strata involves:

- Evaluate the coverage rates of vitamin A supplementation among children aged 06-59 months during the July-August 2021 campaign in the regions of Kayes, Ségou, Koulikoro, Sikasso and the District of Bamako;
- Describe the level of involvement of community actors (customary leaders/chiefs, distributors, mobilizers, etc.) in the implementation of the VAS for each of the areas concerned;
- Describe the level of knowledge of health workers on vitamin A for each of the areas concerned;
- Describe the level of knowledge of mothers/caregivers of children on the benefits of vitamin A and foods rich in vitamin A for each of the areas concerned;
- Determine the main reasons for non-administration of vitamin A in uncovered areas and for unsupplemented children.
- Formulate/propose strategies and actions to be taken to improve vitamin A supplementation activities.

III. METHODOLOGY

1. Type of study and target population

a. Type of study

The methodology adopted in this study is based on two types of strategies:

- A qualitative survey composed of actors implementing vitamin A supplementation activities in the field (health workers and community relays/distributors);

- A quantitative post-campaign coverage survey, which is a cross-sectional two-stage WHO-type cluster sample survey, stratified according to certain characteristics defined by HELEN KELLER INTL. The primary sampling units are households. Individual questionnaires were also administered to health workers and community relays who participated in the campaign.

The clusters will be drawn randomly by stratum in accordance with the probability proportional to the estimated size (PPTE) method of the population in urban and rural areas (22.5% in urban areas, 77.5% in rural areas) based on RGPH data 2009.
The selection of clusters was carried out by the National Institute of Statistics (INSTAT) with the sampling base from the General Population and Housing Census of 2009 (RGPH 2009). This print was made with STATA software.
Households were drawn in the field by the interviewers using the RNG application and a drawing form developed with ODK after an exhaustive count of households with at least one eligible child (children aged 6 to 59 months) .
The study population is therefore made up of households living with at least one child aged 6 to 59 months at the time of the July-August 2021 campaign, health workers and community relays/distributors in the study area. who participated in vitamin A supplementation activities.

b. Target population of the study

Coverage survey (cluster survey) :

The survey targeted households in the study area with at least one child aged 6 to 59 months at the time of the campaign.

- ***Inclusion criteria*** : All households in the study area with at least one child aged 6 to 59 months at the time of the campaign from July 14 to 17, 2021 in Ségou, from August 3 to 6, 2021 in Koulikoro and from July 5 to August 8, 2021 in Kayes 2021.
- ***Non-inclusion criteria*** : Eligible households where there are no adult parents of children aged 6-59 months present at the time of the survey and/or refusing to participate in the survey by not giving their informed consent .

All non-target children belonging to the age group 6-5 months and over 59 months old at the time of the campaign on the date of July 14 to 17, 2021 in Ségou, from August 3 to 6, 2021 in Koulikoro and from August 5 to 8, 2021 in Kayes 2021.

Qualitative survey (individual interviews) :

This survey targeted health workers and community relays/distributors who participated in the campaign from July 14 to 17, 2021 in Ségou, from August 3 to 6, 2021 in Koulikoro and from August 5 to 8, 2021 in Kayes 2021.

- ***Inclusion criteria*** : All health workers and community relays/distributors who participated in the campaign in the study area and were present at the time of data collection.
- ***Non-inclusion criteria*** : Health workers and eligible community relays/distributors from the study area who were absent and/or who refused to participate in the survey by not giving their informed consent. Absent persons;

Distributors/volunteers who did not participate in the campaign.

2. PERIOD AND SCOPE OF THE STUDY

a. Study period

The study was scheduled for the period of August-September 2021. Data collection in the field was actually done from September 12 to 28, 2021.

b. Scope of the study

This study takes place in Mali-West African country which covers 1.24 million km² with an estimated population of 21,960,825 in 2021.

Mali is divided into 10 administrative regions and a special district represented by Bamako. This study will concern 4 (Kayes, Ségou, Sikasso, Koulikoro) of the 10 regions of Mali and the district of Bamako and focuses on the vitamin A coverage achieved during the SIAN campaign from July 10 to 13, 2021.

In the security context of Mali with the northern and central parts of the country experiencing recurrent incidents of radical extremists, the survey will only concern the center and the south of the country. These are the regions with fewer incidents reported during the year 2017 and 2018 and 2019 and 2020 and 2021: Kayes, Ségou, Sikasso Koulikoro and Bamako.

The study will take place on 2 layers:

Stratum 1: Kayes, Ségou and Koulikoro (Helen Keller INTL areas)

Stratum 2: Sikasso and the district of Bamako.

IV. SAMPLING

The sampling plan (selection of clusters and households) *:*

***In the first degree* : Grape selection** ,

***At the second level* : Household draw** .

By The choice of households to be surveyed was made using a systematic procedure. This procedure was programmed on the tablets. It is applied after an exhaustive enumeration of eligible households in the cluster. Overall, 99.6% of planned households were surveyed, with little variation between strata. It should be noted that it is this information that will be used for future PECS surveys.

Table 1: Distribution of clusters and households surveyed stratum

Stratum	Number of clusters	Number of households planned	Number of households surveyed	Completion rate
Layer 1: Helen Keller areas	77	847	826	97.5%
Stratum 2: Non-Helen Keller areas	77	847	869	102.6%

Entire study area	**154**	**1694**	**1695**	**99.6%**

V. ETHICS COMMITTEE

The submission of the study protocol to the ethics committee before the start is a preliminary step for any health study. Thus, as part of this study, the technical team submitted the protocol on July 7, 2021 to the ethics committee. from the INSP in order to obtain the visa to carry out the study. Overall, the ethics committee was satisfied with the protocol and granted its visa for the realization of this study by formulating recommendations allowing to better adapt the tools of the study to the context of Mali. The letter of authorization from the ethics committee is appended to this document.

These tools consist of:

- An information form
- A household census form that allows the updating of households in the EA and identifies eligible households;
- An ODK form allowing the random selection of sample households;
- A household questionnaire which provides socio-demographic information on households; access to the health service, the level of knowledge about vitamin A, and communication with the agents in charge of carrying out the various activities in the field;
- A children's questionnaire that informs about vitamin A supplementation the time associated with the service;
- A health worker questionnaire to understand the worker's level of knowledge on vitamin A, vitamin A supplementation and screening and on his training in relation to his products. This questionnaire also provides elements for assessing the campaign;
- A community relay/distributor questionnaire, which collects the same information as that collected from health workers;
- A monitoring and quality control form for supervisors which captures some information on a sample of children already surveyed in order to better assess the quality of the data collected, in particular the exhaustiveness;
- A request for informed consent: prior to data collection and informs the respondent about the nature of the survey and asks for their opinion regarding their participation in the survey.

VI. RECRUITMENT AND TRAINING OF SUPERVISORS AND INVESTIGATORS

As part of the PECS-2021 study, thirty (30) investigators and (6) supervisors were recruited by Helen Keller, taking into account their academic level, the language spoken and experience in digital data collection (with smartphones). The team of supervisors was made up of the VAS program team of Helen Keller, the representatives of the Sub-Directorate of Nutrition (SDN), and the representative of the National Institute of Statistics (INSAT) and the independent supervisors .

The general objective of the training was to build the capacity of supervisors and interviewers on the concepts used, the methods and the tools of the survey. This training was both theoretical and practical and lasted four (4) days including three (3) days of theoretical training and one (1) day of pretest. It was delivered in two sessions by the Coordination Committee (the VAS program team of Helen Keller, the Ministry of Health and INSTAT from September 1 to 9, 2021. After the training, thirty (30) agents were selected and divided into ten (10) teams, each team consisting of a team leader and two (2) interviewers .

VII. PILOT SURVEY

September 4 and 6 , 2021, a field operation was carried out with households and community relays in the districts of Kalanbakoro and Kati in the city of Bamako to test the survey device. All the stages of the survey were implemented, in particular the delimitation of the cluster, the presentation of the survey to the administrative and customary authorities of the district, the census and the administration of the various questionnaires. The trainers ensured the supervision of the interviewers in the field for the testing of the tools.

Back from the pre-test, a debriefing was done to draw lessons. Insufficiencies in the programming of forms, weaknesses in the wording of questions in language and other differences in comprehension were noted. All these comments were taken into account to revise the forms and provide clarifications on the conduct of the survey .

VIII. FIELD DATA COLLECTION

Field data collection took place from September 12 to 28, 2021. During this activity, all 154 planned clusters were surveyed. The 10 teams, made up of a team leader, two (2) interviewers and one (1) driver, were dispatched to ensure data collection for 15 days. Data collection took place in accordance with the provisional schedule.

To ensure data quality, a WhatsApp group bringing together all interviewers, supervisors and the technical team was created. All questions and their answers went through this channel. This allowed the other teams to capitalize on the concerns experienced by each collection team. All team leaders were required to follow the information shared on the platform to ensure

that their teammates were aware of the directives given. This made it possible to quickly take charge of the various questions by the technicians .

IX. SUPERVISION AND MONITORING OF COLLECTION

The general objective of the supervision missions is firstly to ensure the quality of the data collected and secondly to provide the necessary local support to the collection teams.

The supervision missions carried out by the VAS program team of Helen Keller, the representatives of the Sub-Directorate of Nutrition (SDN), and the representative of the National Institute of Statistics (INSAT) and independent supervisors, were organized in ten (10) axes for the entire collection period.

These supervision missions covered all the teams and all the clusters. They set out to share information on the evaluation, emphasizing the objectives of the survey and the use that will be made of the results, and to ask the Regional Health Department to urge the Districts to provide the support necessary for collection teams, in particular by facilitating their access to health facilities, clusters and the community.

Wherever they went, the supervision missions first observed the team at work by taking part in interviews. Then, they held summary meetings with the collection teams to take stock of the progress of the collection; point out the insufficiencies of each other following the observation of the interviews; provide detailed explanations of the shortcomings noted so that the interviewers have the same and good understanding of the questionnaires in order to improve the quality of the data.

These meetings also focused on the information shared in the WhatsApp group. The teams were underlined the importance of following the topics discussed on this group. Particular emphasis has been placed on sending data. The data sent is used by the VAS coordination team to produce a data quality monitoring dashboard . This dashboard gives a summary of the work done and the errors made by team and by interviewer. For all the shortcomings observed, clarifications and instructions were provided to the interviewers and team leaders so that they could henceforth complete the forms correctly.

X. DATA MANAGMENT

Tablets were used to facilitate information collection and ensure data quality. The forms, once verified and validated by the team leaders, are sent to Helen Keller Intl 's ONA server . These data, once concatenated, were verified by the VAS coordination team . The VAS coordination team produced and updated the data quality monitoring dashboard shared on the platform on a daily basis. The main indicators monitored are:

- The completeness of the count;

- Target coverage;
- The time taken to investigate a target;
- The time taken to control an interview by team leaders;
- The (suspected intentional) misuse of a modality by investigators;
- The consistency of the values entered (outliers, use of "other" modalities often linked to a misunderstanding of the modalities, etc.)
- Team progress
- Etc.

Thus, each interviewer was able to become aware of his errors and to be able to correct them. This helped correct inconsistencies found while the teams were still in the field.

Team leaders and supervisors have relied heavily on the Quality Monitoring Dashboard to guide interviewers .

XI. DATA PROCESSING AND ANALYSIS, DRAFTING OF THE FINAL REPORT

Intl 's ONA server served as the data storage location during field collection. After collection, the data was exported in Excel format and then converted to STATA for processing and analysis.

Then, the data was cleared, a step that consists of verifying the completeness and consistency of the data. For the inconsistencies observed, the appropriate corrections were made before calculating the weighting coefficient and the various indicators.

The weighting coefficient was calculated as follows:

$Pond\acute{e}ration\ d'\acute{e}chantillonnage\ pour\ le\ r\acute{e}pondant\ i$ **= 1/ (Probability of cluster selection x Probability of household draw from cluster)**

Probability that the cluster has been selected = number of selected clusters in the stratum / total number of clusters in the stratum;

Probability that the household was selected = number of eligible households selected in the cluster / total number of eligible households in the cluster;

The various tables of the analysis report were generated from these cleared bases and containing the weighting coefficients.

XII. ENCOUNTERED DIFFICULTIES

The main difficulties encountered during data collection are:

- Inadequate supply of stand-alone device for charging tablets (car chargers, converters, Power Back strips) ;

- Difficult access to clusters (road conditions) during the winter period
- Unavailability of some households occupied by field work;
- Displacement of the population of certain farming hamlets: case of Ingara (Diabiba)
- Poor internet network coverage or absence to send data;
- The distance between the localities of a single cluster which slowed the progress of some teams;
- Health cards are not available for most children.
- The obsoleteness of the cluster maps (not does not accurately reflect the current physical situation of the cluster).

XIII. HOUSEHOLD SURVEY RESULTS

1. CHARACTERISTICS OF THE POPULATIONS SURVEYED

The survey covered 1,695 households. Analysis of the survey results shows a predominance of females among respondents. 79.7% (95% CI: [77.6,81.7]) of respondents to the various questions asked by interviewers during the survey are female. This predominance of female respondents is also seen in the different strata of the study (78.3% in the Helen Keller zone and 81.6% in the non-Helen Keller zone).

Depending on the place of residence of respondents, there is a strong predominance of those who live in rural areas. Indeed, in the entire study area, the proportion of households living in rural areas is 65.2% ([62.9,67.3]). This proportion is more marked in the Helen Keller area (84.4%, CI [82.3,86.3). In contrast to the Helen Keller area where there is a majority of surveyed households living in rural areas, in the non-Helen Keller area, most of the households surveyed are found in urban areas (60.7%, CI [57.4,63.8]). This is due to the weight of the Bamako region, which is exclusively urban, in the sample of the second stratum (non-Helen Keller zone). Indeed, 25% of the households surveyed are located in Bamako (429/1695).

The analysis according to the level of education of the respondents shows that nearly half of the respondents have no schooling. Only 4.5% of these have a higher level.

In relation to the age of the respondents, we note that the majority of the respondents are under 45 years old. Nearly 8 respondents out of 10 belong to the class of those under 45 years old.

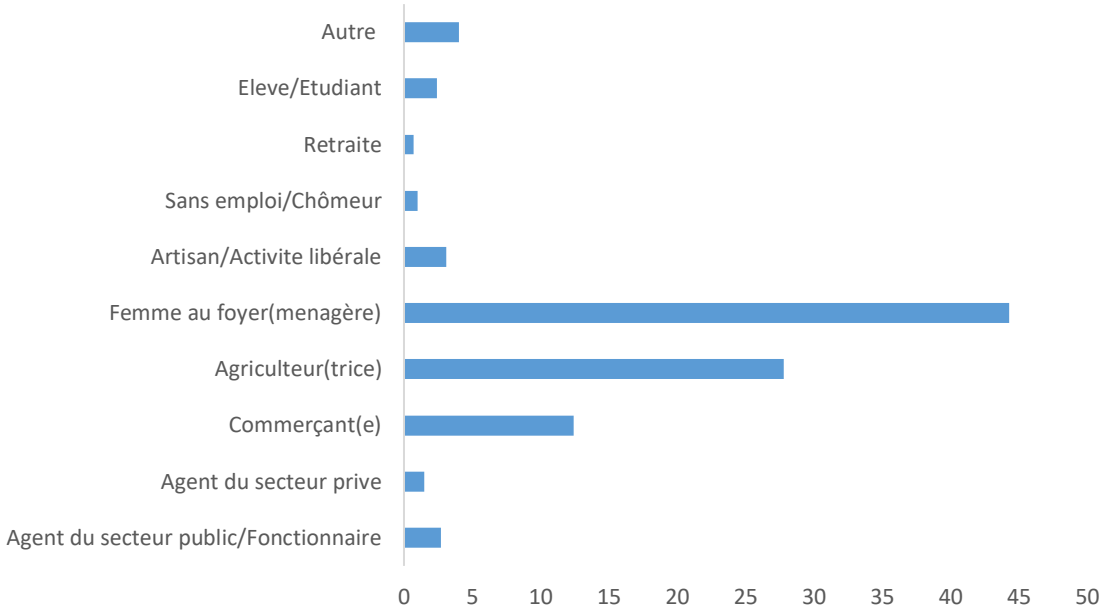
Picture2 : area of residence, level of education and age group of respondents

	Area Helen Keller	Non-Helen Keller Area	Together
Respondent 's sex			
Male	21.7	18.4	**20.3**
Feminine	78.3	81.6	**79.7**
Total	100	100	**100**
environment			
rural	84.4	39.3	**65.2**
urban	15.6	60.7	**34.8**
Total	100	100	**100**
Level education school			
Not in school	52.8	44.4	**49.2**
Literacy	3.4	6.1	**4.5**
Koranic school	15	9.8	**12.8**
Primary (Fundamental school)	18.5	17.1	**17.9**
Secondary	7.8	15.5	**11.1**
Superior	2.5	7.2	**4.5**
Total	100	100	**100**
Category age of surveys			

Under 30 _	36.3	39	**37.5**
30-44 years old	41.7	42.4	**42**
45-59 years old	15.9	13.1	**14.7**
60 and over	6	5.4	**5.8**
Total	100	100	**100**

Concerning the main activity of the respondents, it appears that approximately five out of ten (44.3%) are housewives. We also note a significant proportion (27.8%) of respondents who work in the agricultural sector.

Graph 1: occupation of respondents (%)



Regarding the economic well-being of households, it is calculated on the basis of an index called household wealth quintile. This indicator is constructed from data collected on household assets and using principal component analysis. Information on household goods concerns the possession by households of certain consumer goods such as television, radio or car. This information also covered certain characteristics of the dwelling such as the availability of electricity, the source of water supply, the type of toilet mainly used, the material of the flooring and the fuel used for cooking.

Households are grouped into quintiles of standard of living, each quintile corresponding to a level ranging from 1 (the lowest) to 5 (the highest).

Thus, nearly half of the population of the study area is at the level of the two middle and poor classes of the wealth quintile, about 27.8% in the poor class and 21.1% in the middle class. This situation varies greatly according to the strata. Indeed, more than 30.3% of the population

of stratum 2 (non-Helen Keller zone) containing the Bamako district (the capital of Mali) is at the level of the most affluent class (very rich).

Table 3: distribution (%) of the population according to quintile of household economic well-being

wealth level	Rural	urban	Area Helen Keller	Non-Helen Keller Area	Together
Poorer _	23.3	0.5	19.7	9.5	15.4
Poor	40.7	3.6	32.4	21.6	27.8
Medium	24.4	15.1	25	16	21.1
Rich	9.5	35.5	15.6	22.6	18.5
very rich	2.1	45.3	7.4	30.3	17.2
Total	100	100	100	100	100

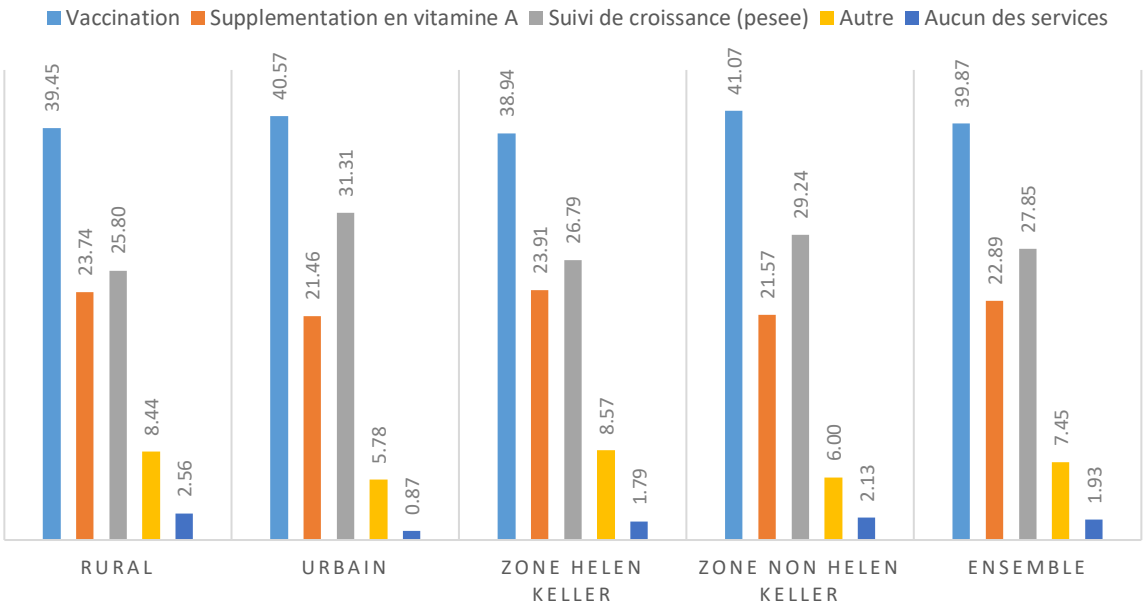
During this survey, questions were asked to households to find out if they took their children to health facilities during the year. Analysis of the responses received shows that nearly nine out of ten households (84.3%) took their children to the health centers during this year.

Table 4: Proportion of households that brought their children to health facilities (%)

Usual places of medical care	rural	urban	Area Helen Keller	Non-Helen Keller Area	Together
Public health center	84.4	84.1	81.3	88.3	84.3
health center private	8.4	13.6	9.8	10.8	10.2
Pharmacy	0	0.2	0.1	0	0.1
Traditional healer	1.4	0.7	1.5	0.7	1.1
Others	5.8	1.3	7.3	0.2	4.3
Total	100	100	100	100	100

Among the services sought by households at the level of health facilities, we mainly retain vaccination (39.87%), growth monitoring (27.85%) and vitamin A supplementation (22.89%) with some variations according to the strata.

Graph 2: services sought by households from health facilities (%)



2. CHARACTERISTICS OF THE CHILDREN SURVEYED IN THE STRATA

All children encountered in the 1695 households surveyed were included in this study. A total of 4271 children were involved in the study. Of these, 2853 are located in rural areas (66.8%) against 1418 in urban areas (33.2%).

Table 5: Distribution of children surveyed

Children 6-59 months investigated	Rural		Urban		Area Helen Keller		Non-Helen Keller area		Total	
	Del	prop%	Del	prop%	Del	prop%	Del	prop%	Del	prop%
Number of Children 6-59 months	2853	66.8	1418	33.2	2083	48.8	2188	51.2	4271	100

The results of the PECS survey show that more than 70% of children are between 24 and 59 months old. Overall, by sex, 50.8% of these children are male.

Table 6: distribution of target children by gender and age group

Children's age range	Rural	Urban	Area Helen Keller	Non-Helen Keller Area	Total
[6-11 months]	9	8.2	9.1	8.5	8.8
[12-23 months]	19.8	22.3	19.9	20.7	20.3
[24-59 months]	71.2	69.5	71	70.7	70.9
Total	100	100	100	100	100
Child's gender					

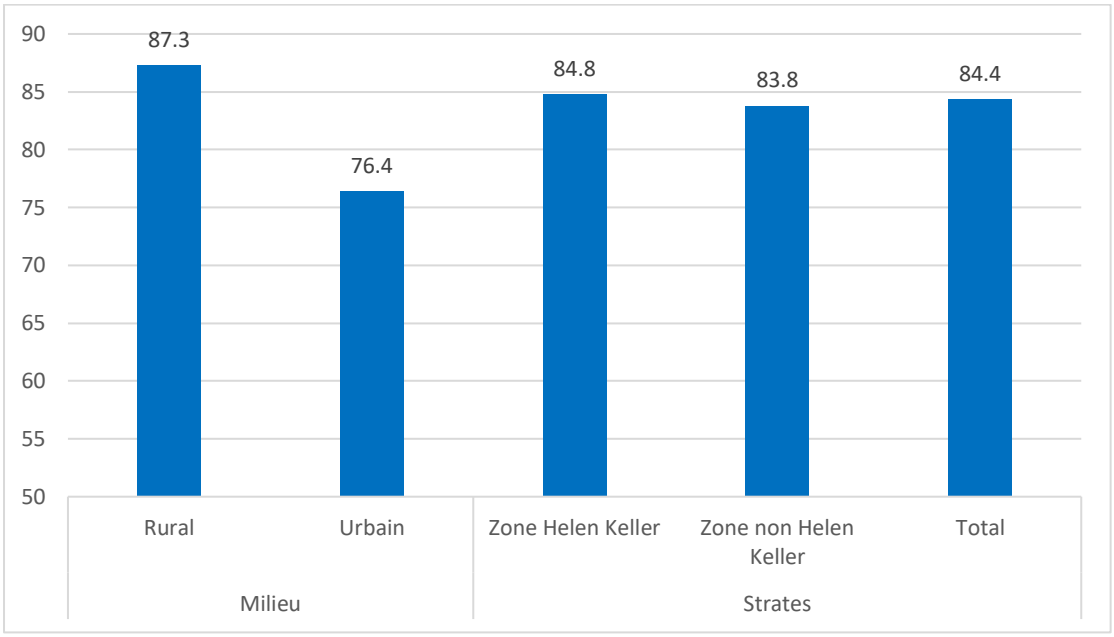
Male	50.8	54.7	51.9	51.7	51.8
Feminine	49.2	45.3	48.1	48.3	48.2
Total	100	100	100	100	100

3. VITAMIN A POST-CAMPAIGN COVERAGE (84.4% [83.2-85.5], N=4271)

One of the main objectives of this survey is to assess the coverage of vitamin A supplementation. Thus, the results show that slightly more than eight out of ten children (84.4%, CI [83.2,85.5]) were supplemented with vitamin A. this proportion varies according to the strata. It is 84.8% ([83.2,86.3]) in the Helen Keller zone and 83.8% ([82.1,85.3) in the non-Helen Keller zone.

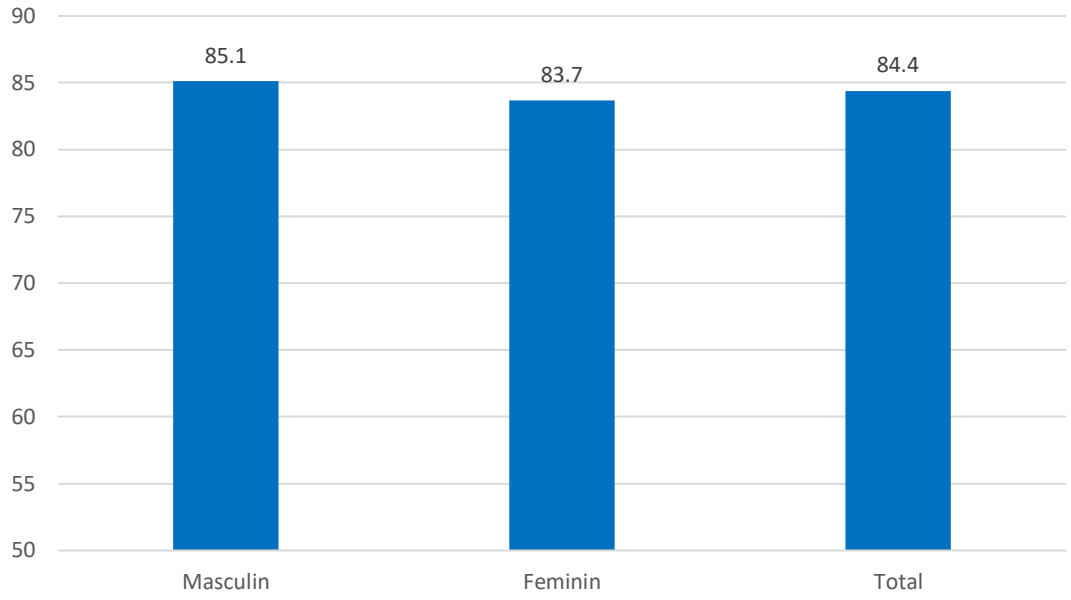
Depending on the place of residence of households, there is a difference in the proportions of children supplemented with vitamin A. Indeed, the proportion of children who received vitamin A is 87.3% ([85.9-88 .5]) in rural areas against 76.4% ([74.1-78.6]) in urban areas. This difference is significant at the 5% level with regard to the chi2 comparison test (P-value= 0.000). This means that there is a link between the place of residence and vitamin A supplementation.

Graph 3: Vitamin A supplementation coverage by stratum and by environment (%)



Regarding supplementation by gender, there is a slight difference in the coverage of vitamin A supplementation is similar in male children (85.1%) and female children (83.1%). 7%). But this difference is not significant in the statistical sense of the term (P-value= 0.474).

Graph 4: Vitamin A supplementation coverage by sex of child



Regarding the age groups of children, the coverage of vitamin A supplementation varies little. It is 87.5% for children aged 24 to 59 months, stands at 87.6% for those in the 12 to 23 month bracket, and is around 83% for 6-11 month olds. . The difference in proportion is not statistically significant (P-value= 0.453).

Table 7: Vitamin A supplementation coverage by child age group

Children's age range	Rural	Urban	Area Helen Keller	Non-Helen Keller Area	Total
[6-11 months]	84.4	73.9	78.4	88.9	82.7
[12-23 months]	87.9	85.8	85.5	90.2	87.6
[24-59 months]	89.3	78.9	86.4	89.1	87.5

The analysis of vitamin A supplementation coverage according to the household wealth index shows that households belonging to the very poor and poor classes have a slightly higher coverage rate than those in the rich and very poor classes. rich. However, this difference is not significant (P-value= 0.084).

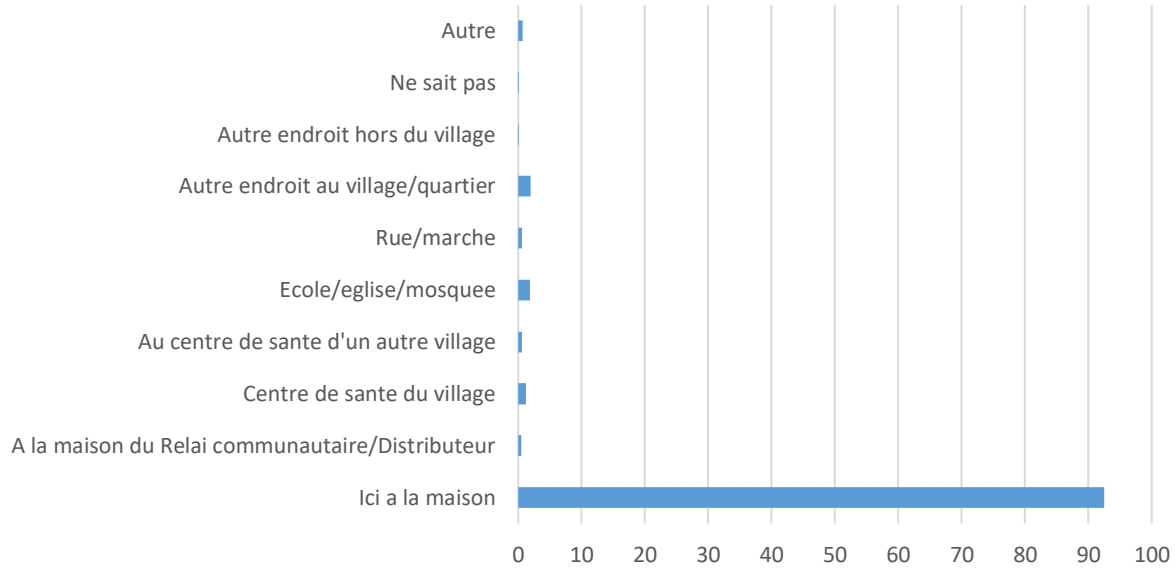
A Analysis of the coverage of vitamin A supplementation according to the level of school education of the respondent also highlights a difference in the level of coverage rates between school levels. And this difference is significant at the 5% level (P-value= 0.000). There is therefore a link between the level of school education of the respondent and vitamin A supplementation.

Table 8: Vitamin A supplementation coverage by wealth index and school level

	Nope	Yes	DK	Total
Household Wealth Index				
very poor	10.3	87.3	2.4	100
Poor	11.2	87.8	1	100
Medium	10.8	86.6	2.6	100
Rich	18.8	78.8	2.4	100
Very rich	24.3	73.9	1.9	100
Total	13.7	84.4	1.9	100
Level education school				
Not in school	12.7	85	2.3	100
Literacy	10.2	88.2	1.6	100
Koranic school	11.9	86.3	1.8	100
Primary (				
Fundamental school)	12.7	85.7	1.6	100
Secondary	18.6	80.8	0.5	100
Superior	36.8	61.9	1.3	100
Total	13.7	84.4	1.9	100

Compared to the place where children received vitamin A, it appears that the main place of supplementation for children is their home (92.5%). Only 2% who received vitamin A at another location either in the village or outside the village.

Graph 5: Place of reception of vitamin A (in %)



According to the results of the survey, several reasons are at the root of the lack of vitamin A supplementation of certain children. The main reason for not supplementing is the fact that the distributing agents did not pass 51.9% (95% CI: [47.6-56.1]). The absence of the child at the time of their visit (18.4%) is the second reason for non-supplementation cited by the respondents.

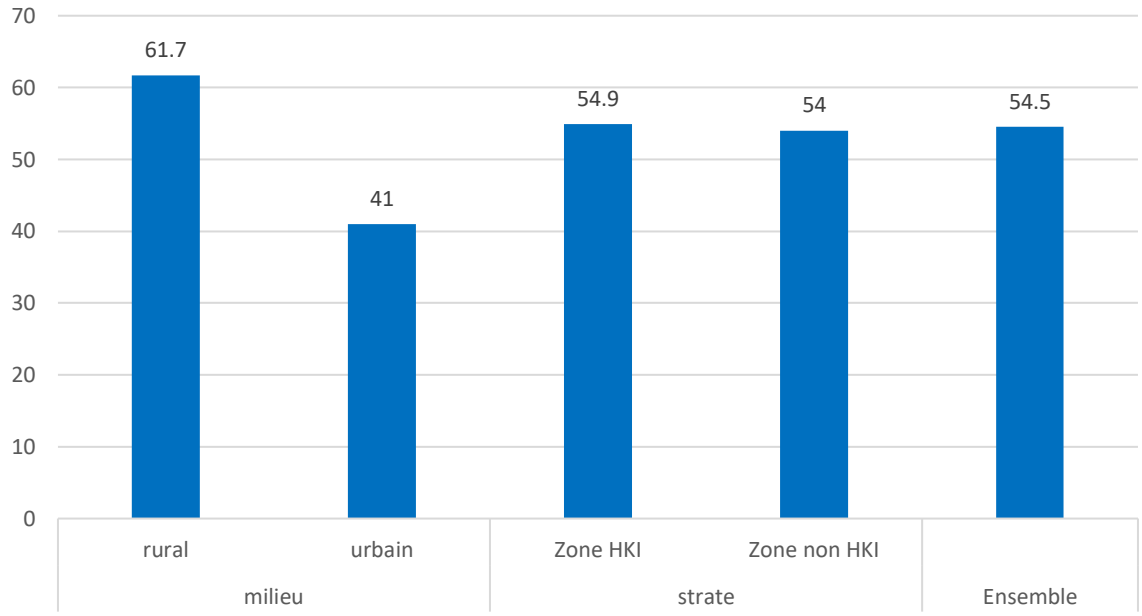
Table 9: Reason for not supplementing with vitamin A by stratum (in %)

Reasons for non-reception of vitamin A	Rural	Urban	Area Helen Keller	Non-Helen Keller area	Total
the child was away	22.6	13	20	16.5	18.4
The agents did not come	54.9	47.9	55.5	47.3	51.9
Agents no longer ironed	1.2	2.3	2.2	1	1.7
Not informed	5.3	15	5.3	14.7	9.5
the child was sick	0.5	0	0	0.6	0.3
Refusal	2.4	10	2.9	9.3	5.8
Don't know/Don't remember	9.4	6.5	10.3	5.3	8.1
Other	3.7	5.3	3.7	5.2	4.4
Total	100	100	100	100	100

4. CAMPAIGN COMMUNICATION STRATEGY

The communication strategy of the campaign is very important in the success of this one. In the study area as a whole, most households (54.5%) received information about the campaign. Just over 6 out of 10 households said they were informed about the campaign in rural areas. This is the area where the information was disseminated the most, unlike the urban area where the information reached less than half of the households (41%).

Graph 6: Proportion of households informed of the campaign before its start (in %) by stratum



Regarding the means used for communication, it appears that mobilizers (28.6%), radio (27.9%) and health workers (21.7%) were the most used. The main source of information in rural areas is the mobilizers (35.2%), while in urban areas it is the radio (38.1%).

Table 10: Campaign Information Channels

source of information	rural	urban	Area Helen Keller	Non-Helen Keller Area	Together
Criers public	17.2	11.1	18.2	12	15.6
Mobilizers	35.2	10.2	31.1	25.2	28.6
Health workers	21.3	22.9	19.4	24.9	21.7
CSA	8.8	0.5	6.2	7.2	6.6
Voluntary	2.5	1.3	2.3	2	2.2
word of mouth	5.9	6	6.7	4.9	5.9
No one in the household	1.9	2.5	2.4	1.6	2.1
neighborhood	3	7.6	3.2	5.6	4.2
radio stations	24.2	38.1	24.5	32.4	27.9
Television	2.5	40	6.5	20.2	12.3
Posters	0	0.3	0.1	0	0.1
Opinion leaders	1.8	1.5	2.1	1.3	1.7
Other	4.6	1.3	3.6	4	3.8

5. LEVEL OF HOUSEHOLD KNOWLEDGE ON VITAMIN A

During the interview in the households, the interviewers presented the respondents with samples of vitamin A in order to measure the level of knowledge of the households on these products. It was asked to the latter, on presentation of the investigators, if they know this product (vitamin A).

Thus, it emerges from the analysis of the data from this survey that nearly 9 out of 10 respondents recognized vitamin A (86.2%). This statistic is slightly higher in rural areas than in urban areas.

Table 11: proportion of households that know the products (on presentation by the interviewers) by area

Products	Rural environment	Urban	Together
Vitamin A	87.2	84.3	86.2

Households' level of vitamin A knowledge is also captured through their vitamin A knowledge index. The household vitamin A knowledge index is an indicator calculated from several variables relating to the role of vitamin A, the dosages, the frequencies of taking this product,

etc. The index capitalizes an overall value of 100 points. A value close to 100 obtained by a household reflects a good knowledge by the latter of vitamin A. The results of this index are recorded in table N°11 below. Analysis of this table shows that households do not have a good knowledge of vitamin A. Indeed, 98.6% of them have a vitamin A knowledge index of less than or equal to 50 (low level).). Very few households have an index between 50 and 75 (average level), 2.3% in urban areas against 0.9% in rural areas. This difference in the level of the household knowledge index according to place of residence is significant (P-value= 0.022) at the 5% level .

Table 12: index of household knowledge of vitamin A

Knowledge Index _	rural	urban	Area Helen Keller	Non-Helen Keller Area	Together
Inferior Where equal to 50	99.1	97.7	98.9	98.3	98.6
Between 50 and 75	0.9	2.3	1.1	1.7	1.4
Total	100	100	100	100	100

6. QUALITY CONTROL DURING DATA COLLECTION

Monitoring of the quality of the survey data was carried out to measure the errors of assessment of vitamin A supplementation coverage for children aged 6-59 months during the November campaign in the survey areas. Like close supervision, the quality assurance system was set up through the regular processing of data sent to the server and a data quality control form developed to be completed by supervisors. The supervisors are the executives of the SDN, INSAT, independent consultant supervisors and Helen Keller in charge of the survey and the consultants recruited to carry out the survey.

Overall, this quality assurance takes into account:

- The quality of the investigators;
- Field supervision and quality control of filling in questionnaires;
- Verification of the entry;
- Monitoring of all operations by submitting a report at the end of each day during data collection.

The approach adopted for data quality control consists of surveying 10% of households already surveyed by the interviewers, chosen at random. The interviews were conducted by the supervisors using an abbreviated questionnaire to collect information allowing verification, in particular the number of eligible children per household, age, vitamin A coverage. The responses of the households from the first interview are then compared with those of the second interview carried out by the supervisor.

It should be noted that although the methodology provides for the quality control of the household questionnaire to be carried out by the supervisors in 10% of the sample, the recommendation was made to carry out this control on 20% of the sample (1694 households). , or 339 households for this study.

Table 13: Number of questionnaires planned

No.	Questionnaire type	Investigators	Supervisors
1	Household questionnaires	1694	339

a. Sample coverage

The planned sample size for this survey was 1694 households. It finally covered 1,695 households, i.e. a coverage rate of 100.1%. This had an impact on the supervision which should cover 20% of 1694 households. In addition to this fact, the supervisors also surveyed more households than expected. Indeed, the supervision coverage rate, which should cover 20% of 1,694 households, finally reached 24.67% of the sample. These two factors combined explain the fact that the supervision coverage rate stood at 123.3%.

Table 14: Collection coverage

No.	Questionnaire type	Expected number	Number filled	Coverage
1	Household questionnaires	1694	1695	100.1%
2	Supervisor questionnaires	339	418	123.3%

b. Comparison of investigator and supervisor interviews

To assess the quality of the survey data, certain key variables were defined. It is on these variables that information was collected to serve as a comparison. The results of the comparisons made are presented in the following points.

c. Number of children 6-59 months

Overall, the proportion of households where the number of children recorded by enumerators and supervisors coincides is about 83.1% of households checked. This means that in 83.1% of households, the same number of children aged 6 to 59 months was found by interviewers and supervisors. However, in more than 16.8% of the households, the number of children entered by the interviewers was different from that entered by the supervisors. This difference could come from determining the ages of children aged 6 to 59 months or explaining the concept of the household.

Table 15: Number of children aged 6-59 months

	Effective	Percentage
Same value	345	83.1
Different	70	16.8
Total	415	**100**

d. Child's gender

As for the sex of the child, the difference is not great. It is 6.3 percentage points. This means that in 6.3% of cases the sex reported by the interviewer does not agree with that reported by the supervisor. Since the question of sex is an observation, the difference could come from the level of data entry on the tablets.

Table 16: Sex of child

	Effective	Percentage
Same value	164	93.7
Different	11	6.3
Total	**175**	**100**

e. Child's age

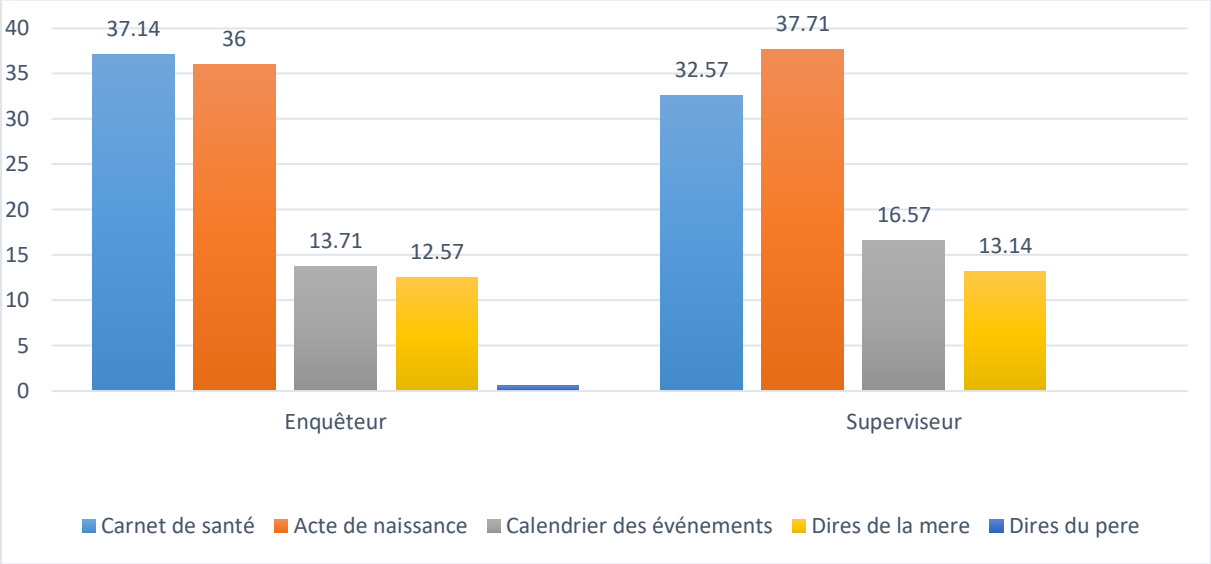
The principle of age determination tolerates a margin of +/- 1 month. Therefore, the difference is only considered for cases exceeding +/- 1 month. Despite this, the differences observed are relatively large (18.84%).

Table 17: Sex of child

	Effective	Percentage
Same value	56	81.2
Different	13	18.8
Total	**69**	**100**

With regard to the source of information on age, it can be seen that the means used are almost the same. The majority source of information on age is the health record (37.14%) among the interviewers. Among supervisors, the main source of information on age is the birth certificate (37.71%).

Chart 7: Source of age information (%)



f. Vitamin A supplementation

The difference in vitamin A coverage is 5.71%. This difference stems from age determination. Indeed, a poor assessment of age leads to questions relating to a service being asked when the child is not eligible for it.

Table 18: Vitamin A coverage

	Effective	Percentage
Reception according to the interviewer		
Nope	37	21.1
Yes	134	76.6
Do not know	4	2.3
Total	175	100
Reception according to supervisor		
Nope	34	19.4
Yes	137	78.3
Do not know	4	2.3
Total	175	100
Difference in Vitamin A coverage		
Same value	73	94.3
Different	6	5.7
Total	79	100

The quality control of the data made it possible to identify several weaknesses, some of which have already been corrected in the field due to the real-time control of the data and for others to the processing of the data. This situation is the subject of recommendations for future operations.

XIV. HEALTH WORKER SURVEY RESULTS

1. SAMPLE DESCRIPTION

The health worker survey globally reached 146 health workers who actively participated in the previous campaign. Among these health workers, 95.9% belong to the CSCOMs.

Also, we note that the sample of health workers is made up of 71.9% men.

Regarding the functions of these agents in their respective structures, it appears that 23.97% are either nurses. Chief physicians represent 31.5% of the health workers surveyed.

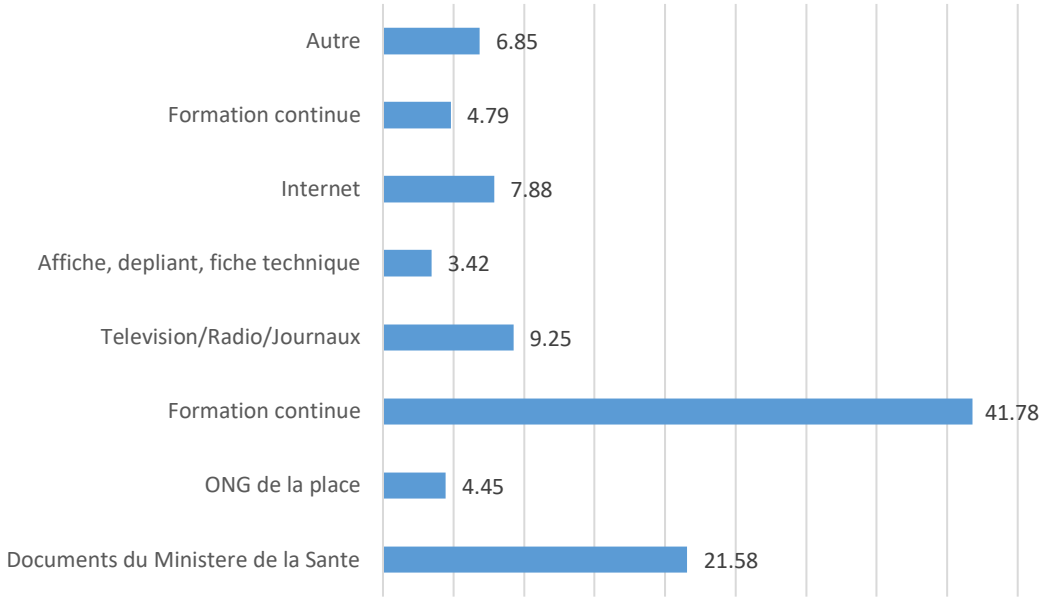
Table 19: characteristics of health workers surveyed

Type of health facility	Rural	Urban	Area Helen Keller	Non-Helen Keller Area	Total
CSCOM	94.38	98.25	94.37	97.33	95.9
CSREF	1.12	1.75	1.41	1.33	1.4
Rural dispensary	4.49		4.23	1.33	2.7
Total	100	100	100	100	100
Child's gender					
Male	76.4	64.91	67.61	76.0	71.9
Feminine	23.6	35.09	32.39	24.0	28.1
Total	100	100	100	100	100
Function					
Doctor	19.10	50.88	28.17	34.67	31.51
Nurse _ _	25.85	21.05	22.54	25.33	23.97
Midwife	1.12	3.51	2.82	1.33	2.05
senior health technician	21.35	19.30	30.99	10.67	20.55
Social worker	3.37	0.00	0.00	4.00	2.05
Other (explain, list	29.21	5.26	15.49	24.00	19.86
Total	100	100	100	100	100

2. KNOWLEDGE OF HEALTH WORKERS ON VITAMIN A

Several sources of information on vitamin A exist. But the sources most cited by health workers are “continuing education” and “Documents from the Ministry of Health”. Indeed, more than 4 out of 10 health workers affirmed having had information on vitamin A through continuous training, while 21.58% of them affirmed that it was through the documents of the Ministry of Health that they have acquired the information relating to vitamin A.

Chart 8: Sources of health worker information on vitamin A



3. HEALTH WORKER KNOWLEDGE INDEX ON VITAMIN A

To measure the level of knowledge of health workers, an index called the knowledge index of health workers on vitamin A was calculated. This index is an indicator calculated from several variables relating to the roles of products, dosages , product picking frequencies etc. The index capitalizes an overall value of 100 points. A value close to 100 obtained by a health worker reflects a good knowledge by the latter of vitamin A.

Analysis of the results of this index shows that the vast majority of health workers have a good knowledge of vitamin A. Just over 7 out of 10 workers obtained a score between 50 and 75 points.

Table 20: level of knowledge of health workers on vitamin A

	Inferior Where equal to 50	Between 50 and 75	Over 75
Type of health facility			
CSCOM	17.9	72.1	10
CSREF	0	50	50
Rural dispensary	50	50	0
Total	18.5	71.2	10.3
Environment			
rural	20.2	69.7	10.1
urban	15.8	73.7	10.5
Total	18.5	71.2	10.3
Stratum			
Area Helen Keller	19.7	66.2	14.1
Non-Helen Keller Area	17.3	76	6.7
Total	18.5	71.2	10.3

4. QUALITY OF IMPLEMENTATION OF CAMPAIGN ACTIVITIES

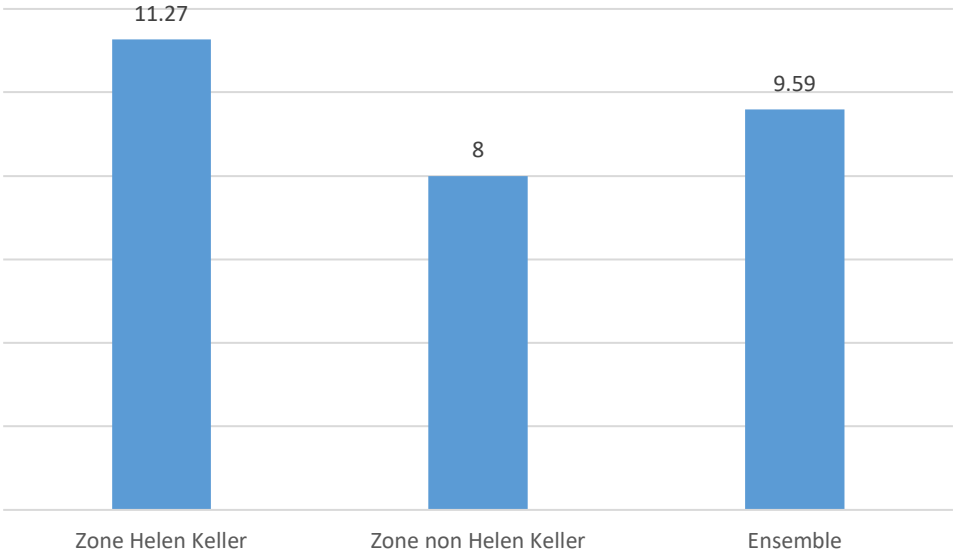
Regarding the role played by health workers during the campaign preceding the survey, we note that most of them assumed the role of supervisor (79.5%).

Table 21: roles played by health workers during the campaign

	Area Helen Keller	Non-Helen Keller Area	Together
Mobilization social	7	4	5.5
Distribution of Vit A	8.5	17.3	13
Supervisor	85.9	73.3	79.5
Malnutrition screening	1.4	0	0.7
Other	9.9	12	11

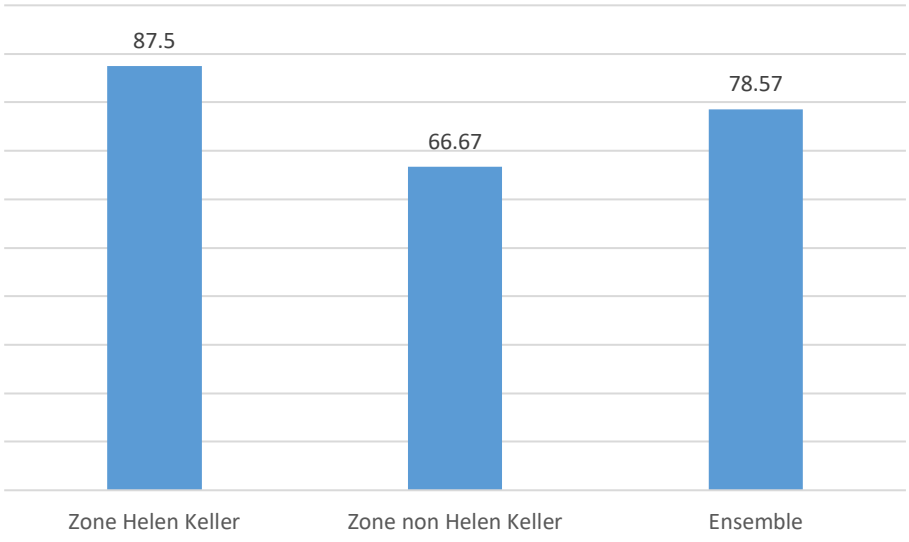
Overall, few health workers reported having had problems with the supply of vitamin A. Indeed, only 1 in 10 workers reported a problem with the supply of vitamin A.

Graph 9: Proportion of health workers who experienced commodity supply problems



In the case of agents who reported vitamin A supply problems, the results of the survey show that, in nearly 80% of cases, these problems were resolved. According to the strata, this proportion is higher in the Hellen Keller zone. In fact, unlike the other zones, vitamin A supply problems have been solved the most in the Helen Keller zone (87.5% against 66.67%).

Graph 10: Proportion of health workers surveyed who think that the problems encountered have been solved



XV. RESULTS OF THE SURVEY OF COMMUNITY RELAYS

The survey of community relays involved 137 relays in total, of which 80% were men and 20% women. With regard to the level of education, we note that the majority of these relays have either a primary level (43.07%).

Table 22: characteristics of community relays

	Area Helen Keller	Non-Helen Keller Area	Together
Sex			
Male	80	68.06	73.72
Feminine	20	31.94	26.28
Total	100	100	100
Educational level			
Unschooled	26.15	18.06	21.9
Primary	36.92	48.61	43.07
1st cycle secondary	20	27.78	24.09
2nd cycle secondary	15.38	4.17	9.49
Superior	1.54	1.39	1.46
Total	100	100	100

1. KNOWLEDGE OF COMMUNITY RELAYS ON VITAMIN A

Like the health workers, an index of the level of knowledge was calculated for the community relays. This index is calculated in the same way as for health workers.

Thus, more than 64.96% of community relays obtained a score between 50 and 75 points. According to the level of education of the community relays, we find that those with a higher level of education all have a very good knowledge of vitamin A. In terms of sex, it should be noted that no community relay of sex female interviewee obtained a score less than or equal to 50.

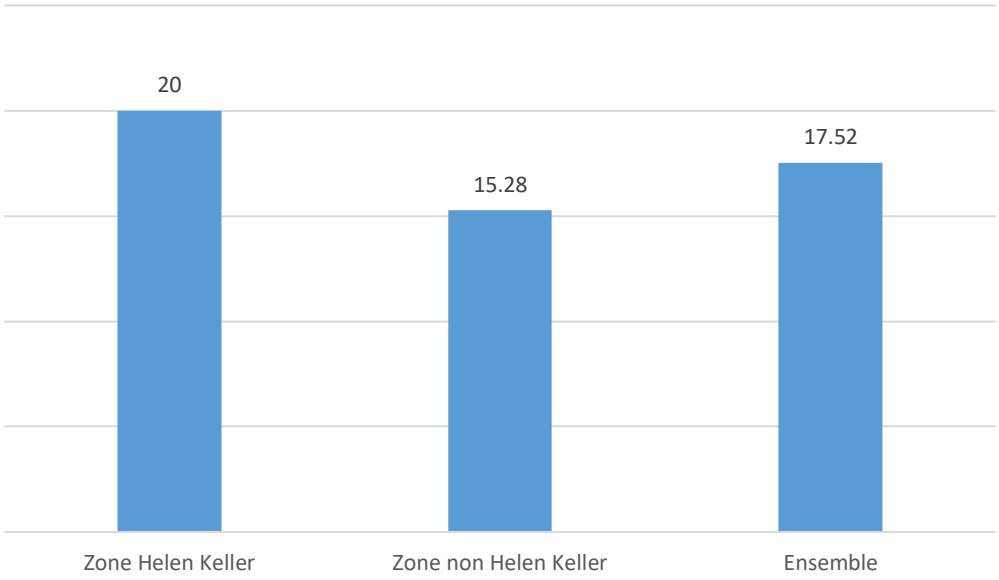
Table 23: level of knowledge of community relays on vitamin A

	Inferior Where equal to 50	Between 50 and 75	Over 75
Sex			
Male	14.85	58.42	26.73
Feminine	0	83.33	16.67
Educational level			
Unschooled	13.33	63.33	23.33
Primary	11.86	66.1	22.03
1st cycle secondary	9.09	72.73	18.18
2nd cycle secondary	7.69	53.85	38.46
Superior	0	0	100
Together	10.95	64.96	24.09

2. CAMPAIGN IMPLEMENTATION

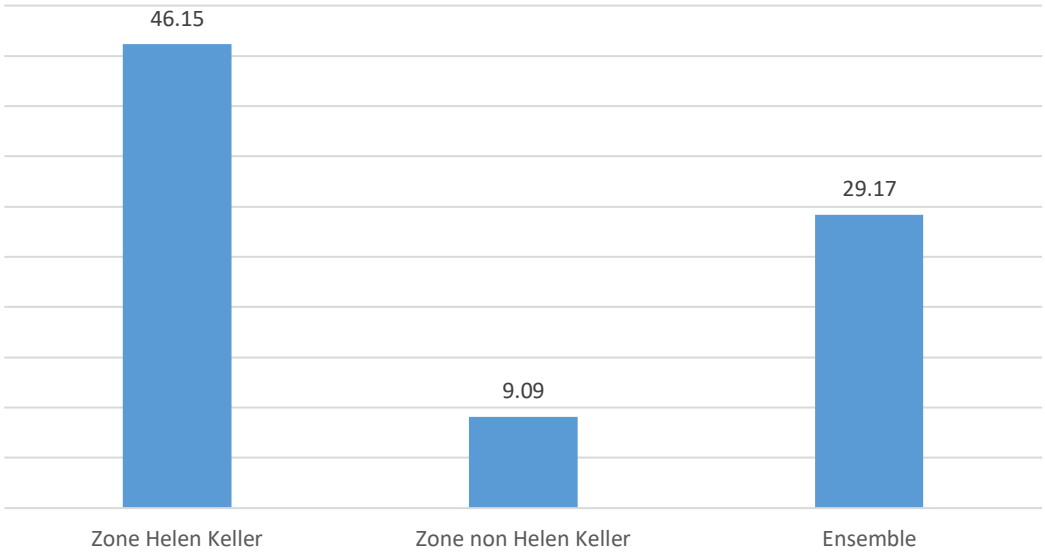
survey , some community relays reported having encountered vitamin A supply problems. against 15.28% in the other zones.

Graph 11: proportion of community relays who encountered product supply problems during the campaign



With regard to the resolution of the problems encountered, more than 29.17% of the community relays affirmed that the problems encountered in the supply of vitamin A have been resolved. The Helen Keller zone is the one with the highest rate of solved supply problems (46.15%).

Graph 12: Proportion of community relays who think that the problems encountered were solved



XVI. DISCUSSION OF RESULTS

The overall coverage of Vitamin A supplementation is 84.4% [83.2-85.5] . The link of this coverage with the socio-demographic characteristics of children whose sex and age groups (6-11 months; 12-23 months; 24-59 months) is not statistically significant at the 5% level with a P-value respectively of p=0.474 and p= 0.453 . However, the cross-analysis with the place of residence is statistically significant (P-value= 0.000) at the 5% threshold, there is a link between vitamin A supplementation and the child's place of residence. Indeed, vitamin A supplementation coverage is higher in rural areas (87.3%) than in urban areas (76.4%). Also, cross-analysis shows that there is no statistically significant relationship between vitamin A coverage, wealth quintile (P-value= 0.084) and parental education level.

It is important to strengthen the existing strategies on vitamin A supplementation, especially in urban areas, in order to come closer to the objective of the campaign. The results could be improved by ensuring strict compliance with the door-to-door strategy and monitoring of product intake. Also, distributors should absolutely be instructed on the importance of making revisits in order to reach the maximum number of children possible, especially in urban areas, and manage refusals in rural areas. Also, it would be necessary to insist on the communication of the benefits of vitamin A by the distributors, this could make it possible to avoid cases of refusal which are often due to the lack of explanations on the product.

According to the administrative sources of the Ministry of Health and Social Affairs , the results of the first round 2021 campaign in Mali, the coverage for the whole country of vitamin A

supplementation is 85%. Focusing on the regions that make up the strata covered by this evaluation, it appears that at the level of the regions that make up Stratum 1 Kayes, Ségou and Koulikoro (Helen Keller INTL zones) the coverage of the VAS is respectively 94%, 90%, 95%, whereas according to the study the overall coverage of Vitamin A supplementation is 84.8 % ([83.2,86.3]) at the level of this stratum. For Stratum 2 (Sikasso and the district of Bamako) the administrative coverage is 80% in each of the regions and 83.8% ([82.1,85.3) according to the evaluation. Stratum 2 is essentially made up of the urban area of Bamako where accessibility to households is a real problem and visits are not carried out during the campaigns.

Compared to the knowledge of health workers and community relays on vitamin A, the calculated knowledge index highlights the need for continuous capacity building of these workers. Ideally, all health workers and relays should obtain 100 points out of 100 for this index. However, a little more than 7 out of 10 agents obtained a score between 50 and 75 points and more than 64.96% of community relays obtained a score between 50 and 75 points.

With regard to the campaign's communication strategy , the information reached about a little more than five out of ten households (54.5%) and this did not differ according to the strata (54.1%% in the stratum 1 against 54% in stratum 2). We note the existence of a difference in reception of prior information between places of residence (61.6% in rural areas and 41% in urban areas). Regarding the means used for communication, it appears that mobilizers (28.6%), radio (27.9%) and health workers (21.7%) were the most used. The main source of information in rural areas is the mobilizers (35.2%), while in urban areas it is the radio (38.1%).

However, the survey revealed that many distributors do not communicate the benefits of vitamin A to households. Analysis of this table shows that households do not have a good knowledge of vitamin A. Indeed, 98.6% of them have a vitamin A knowledge index of less than or equal to 50 (low level).). Very few households have an index between 50 and 75 (average level), 2.3% in urban areas against 0.9% in rural areas. This difference in the level of the household knowledge index according to place of residence is significant (P-value= 0.022) at the 5% level .

XVII. CONCLUSION AND RECOMMENDATIONS

In general, the coverage survey made it possible to assess the past campaign in accordance with the objectives set for the majority of regions but also by place of residence. The analysis of the characteristics of the respondents showed that the majority of the people in charge of the children surveyed are women. To get the best information about the child, it was recommended to interview the child's guardian. This made it possible to have quality information on the children eligible for the survey.
Analyzes of data from the survey showed that for the entire study area, the proportion of supplemented children exceeds 80%, which was the target rate during the campaign. It was 84.4% for the whole (87.3% in rural areas and 76.4% in urban areas).

Comparative analyzes between the administrative coverage and those from the PECS survey showed that the PECS coverage is lower than the administrative coverage in the regions of Stratum 1 while it is higher than the administrative coverage in the administrative regions of stratum 2. The administrative coverages are outside the confidence interval calculated at the 95% threshold from the survey data. The difference observed between these coverage rates could be due to data on the number of target children estimated from census data who are susceptible to population movements, respondents' lack of memory, the interview of a person different from that which was with the child while taking vitamin A, sampling errors, under-reporting of data in stratum 2, etc.

In addition, during the same assessment, individual interviews were conducted with health workers and community distributors. As for the households, these interviews made it possible to measure their level of knowledge of vitamin A. According to these indices (Index of knowledge of health workers/CDs of vitamin A), knowledge of the products distributed is still limited. as health service providers.

To improve the quality of the service provided during future vitamin A administration campaigns, the analyzes carried out on the basis of the data collected from households, health workers, community distributors and administrative officials of the health system, have made it possible to formulate recommendations by level of involvement in the organization of the campaign. Some of these recommendations made in previous reports come up regularly, certainly because of their lack of application.

To the Direction of Nutrition:

- Carry out awareness campaigns on vitamin A supplementation in order to raise the level of knowledge of the populations on the inputs distributed. It is important to emphasize the existence of vitamin A supplementation to the child every 6 months;
- Reinforce the communication strategy during mass campaigns through an adequate choice of message transmission channels. Thus, favor communication through town criers and mobilizers in rural areas by intensifying radio and television releases in urban areas;
- Take advantage of the use of social networks with a focus on web-influencers, to inform and raise awareness about the VAS and program activities;
- Retrain health workers to improve their knowledge of VAS.

For Health Regions and Districts

- Retrain health workers to improve their knowledge of vitamin A;
- Ensure the recruitment of quality staff to ensure the distribution and supervision of activities;
- Ensure close monitoring of the training of health workers and community relays;
- Insist on briefing distributors every morning before the teams leave to improve interpersonal messages;
- Monitor social mobilization activities;
- Reinforce close supervision of teams during campaigns

For health structures

- Recruit quality staff to ensure the distribution and supervision of activities;
- Train community relays to improve their knowledge of vitamin A;
- Emphasize the importance of explaining to parents the roles of the products administered to their children when training distributors;
- Strengthen the capacities of distributors on determining the age of children from 6 to 59 months;
- Ensure the briefing of the distributors each morning before the exit of the teams to improve the interpersonal messages;
- Supervise the taking of products
- Enforce the door-to-door method and emphasize Vitamin A administration techniques;
- Ensure close supervision of distributors during vitamin A supplementation campaigns;

To HELEN KELLER INTERNATIONAL:

- Distribute the sample of the household collection quality control survey over the duration of the supervision in order to reach the expected number of interviews;
- The duration of supervision must be the same for all teams so that the number of households to be re-interviewed by supervision is reached;
- Reserve a significant time slot for training on the “age determination” module for both surveyors and supervisors;
- Increase the number of collection days so as not to rush the interviews
- Maintain this quality control survey practice.
- Ensure the effectiveness of training sessions for health workers and community relays on VAS;
- Organize the independent monitoring of all inputs during each campaign passage in order to make the campaigns effective;
- Ensure the implementation of inputs on time to avoid breaks;
- Strengthen the local supervision system for distributors during vitamin A supplementation campaigns ;
- Organize a national workshop to present the results of the PECS survey

XVIII. APPENDICES

A. CONSENT FORM

Date	
Region	
Health District	
Health area	
Town	
Household number	

Hello. My name is _____. We are from Helen Keller International – " *Helen Keller saves and improves the sight and lives of vulnerable people around the world by fighting the causes and consequences of blindness, ill health and malnutrition.* »

In collaboration with the Ministry of Health, we are researching health services in your community, especially vitamin A supplementation for children. We would like to ask you some questions about these health services. Are there children aged 6 months to 5 years in the household? Is the mother or primary caretaker of these children available? These questions should only take a short time (30 minutes maximum). By participating, you will provide valuable information on how to improve health services in your area. You are free to choose to participate or not. However, your opinion is very important in this study. Your answers will remain confidential. We do not collect any information that could identify you such as your name, address or telephone number.

At any time, you can change your mind and decide not to continue the discussion. In this case, the form concerning you will be automatically destroyed.

There is no risk in participating in this study except that you take some of your precious time to answer these few questions.

The data collected will only be handled by authorized persons (HELEN KELLER INTL, Ministry of Health) in addition to study participants and stored on machines whose access is secured by a password. All information obtained from questionnaires or interviews will be kept confidential for at least 3 years. At the end of the study, the database will be passed on to Helen Keller. Compensation in kind (candy and soap) is provided for each participant.

The data must be accessible to participants such as Law No 2013-015 of May 21, 2013 on the protection of personal data in the Republic of Mali stipulates.

For any questions, you can contact the principal investigator: Alkaya KOUNTA on 63 65 73 67 or Mrs Sidibé Diaba Camara - President of the INSP ethics committee on 66 76 63 37-Ethics committee secretariat: (add the number)

Do you want to participate Mr/Ms _____

I freely agree to participate in this study	I am not ready to participate in this study
☐	☐

or fingerprint of the respondent

Survey date: ___/ ___/ 2021

Surname and First name of the Investigator **Surname and First name of the Supervisor**

Signature Signature

B. CENSUS OF ELIGIBLE HOUSEHOLDS QUESTIONNAIRE

PECS SURVEY
HOUSEHOLD CENSUS FORM

HELEN KELLER INTL

The information contained in this questionnaire is confidential. They are covered by statistical confidentiality and can only be published in anonymous form in accordance with the 2013-015 of May 21, 2013 on the organization of the National Statistical System (Update according to the country).

TO READ AT THE SURVEY

Hello Miss, Sir,
My name is _____, We have come on behalf of the Ministry of Health to come and monitor the quality of work done in the field during the vitamin A distribution campaign (Name the services provided during the campaign) children under 5 years old.
Are there children under 5 in your home here? Yes (continue) No END ☐ → ☐

I. GENERAL INFORMATION

QUESTIONS	ANSWERS	CODES
Stratum		|____|
Health region		|____|
Health district		|____|
locality		|____|
Area (U= urban R= rural)		|____|

QUESTIONS	ANSWERS	CODES
CLUSTER No.		
Household number (1 to n)		
Investigator code		
team code		
Survey date	/_____/_____/_____/ (day) (month) (year)	

M1	M2	M3	M4	M5	M6	M7	M8
Household GPS coordinates	Household ID No. PECS###-### PECS (cluster number) – (household number) Ex: EC-001-001	Does the information come from a resident or a neighbour? R=resident V=neighbor	Name of head of household	Contact of a household member	Number of eligible children (6 to 59 months) living in the household	Address or description (landmark allowing the household to be located later)	BOOK TO THE COMMITTEE (selected household)

C. CHILDREN'S QUESTIONNAIRE

PECS SURVEY
CHILDREN'S QUESTIONNAIRE

The information contained in this questionnaire is confidential. They are covered by statistical confidentiality and can only be published in anonymous form in accordance with law 2013-015 of May 21, 2013 on the organization of statistical activity in Mali.

TO READ AT THE SURVEY

Hello Miss, Sir,
My name is _____, We have come on behalf of the Ministry of Health to talk about child health in your community. With the support of Helen Keller InternatiONal and other partners, the government provided vitamin A supplementation to children last October. We come to see how it went. We would like to ask you some questions about these health services.
These questions should only take a short time (30 minutes maximum). By participating, you will provide valuable information on how to improve health services in your area. You are free to choose to participate or not, you are also free to refuse to answer any of the questions. However, your opinion is very important in this study. Your answers will remain confidential. We do not collect any information that could identify you such as your name, address or telephone number. Do you want to participate?
Yes (continue) No END ☐ →
☐
↓

Household identification number: *Type* E C | *Grappe* ☐☐☐ | *Ménage* ☐☐☐

Q1: GENERAL INFORMATION

No.	QUESTIONS	ANSWERS	CODES
Q1.1	Stratum		|____|
Q1.2	Health region		|____|
Q1.3	Health district		|____|
Q1.4	locality		|____|
Q1.5	Area	1= rural 2= urban	|____|
Q1.6	CLUSTER No.		|____|
Q1.7	Household identification number		|____|____|____|
Q1.8	Investigator code		|____|____|
Q1.9	team code		|____|____|
Q1.10	Survey date	/_____/_____/_____/ (day) (month) (year)	|____|____|____|
Q1.11	How many children aged 6-59 months live in your household? *Assign a number to each child from oldest to youngest*	Number of children: _____ (enter the number)	|____|

Q2: VITAMIN A SUPPLEMENTATION

No.	QUESTIONS	ANSWERS	Child 1	Child 2	Child 3	Child 4	Child no.
Q2.1	What is the sex of the child?	1=Male 2=Female					
Q2.2	What is the child's date of birth?	The date must be between July 7, 2016 to February 7, 2021					
Q2.3	What is the source of this information?	1=Health record 2=Birth certificate 3=Calendar of events 4=Other to be specified					
Q2.4	During the campaign from July 1 to July 7 which has just ended, has the child received vitamin A? (Show vitamin A capsules or photo)	1=Yes 0=No→ Q2.6 3=Don't know					
Q2.5	If yes where did he receive it (place)?	1=Here at home 2= At RC/DC home 3=Village health center 4=At the health center outside the village 5=School/mosque/church 6=Street/market 7=Other place in village/neighbourhood 8=Other place outside the village 88=Don't know 99=Other, specify					
Q2.6	If not, why did the child not receive this product during this campaign?	1= the child was absent 2= agents did not pass 3= agents are no longer ironed 4= not informed 5=the child was sick 6=refusal, 7=lack of products 88=don't know/don't remember 99=Other, specify					

Q3: TIME ASSOCIATED WITH VAS SERVICES

Ask these questions if at least 1 child in the household received VAS during the last campaign.

No.	QUESTIONS	ANSWERS	Child 1	Child 2	Child 3	Child 4	Child no.
Q3.1	Before receiving vitamin A, were you informed that the RC/DC would come to your home to supplement the child? (It was expected ?)	1=Yes 0=No →Q3.4					
Q3.2	Did you wait at home for the arrival of the RC/DC to supplement the child with Vitamin A?	1=Yes 0=No →Q3.4					
Q3.3	How long did you wait for the arrival of the RC/DC to supplement the child? →Q3.9	1=1 hour or less 2=2-3 hours 3=half a day 4=All day 99 = Other					

Q3.4	How long did it take you to get to the place where the child received vitamin A? (*The place noted in question Q2.5*)	5=30 minutes or less 1=1 hour 2=2-3 hours 3=half a day 4=All day 99= Other					
Q3.5	Did you pay for transportation to where the child received vitamin A?	1=Yes 0=No →Q3.7					
Q3.6	If yes How much did you pay? (For the round trip, together)	[amount in FCFA]					
Q3.7	Did you wait before receiving Vitamin A?	1=Yes 0=No →Q3.9					
Q3.8	If yes How long did you wait?	1=1 hour or less 2=2-3 hours 3=half a day 4=All day 99= Other					
Q3.9	Did you receive any other services at the reception of Vitamin A?	1=Yes 2=No →Next Section					
Q3.10	If yes, which ones ?	1=Child deworming 2=Screening children for malnutrition 3=Information on children's diet 4=Treatment for a disease 5=Family planning 6=Child growth monitoring 7=Polio 99= Others					

D. HOUSEHOLD QUESTIONNAIRE

PECS SURVEY

HOUSEHOLD QUESTIONNAIRE

The information contained in this questionnaire is confidential. They are covered by statistical confidentiality and can only be published in anonymous form in accordance with law 2013-015 of May 21, 2013 on the organization of statistical activity in Mali.

TO READ AT THE SURVEY

Hello Miss, Sir,
My name is _____, We have come on behalf of the Ministry of Health to talk about child health in your community. With the support of Helen Keller InternatiONal and other partners, the government provided vitamin A supplementation to children last October. We come to see how it went. We would like to ask you some questions about these health services.
These questions should only take a short time (30 minutes maximum). By participating, you will provide valuable information on how to improve health services in your area. You are free to choose to participate or not, you are also free to refuse to answer any of the questions. However, your opinion is very important in this study. Your answers will remain confidential. We do not collect any information that could identify you such as your name, address or telephone number. Do you want to participate? Yes (continue) No END

Household identification number: *Type* E C *Grappe* ___ *Ménage* ___

Q1: GENERAL INFORMATION

No.	QUESTIONS	ANSWERS	CODES
Q1.1	Stratum		|____|
Q1.2	Health region		|____|
Q1.3	Health district		|____|
Q1.4	locality		|____|
Q1.5	Area	1= rural 2= urban	|____|
Q1.6	CLUSTER No.		|____|
Q1.7	Household identification number		|____|____|____|
Q1.8	Investigator code		|____|____|
Q1.9	team code		|____|____|
Q1.10	Survey date	/_____/_____/_____/ (day) (month) (year)	|____|____|____|
Q1.11	How many children aged 6-59 months live in your household?	Number of children: _____ (enter the number)	|____|

Q2: RESPONDENT PROFILE

No.	QUESTIONS	ANSWERS	CODES
Q2.1	Relationship to the child	1=Father 2=Mother 3= Uncle 4= Aunt 5= Guardian 6= Guardian 7= Grandfather 8=Grandmother 9=Servant 10=Other (Specify)……	|____|
Q2.2	Sex	1=Male 2=Female	|____|
Q2.3	How old are you ?	/_____/years 999=Don't know	|____|
Q2.4a	Are you educated?	1=Yes 2=No→ Q2.5	|____|
Q2.4b	If yes ? what kind of schooling	1=French school 2=Medrasa 3=Literacy→ Q2.5	|____|
Q2.4	What is your level of school education?	1=fundamental 2=Secondary 3=Higher	|____|
Q2.5	What is your main activity?	1= civil servants 2= Private sector employee 3=Trader 4 = Farmer 5=Housewife (housewife) 6= Craftsman/liberal activity 7= Unemployed/Unemployed 8= Retired 9= Pupil/Student 99= Other to be specified_____	|____|

Q3: CHARACTERISTICS OF THE HOUSEHOLD

No.	QUESTIONS	ANSWERS	CODES
Q3.1	What is the main source of water you drink in the household?	1=Tap water (private) 2= Tap water (public) 3=Public protected well 4=Private protected well 5= Public unprotected well 6= Private unprotected well 7=Surface water (lake, river, pond, stream…) 8=Purchase of packaged water 9=Drilling 99=Other, specify :… …….	|____|
Q3.2	What type of toilet do members of your household usually use?	1=In nature 2=Public improved latrine 3=Private improved latrine 4=Private traditional latrine 5=Modern public flush toilets 6= Modern private flush toilets 99=Other …… ……. .	|_____|
Q3.3	What types of fuels do you use to cook?	1=Firewood 2=Coal 3=Gas 4=Other	|_____|

No.	QUESTIONS	ANSWERS	CODES

Q3.4	Main construction materials of the walls of the house (according to your observation)	1=Military house 2=Wooden house 3=Cement house 99=Other: ……	|____|
Q3.5	Main construction materials of the house roof (according to your observation)	1=Sheet 2=Concrete (slab) 3=In tiles 4=Budding 99=Other ……	|____|
Q3.6	Main construction materials of the house floor (according to your observation)	1=Down 2=Cement 3=Checked 4=Floor 99=Other	|____|
Q3.7	Do you or someone in the household have any of the following items in working order?	1=Radio 2=TV 3=Phone 4=Motorcycle 5=Bike 6=Car or Truck 7=Fan 8=Air conditioner 99=Other ……	|____|

Q4: ACCESS TO HEALTH SERVICES

No.	QUESTIONS	ANSWERS	CODES
	Geographical access:		
Q4.1	Existence of a health structure offering care?	1= in the village 2= in the neighboring village 3= Other	|____|
Q4.2	Where do you go most often for medical care?	1=Public health center 2=Private health center 3=Pharmacy 4=Traditional practitioner 5= Street vendor 6= UPS Site 7= Rural Maternity 99=Others…… ……. .	|____|
Q4.3	Have you ever taken your child to the health center just to receive one of the following services?	1=Vaccination 2=Vitamin A supplementation 3=Growth monitoring (weighing) 4=Deworming 99=Other …… …….	|____|
	Financial access		
Q4.4	Prescription cost	Affordable/accessible Not affordable/not accessible Do not know	|____|

Q5: CAMPAIGN COMMUNICATION STRATEGY

No.	QUESTIONS	ANSWERS	CODES
Q5.1	Were you informed of the October mass campaign before it started (before October 7……)?	1= Yes 0= No (go to Q6.1)	|____|

No.	QUESTIONS	ANSWERS	CODES
Q5.2	How were you informed about the campaign? *(Several answers possible; circle the code(s) then add up)*	1= Town Criers 2= Mobilizers 3= Health workers 4= UPS 5= Voluntary 6= Word of mouth 7= No one in the household 8= Neighborhood 9= Radios 10= Television 11= Posters 12= Opinion Leaders 99= Other _____	|_____|

Q6: LEVEL OF KNOWLEDGE OF VITAMIN A

No.	QUESTIONS	ANSWERS	CODES
Q6.1	Do you know what this product is called? (Vitamin A) (show the 2 types of vitamin A capsules or photo)	1= Yes 0= No	|____|
Q6.2	Do you know what this product is for? (strengthening of the immune system, prevention of twilight blindness)	1= Prevents blindness/helps vision (see well) 2= Promotes growth 3= Protects against diseases 4=Protects against anemia 5=Reduces risk of death 6=Improves children's health 7= Don't know 99= Others_____	|____|
Q6.3	At what age should children receive their first dose of vitamin A?	1= Less than 6 months 2= At 6 months 3= More than 6 months 4=Don't know 99=Other …… …….	|____|
Q6.4	How many times per year should a child receive vitamin A per year?	1= 1 time 2= 2 times 3= 3 times 4= Don't know 99= Others	|____|
Q6.5	Who/Where did you get your vitamin A knowledge from?	1=Health workers 2=ASC 3=Radio 4=TV 5=Community Relay/Distributor 99=Other ……	

Q7: QUALITY OF VITAMIN A ADMINISTRATION ACTIVITIES

No.	QUESTIONS	ANSWERS	CODES
Q7.1	What did the distributor tell you about the vitamin A he gave your children? *(Several answers possible; circle the code(s) then add up)*	1= Protect view 2= Growth 4= Good nutrition 8= He didn't say anything 99= Other _____	|____|
Q7.2.1	Is there any other information the distributor has given you	1=Yes 2=No	

Q7.2.2	If so why	1= Wash hands regularly with clean water and soap before preparing, eating or giving food, when leaving the toilet yellowish milk to newborns from birth to protect them against diseases. 3= Refrain from giving water, decoctions or any other liquid unless medically indicated to infants aged 0 to 6 months because breast milk contains water and all nutrients 4= In addition to breast milk, give other foods to the child from 6 months 5 = consumption of local products rich in micronutrients (okra, green beans, cabbage, baobab leaves, cassava, potato, eggs, milk, liver, red meat, offal, fruit)	

E. HEALTH WORKER QUESTIONNAIRE

PECS SURVEY
HEALTH WORKER QUESTIONNAIRE

The information contained in this questionnaire is confidential. They are covered by statistical confidentiality and can only be published in anonymous form in accordance with law 2013-015 of May 21, 2013 on the organization of statistical activity in Mali.

TO READ AT THE SURVEY

Hello Miss, Sir,
My name is _____, We are researching the health services provided by your health center on vitamin A supplementation in October 2020 in children 6-59 months. We would like to ask you some questions about these health services. The questions should only last a short time (15-20 minutes). Your opinion will help plan health activities in your community for mothers and children.
You are free to choose to participate or not, you are also free to refuse to answer any of the questions. However, your opinion is very important in this study. Your answers will remain confidential. Do you want to participate? Yes (continue)
No END

Q1: GENERAL INFORMATION

No.	QUESTIONS	ANSWERS	CODES
Q1.1	Stratum		|____|
Q1.2	Health region		|____|
Q1.3	Health district		|____|
Q1.4	locality		|____|
Q1.5	Health area / health center		|____|
Q1.6	Type of health facility (urban CSCOM, rural CSCOM, …)		|____|
Q1.7	Area	1= urban 2= rural	|____|
Q1.8	Cluster number or Cluster		|____|
Q1.9	Investigator code		|____|____|
Q1.10	team code		|____|____|
Q1.11	Survey date	/_____/_____/_____/ (day) (month) (year)	|____|____|____|

Q2: RESPONDENT PROFILE

No.	QUESTIONS	ANSWERS	CODES
Q2.1	Sex	1=Male 2=Female	|____|
Q2.2	What is your role in the health facility?	1 = Nurse 2=Caregiver 3=Doctor 4=EPI agent 5= Room girl/boy 6=Senior Health Technician 7: Vaccinator 8=Matron 99= Other, specify	|____|
Q2.3	How many years of experience do you have in healthcare in general?	_____ (in years)	|____|

Q3: KNOWLEDGE ABOUT VITAMIN A AND VITAMIN A SUPPLEMENTATION

No.	QUESTIONS	ANSWERS	CODES
Q3.1	What are your sources of information on vitamin A?	1= MSHP documents 2= local NGO 3= Continuous training 4= TV/Radio/Newspapers 5= Poster, leaflet, technical sheet 6= Colleagues 88= Don't know 99= Other, specify	|____|
Q3.2	Did you receive training on vitamin A during this campaign?	1=Yes 0=No If No →Q3.7	
Q3.3	How many people attended the training?	1= less than 10 2= 10 to 20 3= 21 to 30 4= Over 30 99= other	|____|
Q3.4	How long did the Vitamin A training take?	1=Less than half a day 2=Half a day 3=One day 4=Two days 5=Other	|____|
Q3. 4.a	Place of training ?	1 = Closed room 2 = Free air	
Q3. 4.b	Did the training include information on COVID 19	1=Yes 0=No	
Q3.4.c	If so why	1= Wearing a mask 2= Social distancing 3= hand washing with soap 4= use of hydro alcoholic gel 5= Hand washing with soap before giving the Vitamin	
Q3.5	Were you paid for your time during the training?	1=Yes 0=No →Q3.7	
Q3.6	If yes, how much did you receive?		
Q3.7	What are the benefits of vitamin A?	1= Prevent disease 2= Encourage growth 3= Prevent blindness/promote vision 4= Improve health 5= Reduce the risk of death 6= Prevent anemia 7= Increase appetite 88= Don't know, don't remember 99= Other, specify	|____|
Q3.8	At what age should children receive vitamin A for the first time?	1= At birth 2= At 6 months 3= At 9 months 4= At 1 year 88= I don't know 99= Other, specify	|____|

No.	QUESTIONS	ANSWERS	CODES

Q3.9	How often should children 6-59 months receive vitamin A supplementation?	1= Every 3 months 2= Every 6 months 3= Every 12 months 4= Every day 88= I don't know 99= Other, specify _____	|____|
Q3.10	What is the dosage of vitamin A for children 6-11 months?	1= One blue capsule 100,000 IU 2= One red capsule 200,000 IU 3= Half of the blue capsule 100,000 IU 4= Half of the 200,000 IU red capsule 88= I don't know 99= Other, specify _____	|____|
Q3.11	What is the vitamin A dosage for children 12-59 months?	1= One blue capsule 100,000 IU 2= One red capsule 200,000 IU 3= 2 blue capsules 100,000 IU 4= 2 red capsules 200,000 IU 88= I don't know 99= Other, specify _____	|____|
Q3.12	Do you have material (IEC) that talks about Vitamin A?	1= Yes 0= No If **No →Q4.1**	|____|
Q3.13	Which IEC materials did you use during the last campaign?	1= Picture box 2= Training module 3= Vitamin A Poster 4= National protocol for vitamin A administration 5= Data sheet 88= Other, specify _____	|____|

Q4

No.	QUESTIONS	ANSWERS	CODES
Q4.5	How often should children receive vitamin A supplementation?	1= Every 3 months 2= Every 6 months 3= Every 12 months 88= I don't know 99= Other, specify _____	|____|
Q4.7	Which IEC materials did you use during the last campaign?	1= Picture box 2= Training module 3= Vitamin A Poster 4= National dewormer administration protocol 5= Data sheet 99= Other, specify _____	|____|

Q5: QUALITY OF CAMPAIGN ACTIVITIES

No.	QUESTIONS	ANSWERS	CODES
Q5.1	For how many days did you participate in the campaign in your District?	_____ (in days)	|____|
Q5.1b	Approximately how long per day?	1=1 hour or less 2=2-3 hours 3=half a day 4=All day 99= Other	
Q5.2	How much did you receive as remuneration per day of work?	_____ (in FCFA/day)	|____|
Q5.3	What role did you play during the campaign?	1= Social mobilization 2= Distribution of Vit A 3= Recording 4= Supervisor	|____|

		5= Compile data 6= Malnutrition screening 7= Logistician 99= Other _____	
Q5.4	Were there any problems with the vitamin A supply during the campaign?	1= Yes 0= No	|____|
Q5.5	If YES, have these issues been resolved?	1= Yes 0= No 88= Don't know	|____|

No.	QUESTIONS	ANSWERS	CODES
Q5.7	If YES, have these issues been resolved?	1= Yes 0= No 88= Don't know	|____|
Q5.8	What difficulties did you encounter when implementing protective measures against COVD 19	1= Insufficient personal protective equipment? 2 = Unable to maintain appropriate physical distancing of 1-2m when administering? 3 = difficulty washing hands before giving Vitamin A? 4= difficulties in using hydroalcoholic gel before giving Vitamin A 4 = Mask use and/or face covering? 99 = other, specify	

thanks for your help

F. RC/DC QUESTIONNAIRE

COVERAGE SURVEY
CR/DC QUESTIONNAIRE

The information contained in this questionnaire is confidential.

TO READ AT THE SURVEY

Hello Miss, Sir,

My name is _____, We came on behalf of the Ministry of Health. We are researching the health services provided by your health center on vitamin A supplementation in children 6-59 months. We would like to ask you some questions about these health services. The questions should only last a short time (15-20 minutes). Your opinion will help plan health activities in your community for mothers and children.

You are free to choose to participate or not, you are also free to refuse to answer any of the questions. However, your opinion is very important in this study. Your answers will remain confidential. Do you want to participate? Yes (continue) No END

Please ensure that the health worker has participated in the campaign before starting the questionnaire

Q1: GENERAL INFORMATION

No.	QUESTIONS	ANSWERS	CODES
Q1.1	Stratum		|____|
Q1.2	Health region		|____|
Q1.3	Health district		|____|
Q1.4	locality		|____|
Q1.5	Health area / health center		|____|
Q1.6	Type of health facility (...)	1=CSCOM 2= Rural Maternity 3=Dispensary 99= Other, specify	|____|
Q1.7	Area	1= rural 2 = urban	|____|
Q1.8	Cluster number or Cluster		|____|
Q1.9	Investigator code		|____|____|
Q1.10	team code		|____|____|

Q1.11	Survey date	/_____/_____/_____/ (day) (month) (year)	|____|____|____|

Q2: RESPONDENT PROFILE

No.	QUESTIONS	ANSWERS	CODES
Q2.1	Sex	1=Male 2=Female	|____|
Q2.2	Are you educated?	1=Yes 2=No→ **Q2.3**	
Q2.2. has	If yes ? what kind of schooling	1=French school 2=Medrasa 3=Literacy ? Q2. 3	
Q2.2.c	What is your level of school education?	1=fundamental 2=Secondary 3=Higher	
Q2.2	Your level of education	1= No schooling 2= Primary (including maderssa) 3= Secondary 1st cycle 4= Upper secondary 5= Superior	|____|
Q2.3	How long have you been an ASC?	_____ (in years)	|____|

Q3: KNOWLEDGE ABOUT VITAMIN A AND VITAMIN A SUPPLEMENTATION

No.	QUESTIONS	ANSWERS	CODES
Q3.1	Did you receive training on vitamin A during the last campaign?	1= Yes 0= No (If not →Q3.6)	|____|
Q3.2	How many people attended the training?	1= less than 10 2= 10 to 20 3= 21 to 30 4= Over 30 99=Others	
Q3.3	How long did the training on the campaign last?	1=Less than half a day 2=Half a day 3=One day 4=Two days 5=Other	
Q3.3. has	Place of training ?	1 = Closed room 2 = Free air	
Q3.3. b	Did the training include information about COVID-19?	1= yes 0 = No	
Q3.3. vs	If so why ?	1 = Wearing a mask? 2 = physical distancing? 3 = Hand washing with soap? 4 = Use of hydro alcoholic gel? 5 = Wash before vitamin A?	
Q3.4	Were you paid during the training?	1=Yes 0=No →Q3.6	
Q3.5	If yes, how much did you receive?		
Q3.6	What are the benefits of vitamin A?	1= Prevent disease 2= Encourage growth	|____|

No.	QUESTIONS	ANSWERS	CODES
		3= Prevent blindness/promote vision 4= Improve health 5= Reduce the risk of death 6= Prevent anemia 7= Increase appetite 88= Don't know, don't remember 99= Other, specify _____	
Q3.7	At what age should children receive vitamin A for the first time?	1= At birth 2= At 6 months 3= At 9 months 4= At 1 year 88= I don't know 99= Other, specify _____	|____|
Q3.8	How often should children 6-59 months receive vitamin A supplementation?	1= Every 3 months 2= Every 6 months 3= Every 12 months 4= Every day 88= I don't know 99= Other, specify _____	|____|
Q3.9	What is the dose of vitamin A for children 6-11 months?	1= One blue capsule 100,000 IU 2= One red capsule 200,000 IU 3= Half of the blue capsule 100,000 IU 4= Half of the 200,000 IU red capsule 88= I don't know 99= Other, specify _____	|____|

No.	QUESTIONS	ANSWERS	CODES
Q3.10	What is the dose of vitamin A for children 12-59 months?	1= One blue capsule 100,000 IU 2= One red capsule 200,000 IU 3= 2 blue capsules 100,000 IU 4= 2 red capsules 200,000 IU 88= I don't know 99= Other, specify _____	|____|
Q3.11	Where did you get this information about vitamin A?	1= MS documents 2= local NGO 3= Continuous training 4= TV/Radio/Newspapers 5= Poster, leaflet, technical sheet 6= Colleagues 88= Don't know 99= Other, specify	|____|

Q5: QUALITY OF CAMPAIGN ACTIVITIES

No.	QUESTIONS	ANSWERS	CODES
Q5.1	For how many days did you participate in the campaign in your village/sector?	_____ (in days)	|____|
Q5.2	About how many times per day did you participate in the campaign in your village/sector?	1=1 hour or less 2=2-3 hours 3=half a day 4=All day 99= Other	

No.	QUESTIONS	ANSWERS	CODES
Q5.3	Can you name the elements distributed/acts done during the last campaign?	1= Deworming tablet 2= Vitamin A capsules 3= Polio vaccine 4= Other vaccines 5= screening for malnutrition 99= Other_____	|____|
Q5.4	What role did you play during the campaign?	1= Social mobilization 2= Distribution of Vit A 3= Recording 4= Collect data 5= Malnutrition screening 99= Other _____	|____|
Q5.5	Were there any problems with the vitamin A supply during the campaign?	1= Yes 0= No	|____|
Q5.6	If so what are these issues?	1= supply delay 2= insufficient inputs 99= others to be specified	
Q5.7	, Have these issues been resolved?	1= Yes 0= No 88= Don't know	|____|
Q5.9	If so, what are these problems?	1= supply delay 2= insufficient inputs 3= others to be specified	
Q5.10	Have these issues been resolved?	1= Yes 0= No 3= Don't know	|____|
Q5.11	Did a supervisor visit you during the campaign?	1= Yes 0= No	|____|
Q5.12	What challenges did you encounter while implementing COVID-19 protective measures during the campaign?	1 = Insufficient personal protective equipment? 2 = Inability to maintain appropriate physical distancing of 1-2 sec during administration? 3 = difficulty washing hands before giving vitamin A? 4= difficulties in using hydroalcoholic gel before giving vitamin A? 4 = Mask use and/or face covering? 99 = other, specify	
Q5.13	How do you think the campaign could be improved in your locality?	1= Media campaigns 2= Sensitization of heads of household 3= Better coordination between community and health staff 4= Ensure a sufficient and prompt supply of Vit A 5= Regular training for Agents 6= Motivation of health workers 7= Motivation of CHWs and volunteers 88= Don't know 99= Other to be specified_____	|____|

G. MONITORING AND QUALITY CONTROL FORM FOR SUPERVISORS

PECS SURVEY

Monitoring and Quality Control Form for Supervisors

The information contained in this questionnaire is confidential. They are covered by statistical secrecy and can only be published in anonymous form in accordance with Law No. 2004-011 of March 30, 2004 on the organization of statistical activity in Mali.

TO READ AT THE SURVEY

Hello Miss, Sir,
My name is _____, We have come on behalf of the Ministry of Health to come and check the quality of the work carried out in the field during the vitamin A distribution campaign for children under 5 years old.

GENERAL INFORMATION

QUESTIONS	ANSWERS	CODES
Stratum		|____|
Health region		|____|
Health district		|____|
locality		|____|
Area (U= urban R= rural)		|____|

QUESTIONS	ANSWERS	CODES
Cluster number or Cluster		
Household number (1 to n)		
Investigator code		
team code		
Survey date	/_____/_____/_____/ (day) (month) (year)	

Q: QUALITY CONTROL

Household identification number: *Type* E C *Grappe* ☐☐☐ *Ménage* ☐☐☐

I1	How many children 0-59 months live in your household?	Number of children: _____ (enter the number)	|____|

If multiple children in the household, collect information for only one child

Q8: VITAMIN A SUPPLEMENTATION

No.	QUESTIONS	ANSWERS	CODED
Child code/rank (1 to n) from smallest to largest			|____|
Q8.1	What is the sex of the child?	1=Male 2=Female	|____|
Q8.2	What is the child's date of birth?	The date must be between November 02, 2013 as of May 02, 2018	|____|____|____|
Q8.3	What is the source of this information?	1=Health record 2=Birth certificate 3=Calendar of events 4=Other to be specified	|____|

No.	QUESTIONS	ANSWERS		CODED
Q8.4	During the campaign from July 4 to 7, 2021 which has just ended, did the child receive vitamin A? (show vitamin A capsules or photo)	Vitamin A	1=Yes 0=No 3=Don't know	|____|
Q84b	If so where did he get it?	Venue	1=Here at home 2=Health Center 3=Street/market 4=School/Church/Mosque 5=Don't know 6=Other, specify	|____|

Q8.5	If not, why did the child not receive this product during this campaign?	1= the child was absent 2= agents did not pass 3= agents are no longer ironed 4= not informed 5=the child was sick 6=refusal, 7=lack of products 8=don't know/don't remember 9=Other, specify	|____|
Q8.7	If not, why did the child not receive this product during this campaign?	1= the child was absent 2= agents did not pass 3= agents are no longer ironed 4= not informed 5=the child was sick 6=refusal, 7=lack of products 8=don't know/don't remember 9=the child was less than 12 months old 10=Other, specify	|____|

H. STATISTICAL TESTS OF CHI 2

Variable 1	Variable 2	P-value	Results
Vitamin A supplementation	Place of residence	0.000	Significant difference
Vitamin A supplementation	Child's gender	0.474	Difference not significant
Vitamin A supplementation	Children's age range	0.453	Difference not significant
Vitamin A supplementation	Wealth quintile	0.084	Difference not significant
Vitamin A supplementation	Respondent's level of education	0.000	Significant difference
Household knowledge index	Place of residence	0.022	Significant difference