Curamericas Global-Kenya April 2020

KIKPOP KPC SURVEY: KNOWLEDGE, PRACTICE, AND COVERAGE

Based on household interviews of mothers of children younger than 24 months in Kisii County, Kenya

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Abbreviation and Acronyms Guide

1) HH: Household
2) MOH: Ministry of Health
3) MNCH: Maternal, Newborn and Child Health
4) KCMOH: Kisii County Ministry of Health
5) ODK: Open Data Kit
6) Curamericas: Curamericas Global
7) ENA: Essential Newborn Actions
8) WASH: Water, Sanitation and Hygiene
9) MAD: Minimum Acceptable Diet
10) HFD: Healthcare Facility Delivery
11) KTM: KoboToolBox
12) ODK: Open Data Kit
13) TBA: Traditional Birth Attendants
14) ODF: Open Defecation Free
15) USAID: United States Agency for International Development
16) KIKOP: Kisii Konya Oroiboro Project
17) EBF: Exclusive Breastfeeding

Introduction

a. Background

In 2010 the people of The Republic of Kenya voted to adopt a new constitution, which called for a decentralization of government structures as well as services.[7] This allowed for the establishment of 47 semi-autonomous counties, which as of 2013, were each responsible for their own public works and services such as health care.[7] While the central national government retains responsibility of creating health policy, providing technical assistance and management of referral facilities the groundwork for the health system is maintained by the individual counties.[5]

The area of focus for this project is Kisii County. Situated in the southwestern region and sharing common borders with Nyamira County to the North, Narok County to the South, and Homabay and Migori Counties to the West, Kisii is an urban center of the southwest region. Per the 2019 Kenyan National Census the region is home to 1,266,860 individuals including more that 703,000 women and more than 234,000 children younger than 5 years of age.[7] Overall, Kisii County spends less per capita on health than the national average ($14.94 versus $15.95 annually).[1] The number of health personnel per capita is far below the national average with 21 nurses, 3 doctors, and 10 clinical officers per 100,000 people in Kisii compared to 55 nurses, 10 doctors, and 21 clinical officers per 100,000 people nationally.[1] The population in Kisii County is quite dense, with approximately 2,800 people per sq. mile (North Carolina is 211 per sq. mile). In Kisii, most homes are built with mud walls and aluminum roofs.[1] There is limited health care available in communities and health facilities often lack basic infrastructure (like running water), supplies and staff.[1] This may explain why diarrheal diseases account for a larger proportion of population mortality than in the country as a whole (4.4% vs 3.7%).[1] Common causes of morbidity in adults and children include malaria, diarrhea, skin diseases, and respiratory infections.[1] Acute respiratory infections (ARI) are the leading cause of morbidity in children under age five, followed by malaria and diarrhea.[1]

Currently, the health and nutrition baseline indicators in Kisii County are below the national average.[7] This situation is especially dire in terms of the child mortality rate (60 per 1,000 live births), the infant mortality rate (43 per 1,000 live births) and neonatal mortality rate (23 per 1,000 live births).[1] UNICEF estimates the country-wide under-5 mortality rate to be 45.6 per live births.[1] The Kisii County health authorities acknowledge incomplete data and consistent under-reporting, which may contribute to dramatically under-estimated mortality rates for the region. Areas of special concern include maternal and neonatal mortality as well as malnutrition.[1] The Kenyan Ministry of Health (MOH) found that 8.4% of children under age five were underweight (WFA<-2 Z-scores) in Kisii County while 25.5% of children in the same area were stunted (HFA<-2 Z-scores).[6] Currently, the mortality of children under-5 is 74 per 1,000 live births, part of this alarming trend related to nutrition.[11]

The MOH also reported that only 69.3% of women delivered at the health facility.[6] While only 62.8% of married or in union women aged 15-49 used any modern method of family planning.[6] These factors have resulted in a high Maternal Mortality Ratio (MMR) in Kisii County (~500 deaths/100,000 births), which is significantly higher than the Kenyan national MMR (~ 488 deaths/100,000 live births).[10] Currently, the leading cause of death for mothers in the region is postpartum hemorrhage.[10] Studies attribute this high rate to access to quality healthcare facilities as well as poor health seeking behavior and poor socio-economic factors.[10]

Contributing to this high maternal mortality are the "four delays": 1) delay in family recognition of an obstetric complication; 2) once recognized, family delay seeking medical attention; 3) delay securing transportation to a health facility; and 4) once at the health facility, delay in receiving treatment.[1] The associated factors include lack of family and community preparedness, lack of ambulances and costly transportation, lack of women's decision-making autonomy, adherence to traditions of home delivery, lack of health facility personnel and resources, and fear of abusive disrespectful treatment at the health facility. For these reasons, as well as those outlined within this document, the region was chosen by Curamericas Global (Curamericas) for the site of a three-year maternal, newborn and child health (MNCH) project.

In January 2018, Curamericas Global (Curamericas) and the Kisii County Department of Health (KCDOH) began a three-year MNCH project, called the Kisii Konya Oroiboro Project (KIKOP) to respond to the above challenges.[1] The project is implemented in the catchments of three Level 2 and 3 health facilities in Kitutu Chache North and Kitutu Chache South sub-Counties of Kisii County. The project aims to serve approximately 35,960 beneficiaries, which includes 8,925 women of reproductive age (WRA-defined as 14-49 years of age), 14,386 adolescents (defined as 10-14 years of age), and 1,430 children under two years (U2).

The major objectives for this project include increasing access to quality, respectful maternal/newborn services; improving attention to obstetric emergencies (including postpartum hemorrhage); increasing provision of essential newborn care (including neonatal resuscitation); and reduced child stunting in under-two children.

This model provisions culturally appropriate, locally accessible, fully equipped, community-owned obstetric facilities and builds the capacity of paid front-line indigenous health workers to provide quality routine and emergency obstetric care and malnutrition screening and counseling. A uniquely patient-centered, results-based framework, KIKOP's approach, mobilizes communities to drive change in the improvement of health and nutrition outcomes, working in sustainable partnerships with civil society and government.

The main interventions of KIKOP are to:

1) mobilize communities, Community Health Extension Workers (CHEWs), Village Health Committees (VHCs), Community Health Volunteers (CHVs) to work in partnership with the local health facility;

2) adapt existing Level 2 and Level 3 health facilities in the project to the Community Birthing Center Model;

3) train and incorporation of Traditional Birth Attendants to encourage facility-based deliveries and referral;

4) utilize village-based volunteers/mother peer educators to disseminate health messages using the Care Group approach;

5) utilize a census-based monitoring and evaluation approach utilizing Curamericas Global's Community-Based Impact-Oriented (CBIO) methodology;

6) empower community partners to create an obstetric emergency response system;

7) ensure women receive respectful, culturally appropriate, and equitable services during maternal care, with focused attention on those most at risk (poorest, least educated, highest parity, and of age outside of prime child-bearing years (adolescents and women over 35).

b. Study Purpose and Objectives Process and Partnership Building

The Knowledge, Practice and Coverage (KPC) survey measures standardized maternal-child health, WASH, and nutrition indicators. This KPC report presents baseline data on 45 maternal and child health indicators for the Nyagoto catchment in Kitutu Chache North. Baseline data on the other two project catchments in Kitutu Chache South was collected in June 2018 and is included in a separate report. Together, this data provides overall baseline information for the region, which will be used to inform project and MOH programming.

The KIKOP works to reduce the rates of infant, child, and maternal mortality through community-driven health education and health facility improvements. The goal of the project is to reduce maternal/neonatal mortality and child stunting among women. This project aims to bridge the gap between health facilities and the community by providing health education and outreach and accomplishing the following:

-Reduce deaths of mothers during pregnancy and delivery by 50%
-Reduce deaths of neonates (babies in their first 28 days) by 35%
-Reduce long-term, extreme malnutrition (i.e. stunting) by 50%
-Reduce unwanted pregnancies in girls ages 10-19 so they can stay in school

c. Process and Partnership Building

A KPC is designed to be a participatory project that engages local partners and stakeholders throughout the process. A core component of this is capacity building and the ability to cultivate meaningful relationships within communities. This allows for the community to feel a sense of ownership regarding the project implementation, participation, and outcomes.

Curamericas Global has a rich history of conducting programming with communities on the African Continent for more than a decade. Specifically, the organization has been operating

within Kisii County, Kenya since October 2017 to reduce the number of mothers and infants dying from preventable causes. The primary local partner is the Kisii County Ministry of Health (KCMOH), but the leadership team, traditional birth attendants (TBA), and beneficiaries of the 39 communities of Nyagoto are also considered partners as well. Findings are reported to the KCMOH to help focus interventions to best serve mothers and their children within the catchment areas. In turn they provide support through training, supervision during census and surveys as well as technical assistance as needed. TBAs provide feedback on the health facility procedures and provider attitudes in order to increase health facility delivery, and in response Curamericas provides them with training on the importance of health facility delivery. Community leaders (clan elders) meet with us on a quarterly basis as participants on their village health committees. They help reinforce health messaging at the community level and set up community systems such as emergency transport.

The KPC is part of an extensive community entry process. This process involves initial meetings with beneficiaries as well as local and regional leaders followed by formative research through qualitative interviews conducted with project stakeholders: traditional birth attendants, health facility staff, mothers with children under age two, clan elders, community health volunteers, and Community Health Extension Workers. During this process KIKOP works with community stakeholders to map communities and conduct a household census. The KPC follows this process and utilizes local CHVs as interviewers and guides. Survey results were shared with community members and project stakeholders soon after analysis.

Methods

The KPC in Kisii County was a cross-sectional survey which employed quantitative data collection methods through structured questionnaires targeting mothers of children aged 0-23 months within the region to collect baseline program data.

a. Questionnaire Development and Scope

The questionnaire used in the KPC was created in 2018 by Curamericas staff to best fit the needs of the community and project. When the survey was redeployed in 2019, minor adjustments were made based on staff feedback. The final questionnaire consisted of 134 questions created to assess standardized maternal-child health, WASH, and nutrition indicators. The survey was written in English. It was translated into Kikisii, the local language of the region, during the interview.

The survey questions were broken down into household identifications and ten section modules which included:

1. Mother’s demographic data
2. Mother’s obstetric antecedents
3. Pregnant woman care
4. The birth and newborn care
5. Puerperium control and attention to newborn
6. Maternal lactation, nutrition and micronutrients
7. Complementary feeding

8. Water and Sanitation
9. Vaccination
10. Child Illness

Curamericas Global provides training to mothers and child caretakers on hand washing, water treatment and storage, proper feces disposal, the treatment of disease as well as pregnancy, birth, and postpartum health and well-being through educational home visits and the use of Community Health Promoters. The questionnaire was created to develop baseline data in order to assess program outcomes. All survey questions and labels are original content created by staff and uploaded on the ODK for use on internet enabled devices. All survey responses were recorded electronically and available in real-time after uploading to staff to assess internationally.

b. KPC Indicators

In total the KPC questionnaire covered ten modules to gather data focusing on 45 health indicators. A list of the indicators can be found in Appendix Section C along with the tabulation plan describing how those indicators were calculated. The program's main focus was on creating a baseline assessment for the eight key indicators in Table A below.

Table A: Key Health Indicators

Health facility deliveries	Percentage of women interviewed who report that their most recent delivery occurred in a health facility (clinic or hospital - level 2, 3, 4 or 5) attended by a health professional (doctor, nurse, nurse-midwife, professional midwife, auxiliary nurse).
Attention to obstetric complications	Percentage of women interviewed who report that they experienced a complication during pregnancy, delivery, or in the postpartum of their most recent pregnancy, and who received attention for the complication from a health professional (doctor, nurse, auxiliary nurse, professional midwife) in a health facility (clinic or hospital - level 2, 3, 4 or 5).
Respectful, culturally appropriate care	Percentage of women interviewed who report that their most recent delivery occurred in a health facility and who state that the delivery met all the following conditions a) they received respectful courteous service; b) presence of family permitted; c) the woman able to choose her position of delivery and birth attendant; d) the woman was given sufficient privacy and e) the woman/family were allowed to consume traditional teas/foods and conduct traditional practices.
Danger sign recognition	Percentage of women who, when interviewed, could name at least 3 danger signs in **pregnancy** that require immediate attention from a health professional.
	Percentage of women interviewed who can name at least 3 danger signs in **delivery** that require immediate attention from a health professional
	Percentage of women interviewed who can name at least 3 danger signs in the **post-partum** period for herself that require immediate attention from a health professional
	Percentage of women interviewed who can name at least 3 danger signs in the **post-partum** period for her newborn that require immediate attention from a health professional
Birth plan/ Emergency transportation-household	The percentage of women interviewed who state that their family had a birth/transport plan in place during their most recent pregnancy that meets at a minimum the following conditions: 1) identified the health facility where the woman plans to deliver; 2) how woman will get to the health facility and cost of that transportation; 3)identified how the family will secure the transportation money; 4) identified who will accompany the woman to the health facility; and 5) identified who will care for the woman's children and home during her absence and who will help her post-partum.

c. Survey Sites and Population

The survey was conducted from a single catchments of Kitutu Chache North Sub-County of Nyagoto, Kisii County with approximate population of 11,204 beneficiaries, which includes 2693 women of reproductive age (WRA-defined as 14-49 years of age), 4,377 adolescents (defined as 10-19 years of age), and 442 children under two years (U2). Table B below displays population and demographics of the catchments area. Within the catchment area there are 25 distinct villages, which contained 431 HH eligible to complete the survey at the time. A list of these villages can be found in the Appendix Section A.

Table B: Census Data

Catchment	Total Population	WRA	Under 2 years	Adolescents, Ages 10- 19 years
Matongo	10405	2604	435	4283
Iranda	14351	3628	553	5726
Nyagoto	11204	2693	442	4377
KENYA TOTAL	**35960**	**8925**	**1430**	**14386**

d. Demographic Data

For the given population a summary of the demographic data has been collected to create a snapshot of important facts regarding the community members from the 100 women with at least one child under the age of 24 months who completed the survey. The data is summarized below in Table C. The villages who participated as well as the number of participants from each village can be found in the Appendix Section A.

Table C: Demographic Snapshot of Participants

Characteristic of Respondents (n= 100)		n	Percent %
Age (years) (n=100)	Median: 24 years		
	Mean: 25.34 ±5.75 years		
	Range: 29 years		
Average Age of First Pregnancy	Mean	19.93 years	
Highest education attained	Some Primary (Grades 4-7)	24	24%
	Completed Upper Primary	21	21%
	Some Secondary	22	22%
	Completed Secondary	26	26%
	College, Pre-University	6	6%
	Some College/University	1	1%
Language	Kisii	90	90%
	Kiswahili	10	10%
Average Monthly Household Income (Kenyan Shillings)	5102.13	47	X
Amount Spent on Medical Services in the past month (per Household) (Kenyan Shillings)	616.02	98	X
Marital status	Married	77	77%
	Married, but not staying together	2	2%
	Separated	1	1%
	Single	19	19%
	Widowed	1	1%
Current occupation	Farming	64	64%
	Formal Employment	2	2%
	Casual labor	2	2%
	Own Business	7	7%
	Petty Trading/Hawking	1	1%
	Housewife	8	8%
	Dependent	15	15%
	Other	1	1%
Religion	Christian	100	100%

e. Sampling and Sample Size

Simple Random Sampling (SRS) was the primary strategy used for survey participation. Community maps provided a list of 431 households in the region eligible to participate in the survey. Household lists were generated one month prior to the survey (October 2019). A household had to contain a mother with a child under 24 months of age to be eligible for participation. The sampled villages are shown in Appendix Section A.

Samples were pulled using a random number generator. Three samples had to be pulled in order to locate the sufficient respondents given considerable in and out migration in the area. The first sample generated consisted of 108. Then two additional samples were created using SRS containing a total of 53 households.

The difficulties in data collection stemmed from having issues locating some respondents due to migration from census to KPC. It was apparent that there is a trend in the region that women within the North sub-county often migrate, returning back months later or sometimes never. Some reasons for this migration include domestic disputes, moving for school, and moving to be closer to work and family. Also, there is a belief that this was caused by people returning home for the national census (which was occurring at the same time) and then returning to the city after. 104 respondents were able to be located, 100 provided consent and completed the survey.

The four respondents who refused to provide consent stated that NGOs have come and gone without making an impact and therefore did not take part. Additionally, some respondents had poor experiences at health clinics and therefore refused consent.

f. Survey Planning and Organization

As mentioned above, the KPC survey was based on an initial baseline survey conducted previously in two different KIKOP catchments. The survey was updated by program staff to better serve the new catchment of Nyagoto. Program staff was responsible for developing, checking, and input of all questionnaire data into the ODK.

Before dissemination, Curamericas interns along with program staff in Kenya tested the survey for accuracy in three parts. The survey went through four drafts before the tests began. The first part of testing was to check the skip logic and patterns in the questionnaire. The second part of testing was to make sure all of the options aligned with the indicators and were simple to follow. The third part of pre-testing was to compare the paper survey to the online tablet survey module in order to ensure that all labels matched. After the three tests were completed a final practice test was administered to check work. In total, there were four trial runs of the survey and then an additional 2 field pre-tests with staff and volunteers before it was rolled out for community use.

g. Recruitment and Training

The in-country survey staff underwent a half day of group training, during which they became familiar with the questionnaire, data collection methods, indicators and answer definitions. Project staff created a PowerPoint presentation before the training for certain survey questions

that could potentially cause confusion. Although all KIKOP staff participated in the training, only 3 staff were involved in KPC data collection as the rest of the staff collected census data. These 3 staff – 2 Program Assistants and 1 Field officer - were selected by the Project Coordinator. During training Staff reviewed all indicators and ensured that the team had a uniform understanding of every question and all answer options - to ensure consistency in the data obtained and so that the questions could be accurately translated and/or explained to the interviewee.

Staff tested the questionnaire both individually and in pairs, with one person acting as the interviewer and the other responding as though they were a villager. It was a priority that all those who worked with the KPC were fluent in Kikisii and English. During training, the team was able to discuss every question and option from the survey in Kikisii, as well as take part in family planning demonstrations, and familiarize themselves with the MNCH booklet.

h. ODK Data Collection

KoboToolBox (KTB) and Open Data Kit (ODK) provide a framework for implementing field data gathering campaigns, and enhance the information management capabilities using mobile devices or tablets for data collection. One of the main advantages of the system is that it allows data gathering with or without internet connectivity. The survey was created and edited on paper and then inputted by program staff into KTB.

Once the KPC questionnaire was ready for use, it was inputted into KTB and then downloaded and connected to ODK. KIKOP and Curamericas staff tested the survey multiple times to check for any errors of the skips and flow in the questionnaire.

i. Data Collection and Field Procedures

The county and sub-county public health office and community health strategy focal person supported by Curamericas staff mobilized the village elders and CHVs within the catchment to prepare them for the survey. The village elders and CHVs guided the staff to visit the selected households to interview the mothers of children less than 24 months old.

When a mother/caregiver had more than one child aged 0-23 months, the youngest child was selected to minimize the mother's recall bias regarding health and nutrition care services received during (pregnancy, delivery, postpartum and infant and young child feeding). Furthermore, the youngest child is often more vulnerable to childhood illnesses, and thus was best suited to provide better morbidity patterns than older children in the same household.

The questionnaire was collected on tablets using ODK software described in the previous section and uploaded to Google Drive for analysis. The three-member team of surveyors in Kenya had the appropriate skills and knowledge of the system through their training to collect data and troubleshoot during data collection. Overall the team consisted of 2 project assistants and one field officer who were in the communities over an estimated 25 working days through the months of October and November 2019. The data was then provided for analysis on December 10th.

j. Data Quality Assurance

The use of tablets and ODK/KTB enabled staff to develop quality checks such as skip patterns, age limits and filters, which greatly minimize errors during data collection. This allowed field staff to concentrate on interviewing and active engagement with the respondents. The online real-time data access by staff in the country and in the United States through the server, enabled identification of errors by the field staff. The ODK also helped the staff to track the completed and submitted questionnaires daily verifying the supervisors' reports. The survey coordinator corrected errors in a timely manner allowing for missing data to be identified before the team completed the catchment. The strong supervision of the teams and clear roles discussed prior fieldwork contributed to improved quality of data.

k. Data Analysis

In order to complete data analysis all survey information was downloaded from the ODK server in .xls format and integrated into a master spreadsheet. The confidence interval (CI) values were calculated in Python or Stata using a library called SciPy, as well as an online software program called Winpepi. Fischer's 95% CI were used to widen values, while ensuring that data was still precise. Select indicator analyses were independently confirmed through multiple sources and fact-checking.

Results

In total, 100 mothers completed the survey and were used in the data analysis to provide baseline results for the 45 indicators assessed through the KIKOP program in Kisii, Kenya. The Tabulation Plan Tables containing all indicators can be found in the Appendix Section C. The KPC data below for the results serve as best estimates of the key maternal and infant health indicators. It is important to remember that these estimates are calculated with a certain level of error, as some indicators had a very low number of respondents leading to large confidence intervals. Each indicator was calculated at 95% confidence and is presented with upper and lower confidence intervals.

The tables below outline the findings of the 10 key indicators as well as deficits in the data analysis uncovered in relation to WASH goals, vaccination rates, and nutrition. The main concern with the results stems around small sample sizes lending to wide CIs. While we believe the data is sound reflective of the community, it should be noted that very wide CIs (0.50 to 1.10) can indicate data is consistent with a wide range of possibilities, future surveys will look to recruit higher numbers to generate narrower CIs.

Table D: Key Health Indicator Results

Indicator	Definition	Result (Percentage)
Health facility deliveries	Percentage of women interviewed who report that their most recent delivery occurred in a health facility (clinic or hospital - level 2, 3, 4 or 5) attended by a health professional (doctor, nurse, nurse-midwife, professional midwife, auxiliary nurse).	66% (CI: 56%, 75%)
Attention to obstetric complications	Percentage of women interviewed who report that they experienced a complication during pregnancy of their most recent pregnancy, and who received attention for the complication from a health professional (doctor, nurse, auxiliary nurse, professional midwife) in a health facility (clinic or hospital - level 2, 3, 4 or 5).	100% (CI: 81%, 100%)
	Percentage of women interviewed who report that they experienced a complication during pregnancy of their most recent delivery and who received attention for the complication from a health professional (doctor, nurse, auxiliary nurse, professional midwife) in a health facility (clinic or hospital - level 2, 3, 4 or 5).	100% (CI: 54%, 100%)
	Percentage of women interviewed who report that they experienced a complication during pregnancy of their most recent postpartum period and who received attention for the complication from a health professional (doctor, nurse, auxiliary nurse, professional midwife) in a health facility (clinic or hospital - level 2, 3, 4 or 5).	67% (CI: 35%, 90%)

Respectful, culturally appropriate care	Percentage of women interviewed who report that their most recent delivery occurred in a health facility and who state that the delivery met all the following conditions a) they received respectful courteous service; b) presence of family permitted; c) the woman able to choose her position of delivery and birth attendant; d) the woman was given sufficient privacy and e) the woman/family were allowed to consume traditional teas/foods and conduct traditional practices.	0% (CI: 0%, 5%)
Danger sign recognition	Percentage of women who, when interviewed, could name at least 3 danger signs in pregnancy that require immediate attention from a health professional.	15% (CI: 9%, 24%)
	Percentage of women interviewed who can name at least 3 danger signs in delivery that require immediate attention from a health professional	2% (CI: 0%, 7%)
	Percentage of women interviewed who can name at least 3 danger signs in the post-partum period for herself that require immediate attention from a health professional	5% (CI: 2%, 11%)
	Percentage of women interviewed who can name at least 3 danger signs in the post-partum period for her newborn that require immediate attention from a health professional	15% (CI: 9%, 24%)
Birth plan/ Emergency transportation-household	The percentage of women interviewed who state that their family had a birth/transport plan in place during their most recent pregnancy that meets at a minimum the following conditions: 1) identified the health facility where the woman plans to deliver; 2) how woman will get to the health facility and cost of that transportation; 3)identified how the family will secure the transportation money; 4) identified who will accompany the woman to the health facility; and 5) identified who will care for the woman's children and home during	0% (CI: 0%, 4%)

	her absence and who will help her postpartum.	

Table E: Maternal and Infant Care Behavior Indicator Results

Indicator	Definition	Results (Percent)
Health Facility Deliveries	Percentage of women interviewed who report that their most recent delivery occurred in a health facility (clinic or hospital - level 2, 3, 4 or 5) attended by a health professional (doctor, nurse, nurse-midwife, professional midwife, auxiliary nurse).	66% (CI: 56%, 75%)
Antenatal Care: 4+ Prenatal Checks	Percentage of women interviewed who had at least 4 ANC checks from a health professional prior to their most recent delivery per their Maternal Health Card.	34% (CI: 25%, 44%)
Male Partner Involvement in Newborn Care	Percentage of women interviewed who report that their husband/male partner accompanied them to at least one (1) antenatal care visit	27% (CI: 19%, 37%)
Essential Newborn Actions	Percentage of newborns of women interviewed [most recent delivery] who received all the following immediately after birth: a) immediate thermal care (drying and wrapping); b) immediate breastfeeding (IBF) (within 1 hour); c) clean cord care d) weighing and measuring; and e) BCG and Hep B immunization	1% (CI: 0%, 8%)

Postpartum Care	The percentage of women interviewed who reported that they received a post-partum check by a health professional (doctor, nurse, auxiliary nurse, professional midwife) for themselves and their newborn within 48 hours of their most recent delivery.	34% (CI: 25%, 44%)

Table F: WASH Indicator Results

Indicator	Definition	Results (Percent)
Handwashing Station	Percentage of households with a handwashing station with cleaning product, water and recipient	0% (CI: 0%, 4%)
Maternal Handwashing Behavior	The percentage of mothers interviewed who report that in the past 24 hours they washed their hands with soap and water at all the four critical moments: before food preparation, before feeding children, after defecation, and after attending to a child who has defecated	6% (CI: 2%, 13%)
Proper POU Water Treatment	The percentage of women interviewed who state that their households are applying effective water treatment (boiling, chlorination, SODIS, or filter) regularly (either the day of or the day before the interview) to their water used for drinking or cooking.	6% (CI: 2%, 13%)
Proper Water Storage	The percentage of women interviewed who state that their household stores all of their potable water safely (in a covered tank/cistern* or in a covered container with a narrow (<4 cm) opening) as verified through interviewer observation.	15% (CI: 9%, 24%)
Improved Latrine	Percentage of mothers who had an improved latrine	63% (CI: 53%, 72%)

Open Defecation Free Household	Percentage of households of interviewed mothers that 1) have no open defecation site; 2) have a basic latrine facility with drop hole cover to prevent flies and 3) have a hand washing station, per observation by interviewer	0% (CI: 0%, 4%)
Proper Feces Disposal	The percentage mothers interviewed who state that she safely disposed of their child's feces the last time s/he passed stool (either put the stool or dirty water in a latrine or in a toilet connected to a drainage system).	61% (CI: 51%, 71%)
Child Deworming – 12 -17 Months	Percentage of 12-18-month children of mothers interviewed who had been dewormed [with albendazole or other MOH approved anti-parasite medication]in the past 6 months according to their health card	32% (CI: 15%, 54%)
Child Deworming – 18-24 Months (All)	Percentage of 18-24-month children of mothers interviewed who had been dewormed [with albendazole or other MOH approved anti-parasite medication]in the past 6 months according to their health card	0% (CI: 0%, 17%)

Table G: Nutritional Standard Indicator Results

Indicator	Definition	Results (Percent)
Minimum Dietary Diversity (MDD) of Breastfed Children	Women interviewed with breastfed children between 6 and 23 months who provided sufficient dietary diversity within the past 24 hours	39% (CI: 25%, 53%)
Minimum Meal Frequency (MMF) – Breastfed Children	Women interviewed with breastfed children between 6 and 23 months who provided sufficient feeding frequency within the past 24 hours	58% (CI: 43%, 71%)

Minimum Acceptable Diet – Breastfed Children 6-23 Months	The percentage of women interviewed with a child 6-23 months who report practicing proper IYCF practices for their 6-23-month-old child in the past 24 hours, both in providing sufficient dietary diversity and frequency of feedings.	23% (CI: 13%, 37%)
EBF during the First 6 Months	Percentage of women interviewed with a child 6+ months who report that they practiced EBF for first 6 months	34% (CI: 23%, 47%)
EFT during Previous Day	Percentage of women interviewed with a child <6 months who report that they breastfed the previous day	100% (CI: 88%, 100%)

Table H: Child Immunization Rates and Deworming Indicator Results

Indicator	Definition	Results (Percent)
Immunization of Children – 6-11 months	Women of children ages 6-11 months who report that their child had received all required vaccinations	100% (CI: 78%, 100%)
Immunization of Children – 12-17 months	Women of children ages 12-18 months who report that their child had received all required vaccinations	100% (CI: 86%, 100%)
Immunization of Children – 18-24 Months	Women of children ages 18-24 months who report that their child had received all required vaccinations	45% (CI: 23%, 68%)
Proper Treatment of Diarrhea (Curamericas)	Percentage of under-2 children of mothers interviewed who had a diarrhea episode in the two weeks preceding the interview and whose mothers report that they were given ORS (packets or home solution)	55% (CI: 23%, 83%)

Timely Treatment of Malaria with ACT	Percentage of under-2 children whose mothers were interviewed who were diagnosed with malaria during the previous two weeks and who were treated with ACTs the same or next day after the fever began as reported by the mother interviewed.	20% (CI: 1%, 72%)
Proper/Timely Care-Seeking for Pneumonia	Percentage of under- 2 children whose mothers were interviewed who had presented with a chest-related cough and fast and/or difficult breathing in the previous two weeks and who were taken to an appropriate health provider within 48 hours of presenting symptoms as reported by the mother interviewed.	32% (CI: 14%, 55%)
Vitamin A – Dose 1 - 6-11 months	Percentage of 6-11-month children of mothers interviewed who received Vitamin A supplementation in the past 6 months according to their health card	73% (CI: 45%, 92%)
Vitamin A – Dose 2 - 12-17 months	Percentage of 12-18-month children of mothers interviewed who received Vitamin A supplementation in the past 6 months according to their health card	0% (CI: 0%, 14%)
Vitamin A – Dose 3 - 18-24 months	Percentage of 18-24-month children of mothers interviewed who received Vitamin A supplementation in the past 6 months according to their health card	30% (CI: 12%, 54%)

Discussion of Key Findings

Out of the 45 indicators assessed, many results for the baseline report were well below national averages as well as WHO/UNICEF objectives coupled with our own program goals. Outlined below are the areas with the greatest deficits, that are areas the program wishes to address to create better health outcomes from women and children.

a. Maternal and Infant Care Behavior

Facility Delivery and Respectful - Culturally Appropriate Care:

Table I: Distance to Healthcare Facility

Minutes Traveled to Clinic	Percentage of Women	95% Confidence Interval
0-14 minutes	10%	4.12%, 15.55%
15-29 minutes	27%	18.30%, 35.70%
30-44 minutes	36%	26.60%, 45.41%
45-59 minutes	15%	8.00%, 22.00%
> 1 hour	12%	5.63%, 18.40%

From the survey, 66% (CI: 55.85%, 75.18%) of women reported that they gave birth in a health facility while under the care of a healthcare professional, and of these women, none reported receiving respectful-culturally appropriate care. The recorded proportion of women who gave birth in a health facility is around the national average (61.2%), but studies have shown that women in rural communities more than 5km from a facility are less likely to utilize care in facilities.[7,3] Furthermore, the number of women who received respectful care in this study was alarming, as none felt they received respectful care. Yet, this is similar to qualitative studies conducted in the region and similar counties in Kenya.[6] Unfortunately, as county and national rates for health facility delivery have increased, there is an alarming rate of women reporting disrespectful and inappropriate care practices.[6] Moving forward, in order to reduce infant and maternal mortality while increasing facility delivery rates, a focus will be put on addressing access to respectful and culturally appropriate care. To do this, a recent study outlined key areas of focus on interventions including; neglectful care, increased abuse of young mothers, gender-based violence from health workers, and barriers to care.[6] Additionally, many in the region face barriers in accessing this care, especially as it relates to distance to travel to a facility in minutes as recorded in Table I above.

Maternal and Newborn Care:

A focus of the KIKOP intervention is to provide newborn care to women in Kisii County. The baseline data shows that only 34% of women attended at least four ANC visits with a skilled provider before giving birth (CI: 24.82%, 44.15%). A skilled provider is considered a doctor, nurse, nurse-midwife, professional midwife, or auxiliary nurse. Furthermore, only 5% (CI: 1.64%, 11.23%) of women indicated that they had planned what facility they would deliver at and only 1% (CI: 0.03%, 5.45%) of women had arranged transportation to a facility. 0% of survey respondents had a birth plan with all 5 components.

Expanding maternal knowledge increases the number of infants receiving essential newborn actions after birth, leading to better health outcomes. Essential newborn actions include the following immediately after birth: a) immediate thermal care (drying and wrapping); b) immediate breastfeeding (IBF) (within 1 hour); c) clean cord care d) weighing and measuring; and e) BCG and Hep B immunization. The baseline data concluded that only 1% of women indicated that their children received all of the care measures listed (CI: 0.04%, 8.16%).

Additionally, only 34% (CI: 24.82%, 44.15%) of women indicated that they and their newborn were visited by a health professional within 48 hours of giving birth for a postpartum checkup. Further training of health professionals and mothers could increase this indicator, along with better access to facilities and resources.

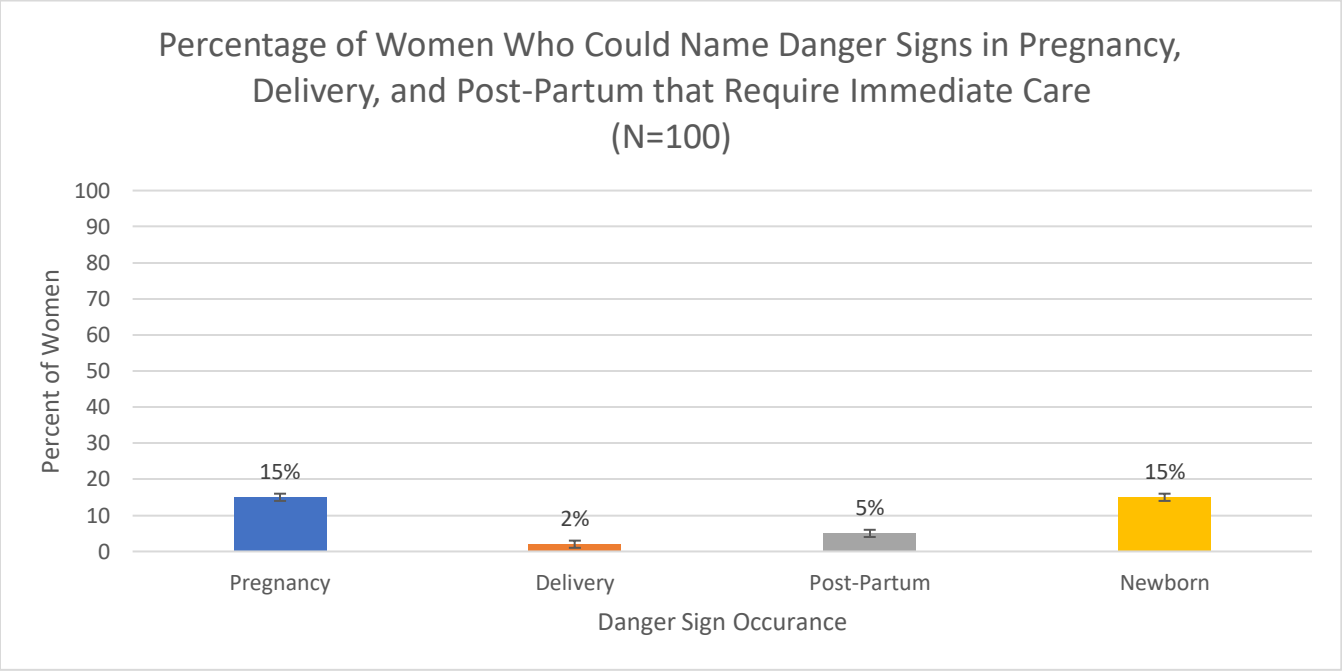
Danger Sign Recognition:

The program hopes to not only increase the percentage of women delivering in a health facility and attending ANC visits but also increase maternal knowledge on obstetric danger signs to increase health-seeking behavior. Indicators related to knowledge of dangers signs throughout pregnancy, labor, delivery, and the postpartum. Table J below displays the percent of women surveyed who could name the danger signs at different points in their pregnancy and postpartum along with the 95% confidence intervals at these markers. Currently, all responses regarding danger signs were recognizable at less than 20% of the women surveyed, which is well below the intended goal. The complete data as well as a graph can be seen below in Table J and Chart A.

Table J: Comparison of Danger Sign Knowledge Indicators

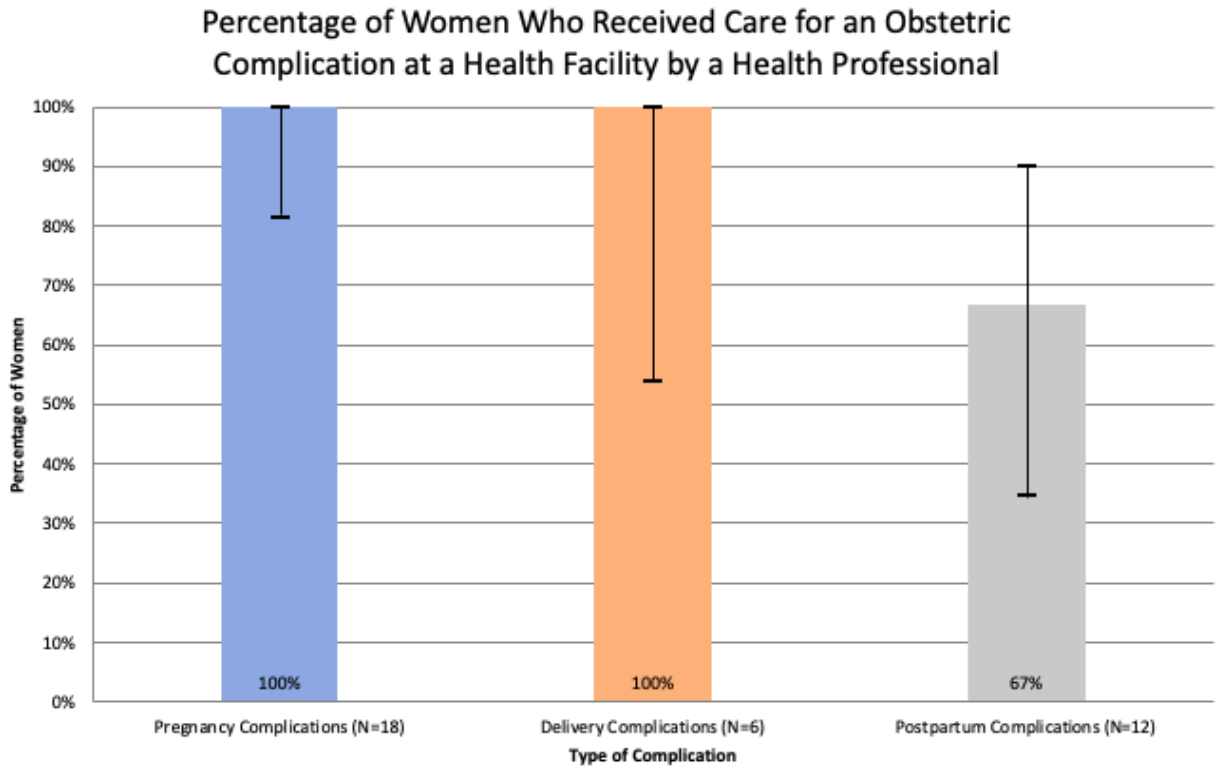
Danger Sign	Percentage of Women Who Can Name at Least 3	95% Confidence Interval
Pregnancy	15%	8%, 22%
Delivery	2%	0%, 7%
Postpartum	5%	2%, 11%
Newborn	15%	8%, 22%

Chart A: Danger Sign Knowledge



Despite the fact that many participants were unable to name obstetric danger signs or have a birthing plan in place, those women who have undergone obstetric emergencies visit a health facility at high rates. In Chart B below there is a visual for the percentage of women who were treated for an obstetric emergency as well as the timing of the emergency. For both pregnancy complications and delivery complications 100% of the surveyed women sought out care at a health facility. In comparison only about 66.7% of women sought out care for postpartum complications, which is probably due in part to the lack of knowledge of known danger signs among women for postpartum complications in their newborn and their own bodies. Further education regarding the matter could increase the percentage of women both seeking care and recognizing when care is needed for themselves and their children.

Chart B: Obstetric Emergencies



b. WASH Modules

Part of the goal of the program is to increase sanitation in the area as in accordance with USAID standards for Handwashing and Waste Disposal. The USAID WASH module, part of the USAID Maternal and Child Survival Program (MCSP), was used as an example and guide for standards and best practices to reduce childhood illness and improve community health.

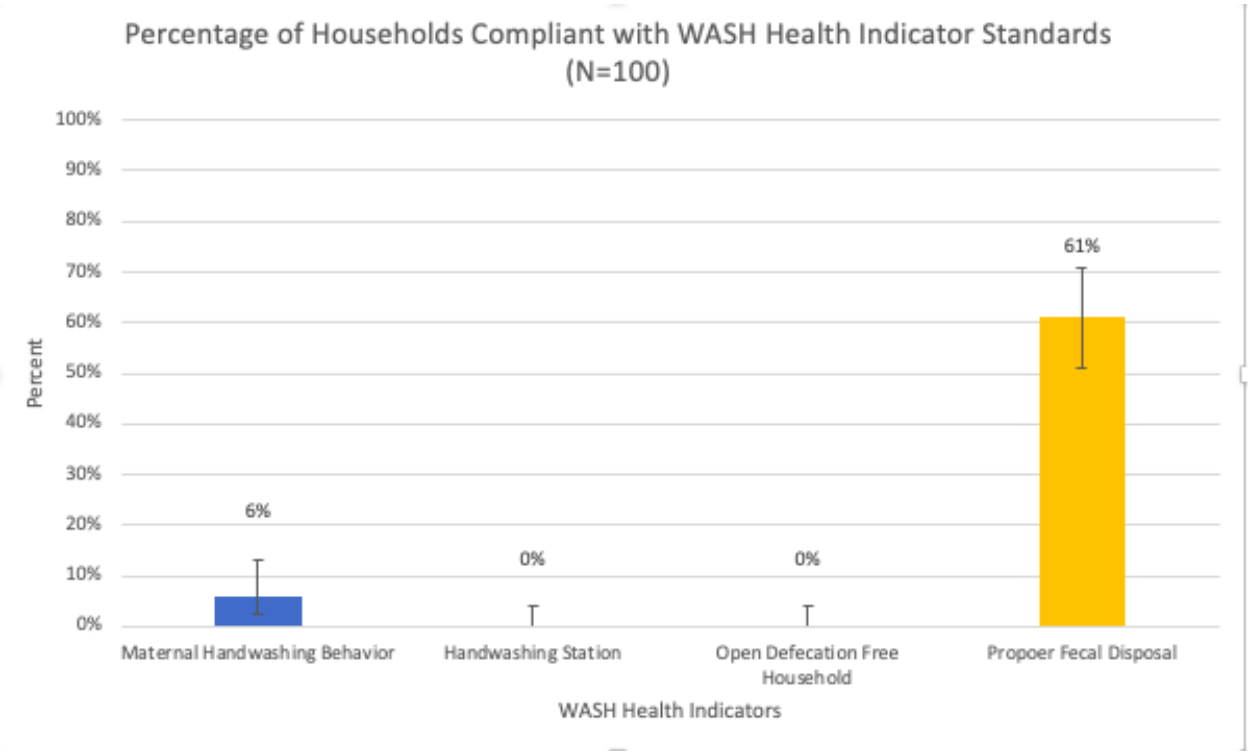
Of the surveyed households, no woman reported having a handwashing station with cleaning product, water and receptacle (0%, CI:0%, 3.62%). It is estimated that 6% (CI: 2.23%, 12.60%) of households in the area are practicing proper water treatment and 15% indicate that they are using proper water storage methods (CI: 8.65%, 23.53%). Proper water treatment practices

include boiling, chlorination, SODIS, or filter regularly being used either the day of or the day before the interview, for their water used for drinking or cooking.

An area of focus is proper waste (feces) disposal in the communities to increase sanitation and halt the spread of waste-borne disease. Proper waste disposal was calculated as the percentage of mothers interviewed who state that they safely disposed of their child's feces the last time s/he passed stool (either put the stool or dirty water in a latrine or in a toilet connected to a drainage system). The results showed that a little over half (57%) of households were correctly practicing waste disposal (CI: 90.76%, 99.96%). These numbers tie into the low percentage of households who complied with water treatment, storage, and open defecation free households. No participant reported living in an open defecation free household, meaning that their household did not: 1) have no open defecation sites; 2) have a basic latrine facility with drop hole cover to prevent flies and 3) have a hand washing station, per observation by interviewer. But, 63% of respondents did report having an improved latrine which they used (CI: 52.76%, 72.44%). An improved latrine is considered a pit latrine with a slab, ventilated improved pit latrine, or flush or pour flush toilet connected to a sewer system, septic tank, or pit latrine.

Parasitic infections are often a problem in areas that lack proper water treatment practices. In the observed data it has been documented that there is low compliance with proper water treatment practices within the catchment. Parasites can also be spread through contaminated food in addition to water, and contamination can occur in a variety of ways including from waste cross-contaminating with food and water.[2] The catchment also showed a lack of compliance with proper waste disposal methods and water storage coupled with a lack of ODF households. For these reasons there was a large proportion of children between the ages of 12-17 months being treated with albendazole or other MOH approved anti-parasite medications (32%, CI: 14.95%, 53.50%). Older children were not prescribed this medication, but these numbers may be skewed by the fact that data was recorded from the health card information and there is a low proportion of mothers that seek treatment immediately for these diseases. The administration of albendazole is a precautionary measure in this catchment due to low compliance with proper water treatment and waste disposal. The WHO recommends that 100% of children receive the medication at 12 months, 18 months, and 24 months.[2] As discussed, the rates in the region are well below this average, possibly relating to other health issues due to parasitic infections such as malnutrition and diarrhea.[2]

Chart D: WASH Health Indicators



c. Nutrition Standards

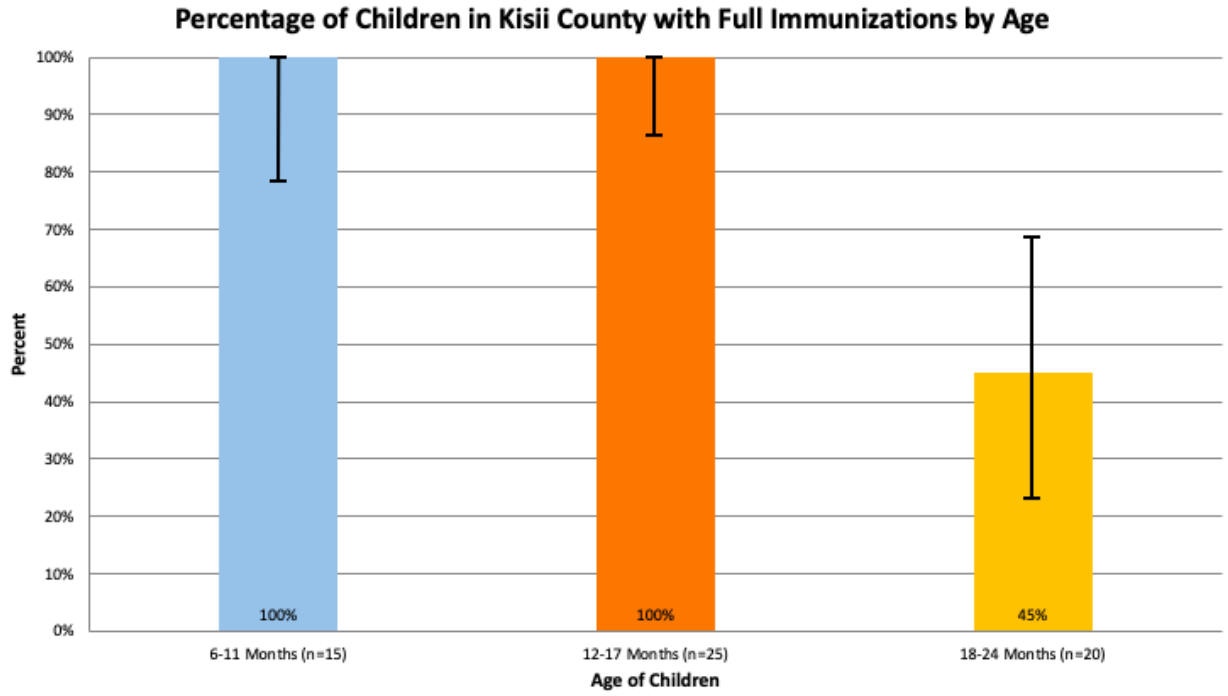
While maternal health and nutrition is very important, infant nutrition also plays a key role in preventing mortality.[9] The WHO suggests that adequate nutrition during infancy is paramount for predicting future health outcomes and recommends all infants should be exclusively breastfed for the first 6 months of life.[9] In the sample, the region is way below this goal with only 34% (CI: 23%, 47%) of mothers with children older than 6 months reporting EBF for the first six months of their child's life. This percentage is in line with the Kenyan National Average of 33% of mothers practicing EBF for the first 6 months.[9] In order to promote better health outcomes as the child grows, more needs to be done to increase EBF practices for the first six months.

Data regarding nutrition including minimum acceptable diet, minimum meal frequency, and minimum dietary diversity for children between 6 months and 23 months was alarming. Only 39% (CI: 25%, 53%) of breastfed children met the benchmark for MDD while only 23% (CI: 13%, 37%) reached the benchmark for minimum acceptable diet. Barely more than half of mothers (58%, CI:43%, 71%) indicated that their child was provided MMF in the previous 24 hours. These numbers are troubling as infants require the proper nutrition to grow into healthy children with strong immune systems.[9]

d. Childhood Immunization Rates and Deworming

KIKOP is also interested in improving the health of children and decreasing preventable deaths. Part of this goal includes ensuring that children are up to date on vaccinations and that parents understand when children need to receive medical care by a medical professional. The WHO has a vaccination goal internationally of 90% of children being up to date on their vaccinations in order to prevent deaths from diseases with known cures and vaccines. In Kisii County as children age the percentage who keep up to date on all vaccinations decreases. By best estimates 100% (CI: 78.2%, 100%) children between the ages of 6-11 months are fully vaccinated, and 100% (CI: 86.28%, 100%) of children between the ages of 12-18 months are fully vaccinated. But between the ages of 18-24 months only about 45% of children are fully vaccinated (CI: 23.06%, 68.47%). So, once children enter their first year of life, they are less likely to receive continued vaccinations and very much under the WHO global goals for stopping deaths from preventable diseases. This reasoning could be tied into the fact that many households live far from a health care facility, as described in Table I.

Chart E: Childhood Immunizations



Furthermore, the program follows the goals and standards set forth by USAID for the Sick Child Module (MCSP) for treating childhood disease and illnesses. The module lays out not only the expectation for sanitation but also the definitions of each component. According to USAID standards, only 27.3% (CI: 6.02%, 60.97%) of children received proper treatment for diarrhea and according to Curamericas standards only 54.5% (CI:23.38%, 83.25%) of children received proper treatment of diarrheal disease. Both of these baselines are way below standards for care and treatment of diarrhea. Relating to malaria, only 20% (CI: 0.51%, 71.64%) of children under 2 years old were treated with ACTs within a day of fever diagnosis. Of the under 2-year-old children who were diagnosed with pneumonia, 31.8% (CI: 13.86%, 54.87%) were taken to a health facility for treatment within 48 hours of presenting symptoms. This could be for a plethora

of reasons including a lack of symptom recognition or lack of resources to go to a health facility. Still, a large part of decreasing preventable deaths has to do with seeking timely treatment.

Programmatic Implications

Moving forward, the program will use the data calculated and presented in this report as a baseline set of data to use in program planning moving forward. By identifying current deficits in key program goals there are now areas of focus for future reports. The overall focus will be to decrease infant and maternal mortality rates in the region. The program will achieve this by improving access to health facilities with trained professionals, as well as providing training and outreach regarding education about health resources and practices for mothers. By providing better educational resources regarding obstetric complications, handwashing, waste disposal, and immunization the rates of complications will decrease in the community. The program will also use results regarding respectful and culturally appropriate care as a guideline for improvements not only in training but in policy.

Information Dissemination Action Plan

Preliminary results have already been shared by program staff in-country with the Ministry of Health at the sub-county and county levels. The staff received some feedback at this time. Once the KPC report is finalized it will be distributed to program partners, grant funders, the Ministry of Health and community leaders for dissemination in full. An executive summary will also be readily available for public viewing.

Resources

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2) Deworming in children. (2018, September 13). Retrieved from https://www.who.int/elena/titles/guidance_summaries/deworming-children/en/

3) Ettarh, Remare & Kimani, James. (2014). Influence of Distance to Health Facilities on the Use of Skilled Attendants at Birth in Kenya. Health care for women international. 37. 10.1080/07399332.2014.908194.

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5) Kenya's Vision 2030: Health Services. (n.d.). Retrieved from https://www.kisii.go.ke/index.php/departments/health-services

6) Kenyan Ministry of Health. (2015). Kisii County: Health at a Glance. *Kisii County: Health at a Glance.*

7) Lusambili AM, Naanyu V, Wade TJ, Mossman L, Mantel M, Pell R, et al. (2020) Deliver on Your Own: Disrespectful Maternity Care in rural Kenya. PLoS ONE 15(1): e0214836. https://doi.org/10.1371/journal.pone.0214836

8) Mbugua, Samwel, and Kerry L. D. MacQuarrie. 2018. Maternal Health Indicators in High-Priority Counties of Kenya: Levels and Inequities. DHS Further Analysis Reports No. 110. Rockville, Maryland, USA: ICF.

9) Mohamed, M. J., Ochola, S., & Owino, V. O. (2018). Comparison of knowledge, attitudes and practices on exclusive breastfeeding between primiparous and multiparous mothers attending Wajir District hospital, Wajir County, Kenya: a cross-sectional analytical study. International breastfeeding journal, 13, 11. https://doi.org/10.1186/s13006-018-0151-3

10) Osoro, A. A., Ng'ang'a, Z., Mutugi, M., & Wanzala, P. (2014). Maternal mortality among women seeking health care services in Kisii Level 5 Hospital. *American Journal of Public Health Research*, *2*(5), 182-187.

11) Republic of Kenya Ministry of Health. (2014). *Health Sector: Human Resources Strategy 2014-2018*. Nairobi, Kenya.

Appendix

Appendix Section A: Village and Number of Respondents

Village	Number of Respondents
Bomondo	6
Emanyi	2
Engoto B	7
Getienko	3
Karisebe	6
Kenyoni 1	4
Kenyoni 2	2
Maguti	3
Morara 1	5
Morara 2	4
Mwabarake 1	3
Mwabarake Borabu	6
Mwamwebi Borabu	3
Mwamwebi Ebate	2
Mwanyagotunga 2	7
Mwanyakundi Borabu	5
Nyabikondo 1	4
Nyabirundu	4
Nyagisai	5
Nyamariba 2	3
Nyamorianyi	2
Nyangoso	2
Nyantaro	5
Siara 1	3
Siara 2	4

Appendix Section B: Survey Questionnaire

QUESTIONNAIRE
KNOWLEDGE PRACTICE AND COVERAGE (KPC) SURVEY
OF WOMEN WITH CHILDREN UNDER 2 YEARS OF AGE

KITUTU CHACHE SOUTH SUB-COUNTY MINISTRY OF HEALTH
IN PARTNERSHIP WITH CURAMERICAS GLOBAL
INFORMED CONSENT

Explain to the mother: My name is _____ and I am part of the Kisii County Ministry of Health and Curamericas team conducting a survey on women's health and nutrition of children 0-23 months in Kitutu Chache North sub-county. The information you provide will help to plan for health and nutrition services in your community. Everything you tell me will be confidential and will not be disclosed to anyone without your consent. Your name will not appear on any document or report. If I ask you any question that you feel you don't want to answer, just let me know and I will go on to the next question. You can stop the interview at any time. In case you need more information about the survey, you may contact **Thomas Oirere** of MOH. You have the right not to participate in the survey. However, we encourage you to participate to help your community. The interview will take not more than 45 minutes. Do you have any question?

Will you participate in the survey?

IF YES → Sign (or fingerprint) below and proceed with the interview
IF NO→ Go to the next mother on the list

Sign (or thumbprint) of the mother or interviewee: _____

Questions to determine if mother is eligible for interview:

What is the age of your last-born child? [Verify Age from MCH booklet if able]

A. 0-23 months
B. 24 months and above [confirm from the MCH booklet] ……> **END INTERVIEW**

Do you have more than one child under age 2?

- ➔ **If Yes:** *Select child to participate in interview. If there is more than one child in this age group, interviewer picks the youngest child. If there are twins, interviewer picks child using coin toss.*
- ➔ **If No:** *Continue interview. Questions will be about her child under age 2.*

	Household Identification (House_ID)		**Value**	**LABEL ODK**
1	Village Name	Bomondo	Bomondo	Village
		Botabori 1	Botabori_1	
		Botabori 2	Botabori_2	
		Engoto A	Engoto_a	
		Engoto B	Engoto_b	
		Getienko	Getienko	
		Karisebe	Karisebe	
		Kenyoni 1	Kenyoni_1	
		Kenyoni 2	Kenyoni_2	
		Maguti	Maguti	
		Morara 1	Morara_1	
		Morara 2	Morara_2	
		Mwamaobe A	Mwamaobe_a	
		Mwamaobe B	Mwamaobe_b	
		Mwabarake 1	Mwabarake_1	
		Mwabarake 2	Mwabarake_2	

		Mwabarake Borabu	Mwabarake_bora	
		Mwamwebi Borabu	Mwamwebi_borab	
		Mwamwebi Ebate	Mwamwebi_ebate	
		Mwamwebi Masongo	Mwamwebi_mason	
		Mwamwebi Ondiri	Mwamwebi_ondir	
		Mwanyagotunga 1	Mwanyagotunga_1	
		Mwanyagotunga 2	Mwanyagotunga_2	
		Mwanyakundi 1	Mwanyakundi_1	
		Mwanyakundi Borabu	Mwanyakundi_bo_1	
		Mwanyakundi Kemanko	Mwanyakundi_ke	
		Nyabikondo 1	Nyabikondo_1	
		Nyabikondo 2	Nyabikondo_2	
		Nyabirundu	Nyabirundu	
		Nyagisai	Nyagisai	
		Nyagoto	Nyagoto	
		Nyamariba 1	Nyamariba_1	
		Nyamariba 2	Nyamariba_2	
		Nyamorianyi	Nyamorianyi	
		Nyangoso	Nyangoso	
		Nyantaro	Nyantaro	
		Siara 1	Siara_1	

		Siara 2 Emanyi	Siara_2 Emanyi	
2	Household number			HHID
3	Name of household head			HH_Head
4	Nearest Health facility	A. Nyagoto health center B. Marani health center C. Level 2 in sub-county D. Level 2 out of sub-county E. Level 3 in sub-county F. Level 3 out of sub-county G. Level 4 in sub-county H. Level 4 out of subcounty I. Level 5 J. Private Health Facility	A. Nyagoto B. Marani C. L2ISC D. L2OSC E. L3ISC F. L3OSC G. L4ISC H. L4OSC I. L5 J. Private	Near_HF
5	How many minutes walking does it take you to get to the nearest health facility?	A. 0-14 minutes B. 15-29 minutes C. 30 minutes-44 minutes D. 45 minutes – 59 minutes E. 1 hour + F. Does not know	A. 0-14min B. 15-29min C. 30-44min D. 45-59min E. >1_hr F. 999	HF_Dist

IDENTIFICATION			**Value**	**ODK LABEL**
6	Interviewer name	[List of interviewers] – moved to end of questionnaire	Text	Interviewer

7	First name of child *To learn more about the services you and your child (name) have received, i would like to look at your mother child health booklet/anc card and that of your last-born child. Kindly show me the mch booklets/anc card.* • *If there is more than one child in this age group, interviewer picks the youngest child* • *If there are twins, interviewer picks child using coin toss*	----------	Text	Child_Name
8	Child's sex	A. Male B. Female	A. Male B. Female	Child_Sex
9	Child's date of birth *[verify with health card]*	A. _____/_____/_____ dd mm yyyy {If parent does not remember or does not have health card, use 01/01/2017}	Date	Child_DOB

10	Child's age in months *Use 0 if the child is not yet one month old* *Answer according to health card, or if not available, use the age provided by the caretaker*	----------months	Number	Child_Age

MODULE 1: MOTHER'S DEMOGRAPHIC DATA

No.	Questions	Coding	Value	Skip	ODK Label
11	What was your age (mother's age) at your last birthday? *[verify with health card if able]* [enter 999 if mother doesn't know]	_____years	Number		Mother_Age
12	Are you currently pregnant?	A. Yes B. No ---------- → C. Unsure---------- →	A. 1 B. 0 C. 999	**#14** **#14**	Mother_Preg
13	How many months pregnant? [enter 999 if mother doesn't know]	_____ months	Number		Mother_Gest

14	Are you currently lactating?	A. Lactating B. Not Lactating	A. LACT B. NLACT		Mother_Lact
15	What language are you most comfortable with using to express/communicate with others?	**A.** English **B.** Kiswahili **C.** Kikisii **D.** Luo **E.** Luhya **F.** Other	A. ENG B. KIS C. KIK D. LUO E. LUH F. OTH_15		Mother_Lang
16	What is the highest level of education that you have completed?	A. None B. Some Lower primary (class 1-3) C. Completed lower primary D. Some Upper Primary (class 4-7) E. Completed upper primary F. Some Secondary G. Completed secondary H. Some college/university I. College/Pre-university/University J. Postgraduate K. Other	A. None B. SLP C. CLP D. SUP E. CUP F. SS G. CS H. SCU I. CPU J. Post-Grad K. OTH_16		Mother_Edu

17	Which religion do you belong to?	A. Christian B. Muslim C. Traditional D. Hindu E. Other	A. CHRIST B. MUSL C. TRAD D. HINDU E. OTH_17		Mother_Rel
18	What is your marital status?	A. Married B. Married but not staying together C. Separated D. Divorced E. Staying together but not married F. Widowed G. Single (never married)	A. Marr B. Marr_NST C. Separated D. Divorced E. Staying_NM F. Widowed G. Single		Mother_Marital
19	What would you say is your main Occupation/Source of livelihood currently? *[Choose one response only]*	A. Formal Employment B. Informal employment/Jua Kali C. Casual labor D. Own business E. Petty trading / Hawking F. Farming G. Dairy farming H. Dependent I. Housewife J. Other	A. Form_Emp B. Inform_Emp C. Cas_Lab D. Busina E. Petty_Hawk F. S_Farm G. D_Farm H. Dep I. H_wife J. OTH_19		Mother_Emp
20	What is your family's monthly cash income?	_____Ksh (999= Does not know)	Number		Income
21	In the past month, about how much did your family spend on health care (fees, medicines)?	_____Ksh (999= Does not know)	Number		Health_Exp

22	*[Interviewer observes this directly]* Of what material is the floor of the house?	A. Earth/Dirt/smeared with cowdung B. Concrete/cement C. Tile/vinyl/linoleum D. Other	A. Dirt B. Cement C. Tile D. OTH_22		House_floor

MODULE 2 – MOTHER'S OBSTETRIC ANTECEDENTS

No.	Questions	Coding	Skip	
24	How many pregnancies have you had that resulted in a live birth?	Live birth # _____ (999= Does not know)		Mother_Num_LB
25	How many pregnancies have you had that resulted in a stillbirth? *[Stillbirth: the birth of an infant that has died in the womb or during labor after at least 28 weeks (7 months) of pregnancy)*	Stillbirth #_____ (999= Does not know)		Mother_Num_SB

26	How many pregnancies have you had that resulted in a miscarriage? *[Miscarriage is the spontaneous loss of a fetus before the 28 weeks (or 7 months) of pregnancy]*	Miscarriage #_____ (999= Does not know)		Mother_Num_Mis
	How many pregnancies have you had that you intentionally terminated? [*This question prompts for abortion but kindly don't mention the word abortion. Enter 999 if mother doesn't know or not willing to answer*]	Abortion #_____ (999 = Does not know)		Abortions
	How many pregnancies have you had in your life? [*sum total of livebirths, stillbirths, miscarriages and abortions*]	Pregnancies #_____		how_many_pregnancies_you_had_in_your_life
27	How old were you when you became	_____years old (999= Does not know)		Mother_First_Preg

	pregnant for the first time?			

MODULE 3. PREGNANT WOMAN CARE

The following questions are about the mother's pregnancy the child identified in question 7

No.	Questions	Coding	Value	Skip	ODK Label
28	How many antenatal care checks did you go to during your pregnancy with [child name]? *Enter number of checks according to mother*	A. Less than 4 ANC checks B. 4 or more ANC checks C. Don't know	**A.** Under_4anc **B.** 4+anc **C.** 999		ANC_Mother
29	*[Refer to MNCH booklet]* How many ANC checks did you go to during your pregnancy with [child name]? *Record number of checks made during the pregnancy of [name of child] according to health booklet.*	A. Less than 4 ANC checks B. 4 or more ANC checks C. MCH booklet unavailable	**A.** Under4ance **B.** 4+ance **C.** No booklet		ANC_MNCH
30	When you were pregnant with [child name], did your husband/partner accompany you to antenatal care?	A. Yes B. No ----------→ C. Doesn't remember----→	A. 1 B. 0 C. 999	**#32** **#32**	ANC_Partner

No.	Questions	Coding	Value	Skip	ODK Label
31	How many antenatal care checks did your husband/partner accompany you to when you were pregnant with (child name)?	____ ANC checks (if none, put 0)	**Number**		ANC_Partner_Att
32	When you were pregnant with (child name), did you and your family have a birth plan?	A. Yes B. No----------→ C. Doesn't remember----→	A. 1 B. 0 C. 999	**#34** **#34**	Birthplan
33	What did that birth plan include? *[Multiple responses allowed. Indicate all responses mentioned. Do not read choices]*	A. Name of the health facility where you planned to deliver; B. Mode of transport to the facility C. Money for transport D. Person to accompany you to health facility E. Person to care of your home/other children during your absence F. Other	a. Facility_Deliv b. Transport c. Money d. Person_Acc e. Person_Home f. OTH_33		Birthplan_Comp

No.	Questions	Coding	Value	Skip	ODK Label
33b.	Other – Kindly specify what was in your birthplan	Text	Text		Birthplan_other
34	During your last pregnancy did you receive/buy tablets or syrup containing iron or folic acid? *(Show example iron tablets/syrup/folic acid)*	**A.** Yes **B**. No----------→ **C.** Doesn't remember----------→	A. 1 B. 0 **C.** 999	**#36** **#36**	Supp
35	For how many days did you consume the tablets or syrup? *Note: If respondent replies in weeks or months, convert weeks or months to days*	___ days (999= Does not know)	Number		Supp_days

No.	Questions	Coding	Value	Skip	ODK Label
36	What problems or signs of danger during pregnancy would make you seek help urgently with health personnel? *[Do not read the list.* *Probe; anything else?* *Mark all responses mentioned]*	A. Vaginal hemorrhage B. Difficulty breathing/lack of air C. Fever D. Strong abdominal pain E. Headache/blurry vision F. Seizures/Convulsions G. Foul-smelling vaginal discharge H. The baby doesn't move anymore I. Brown or green vaginal discharge J. Swollen feet, face, body K. The water broke L. Other_____ M. Did not know	A. Vag_Hemo B. SOB C. Fever D. SAP E. HA F. Seiz G. BV H. FD I. Yeast J. Edema K. PROM L. OTH_36 M. DNR_36		Preg_Dang

No.	Questions	Coding	Value	Skip	ODK Label
	What other danger sign during pregnancy?	Text	Text		other_pg_danger
37	Did mother list 3 or more danger signs on the list?	A. Yes B. No	A. 1 B. 0		Preg_Dang3
38	During your last pregnancy, did you have any complications or discomfort? *[Note: this is about the pregnancy, not the birth]*	A. Yes B. No ----------→ C. Doesn't remember----------→	A. 1 B. 0 C. 999	 **#42** **#42**	Preg_comp

No.	Questions	Coding	Value	Skip	ODK Label
39	What was the complication during the pregnancy? *[Do not read the list of complications. Mark all that are applicable]*	**A**. Miscarriage **B**. Hypertension (Pre-eclampsia/eclampsia) **C**. Excessive bleeding **D**. Infection/Fever E. Malaria F. Foul Vaginal Discharge G. HIV/AIDS H. Sexually transmitted infection (STI) I. UTI (urinary tract infection) J. Rhesus incompatibility K. Abdominal pains L. Breech presentation M. Doesn't remember X. Other specify	A. MIS B. HTN C. Hemorr D. Infx E. Malaria F. Discharge G. HIV H. STI I. UTI J. Rhesus K. Abd_pains L. Breech M. 999 N. Other_comp		Preg_Comp_type
39b.	Other – Kindly specify the other complication mentioned above	**Text**	Text		Other_compl
40	Did you receive any treatment for your pregnancy complications?	**A**. Yes **B**. No ----------→ **C.** Doesn't remember----------→	A. 1 B. 0 C. 999	 **#42** **#42**	Preg_comp_tx

No.	Questions	Coding	Value	Skip	ODK Label
41	Where did you receive treatment?	A. Nyagoto health center B. Marani health center C. Level 2 in sub-county D. Level 2 out of sub-county E. Level 3 in sub-county F. Level 3 out of sub-county G. Level 4 in sub-county H. Level 4 out of subcounty I. Level 5 J. Private Health Facility K. Home L. Other M. Doesn't remember	A. Nyagoto_41 B. Marani_41 C. L2ISC_41 D. L2OSC_41 E. L3ISC_41 F. L3OSC_41 G. L4ISC_41 H. L4OSC_41 I. L5_41 J. Private Health Facility K. Home L. OTH_41 **M.** DNR_41		Preg_comp_loc
	Kindly specify other facility you received treatment	Text	Text		Other_Facility_Comp

MODULE 4: THE BIRTH AND NEWBORN CARE

[NOTE: THE FOLLOWING QUESTIONS RELATE TO THE PREGNANCY THAT RESULTED IN THE LIVE BIRTH OF THE CHILD ON THE U2 REGISTER]

No.	Questions	Coding	Value	Skips	ODK Label
42	Was the birth normal or did you have any complications or discomforts	**A.** Birth with complications **B.** Normal birth----------→ **C**. Doesn't remember----------→	A. BWC B. NB C. 999	**#47** **#47**	Birth_comp
43	What was your birth's complication? *[Do not read the list of complications. Mark all that are applicable]*	**A**. Long labor/dystocia **B.** Wrong Delivery Presentation (transverse/occiput) **C**. Hypertension (Preeclampsia/eclampsia) **D**. Hemorrhaging **E**. Infection/Fever **F**. Retained placenta **G.** Placenta Previa H Ruptured membrane **I**. Premature birth J. Breech Presentation K. Cord Prolapse/compression **J**. Other (Specify)_____ **K**. Doesn't remember	A. Long_Dyst B. Trans_Occip C. HTN_43 D. Hemorr_43 E. Infx_43 F. Place_retai G. Place_prev H. Memb_Rupt I. Prem_Birth J. OTH_43 K. DNR_43		Birth_Comp_type
	What other birth complications did you experience?	**Text**	Text		What_other_birth_complications_43
44	Did you receive any treatment for the birth complications?	**A**. Yes **B**. No ----------→ **C**. Doesn't remember----------→	A. 1 B. 0 C. 999	**#47** **#47**	Birth_Comp_tx

No.	Questions	Coding	Value	Skips	ODK Label
45	Where did you receive treatment for the birth complications?	A. Nyagoto health center B. Marani health center C. Level 2 in sub-county D. Level 2 out of sub-county E. Level 3 in sub-county F. Level 3 out of sub-county G. Level 4 in sub-county H. Level 4 out of subcounty I. Level 5 J. Private Health Facility K. Other L. Home M. Doesn't remember	A. Nyagoto_45 B. Marani_45 C. L2ISC_45 D. L2OSC_45 E. L3ISC_45 F. L3OSC_45 G. L4ISC_45 H. L4OSC_45 I. L5_45 J. PHF_45 K. OTH_45 L. HOME_45 M. DNR_45		Birth_Comp
	Other (specify) – where did you receive treatment for the birth complications	Text	Text		Other_specify_45
46	Did you get a C-section?	**A.** Yes **B**. No **C.** Doesn't remember	A. 1 B. 0 C. 999		C_Section

No.	Questions	Coding	Value	Skips	ODK Label
47	Who attended to your last birth? *[Do not read the options. You can mark multiple choices]*	A. Doctor B. Professional Nurse C. Auxiliary nurse D. Skilled birth attendant E. Traditional birth attendant (TBA) F. Clinician G. Community Health Worker H. Family member I. Nobody J. Other (specify) K. Doesn't remember	A. Doc B. PN C. AN D. SBA E. TBA F. clinician G. CHW H. family I. none J. other_47 K. 999		Birth_attend
47b.	Other (specify) – kindly specify the person who attended to your birth	Text	Text		other_specify_47

No.	Questions	Coding	Value	Skips	ODK Label
48	Where did you give birth to [child name]?	A. Nyagoto health center B. Marani health center C. Level 2 in sub-county D. Level 2 out of sub-county E. Level 3 in sub-county F. Level 3 out of sub-county G. Level 4 in sub-county H. Level 4 out of subcounty I. Level 5 J. Private Health Facility K. Home (no SBA)--------- → L. Home (with SBA)------ →	A. Nyagoto_48 B. Marani_48 C. L2ISC_48 D. L2OSC_48 E. L3ISC_48 F. L3OSC_48 G. L4ISC_48 H. L4OSC_48 I. L5_48 J. PHF_48 K. HOME_NOSBA_48 L. HOME_SBA_48	**#54** **#54**	Birth_Loc

No.	Questions	Coding	Value	Skips	ODK Label
48b.	Before we move to the next section confirm in the delivery was home (with or without skilled attendant) or a facility delivery	A. Facility delivery (public or private) B. Home based delivery	A. Facility_deliv B. Home_delivery		before_we_move_to_the_next_sec
	During the birth, did the health personnel allow your family to be present?	**A**. Yes **B**. No **C.** Doesn't remember	A. 1 B. 0 C. 999		HFD_Fam
49	During the birth, did the health personnel treat you promptly, and with kindness and respect?	**A**. Yes **B**. No **C.** Doesn't remember	A. 1 B. 0 C. 999		HFD_Respect
50	During the birth were you given adequate privacy?	**A**. Yes **B**. No **C.** Doesn't remember	A. 1 B. 0 C. 999		HFD_Privacy
51	During the birth, were you allowed to choose the birthing position and your birth attendant?	**A**. Yes **B**. No **C.** Doesn't remember	A. 1 B. 0 C. 999		HFD_Position
52	During or after the birth, did the health personnel permit traditional foods and practices?	**A**. Yes **B**. No **C.** Doesn't remember	A. 1 B. 0 C. 999		HFD_Trad
53	Immediately before or after the birth, did you get an injection or a pill to prevent hemorrhaging (excessive bleeding)?	**A.** Yes **B.** No **C.** Doesn't remember	A. 1 B. 0 C. 999		AMSTL_Bleed

No.	Questions	Coding	Value	Skips	ODK Label
54	The person who attended to you during the birth, did they hold your abdomen and hold the umbilical cord so that the placenta would come out?	**A.** Yes **B.** No **C.** Doesn't remember	A. 1 B. 0 C. 999		AMSTL_CordTract
55	Immediately after the expulsion of the placenta, did anyone massage your uterus so that it would contract and prevent excessive hemorrhaging?	**A.** Yes **B.** No **C.** Doesn't remember	A. 1 B. 0 C. 999		AMSTL_Massage
56	After the umbilical cord was cut, what did they use to prevent infection?	**A.** Medicine/ Chlorhexidine/ antiseptic B. Jik C. Nothing D. Ashes E. Clean warm water F. Mothers milk G. Lizard feces H. Other (specify)_____ I. Doesn't remember	A. Meds_57 B. Jik C. Nothing_57 D. Ashes E. warm_water F. milk G. lizard_feces H. OTH_57 I. DNR_57		ENC_CordCare
56b.	What other did you use to prevent cord infection?	Text	Text		Other_specify_57

No.	Questions	Coding	Value	Skips	ODK Label
57	Immediately after the birth and before the expulsion of the placenta, what was done to baby [NAME]? *[Mark A only if <u>both</u> acts –dried and wrapped- were performed]*	A. Dried and wrapped with warm cloth/blanket B. Placed skin-to-skin on the mother C. Baby was taken away by health worker D. Baby was washed with water E. Other specify…… F. Doesn't remember	A. DWCB_ B. SKIN_2_SKIN C. Baby_Away D. Baby_Washed E. OTH_ F. 999		ENC_Dry
57b.	Kindly specify what other was done to the baby immediately after birth and before expulsion of the placenta	Text	Text		Other_specify_57
58	How soon after birth did you breastfeed baby [NAME]?	A. Immediately or within the first hour B. After the first hour C. Doesn't remember	A. STAT B. S/P1HR C. 999		ENC_IBF
59	Immediately after the birth, was the baby weighed?	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		ENC_Weigh
60	Immediately after the birth, was the baby's height measured?	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		ENC_Measure

No.	Questions	Coding	Value	Skips	ODK Label
61	*[Check in the Maternal Child Health booklet]* Did child receive BCG vaccination the day they were born?	A. Yes B. No C. Booklet not available/not listed in booklet	A. 1 B. 0 C. NB		ENC_BCG
62	Date of BCG vaccination {Put 01/01/2017 if mom doesn't remember, child did not receive one, or date is not on health card}	DD/MM/YYYY	Date		BCG_Date
63	*[Check in the Maternal Child Health booklet]* Did child receive OPVO vaccination the day they were born?	A. Yes B. No C. Booklet not available/not listed in booklet	A. Yes B. No C. NB		ENC_OPVO
64	Date of OPVO vaccination {Put 01/01/2017 if mom doesn't remember, child did not receive one, or date is not on the health card}	D. DD/MM/YYYY	Date		ENC_OPVO

No.	Questions	Coding	Value	Skips	ODK Label
65	What problems or danger signs during labor/delivery would make you seek urgent care with health personnel? *[Do not read the list.* *Probe; anything else?* *Mark all responses mentioned]*	A. Seizures B. Fever C. Abundant hemorrhaging/Placenta previa D. Fast/difficult breathing E. Placenta not coming out F. Strong headache/blurry vision G. Long labor/hard labor H. Breech presentation I. Cord prolapse/cord compression J. Other (specify) _____ X. Does not know	A. Seizure B. Fever C. Hemorr_66 D. Rap_RR E. Placenta_no F. Pound_HA G. LLHL_66 H. breech I. coerd_comp J. OTH_66 X. 999		Delivery_dang
	Would you kindly specify the other danger signs during labor	Text	Text		Other_specify_66
66	Did mother list 3 or more danger signs on the list?	A. Yes B. No	A. 1 B. 0		Delivery_Dang3

No.	Questions	Coding	Value	Skips	ODK Label
67	During your last delivery, how much was spent on the following items: *[Ask about each item. Mark all costs that are remembered]*	**A.** Transportation costs _____ **B.** Food _____ **C.** Health care services _____ **D.** Medicines_____ **E.** Midwife/TBA _____ **F.** Other _____ G. Don't know/Doesn't remember any costs	A. Transport B. Food C. HCS_68 D. Medicines E. TBA/MWF F. OTH_68 G. DNR_68		Delivery_cost
67a	Transportation costs	**Number**	Number		Transport
67b	Food	**Number**	Number		Food
67c	Healthcare services	**Number**	Number		HCS_68
67d	Medicines	**Number**	Number		Medicines
67e	Midwife/TBA	**Number**	Number		TBA_MW
67f	Other expenses	**Number**	Number		OTH_68
68	Did Linda Mama (NHIF) cover any costs of your delivery?	**A. Yes** **B. No** **C. Don't know/Doesn't remember**	A. 1 B. 0 C. 999		Linda_mama

MODULE 5: PUERPERIUM CONTROL AND ATTENTION TO NEWBORN

No.	Questions	Coding	Value	Skips	ODK Label
69	After your last delivery, did someone evaluate your health?	**A**. Yes **B.** No ----------→ **C.** Doesn't remember---------→	A. 1 B. 0 C. 999	 **#72** **#72**	PPC

No.	Questions	Coding	Value	Skips	ODK Label
70	How long after the last delivery did you have your first health examination?	**A.** Within the first 2 days (<48 hours) **B.** After the first 2 days (>48 hours) **C.** Doesn't remember	A. First_2D B. After_2D C. 999		PPC_48
71	Who conducted your postpartum examination? *[Do not read the options, Probe to find out everyone who completed the exam. Mark the most qualified]*	A. Doctor B. Nurse C. Nurse assistant/Aid D. Trained community midwife E. Health promotor/Educator F. TBA G. Untrained midwife H. Community Health Worker I. Family member/Relative, neighbor, or friend J. Clinician K. Don't know/doesn't remember L. Other (specify) _____	A. Doc_71 B. Nurse_71 C. NAid_71 D. CMWF_71 E. Promoter F. TBA G. UMWF_71 H. Community_health_worker I. RNF_71 J. clinician **K.** 999 **L.** Other_71		PPC_Provider
71a.	Kindly specify who conducted your postpartum examination	Text	Text		PPE_other

No.	Questions	Coding	Value	Skips	ODK Label
72	What problems or danger signs during the first 42 days after birth would make you seek urgent care with a health personnel? *[Do not read the list.* *Probe; anything else?* *Mark all responses mentioned]*	A. Excessive vaginal hemorrhaging B. Fast/difficult breathing C. Fever D. Strong abdominal pain E. Strong headache/blurry vision F. Seizures G. Fainting H. Foul-smelling vaginal discharge I. Cramps J. Dangerous behavior towards the baby and/or self K. Other (specify)_____ L. Does not know	A. Hemorr_72 B. Rap_RR_72 C. Fever_72 D. SAB_72 E. Poun_HA_72 F. Seizure G. FAIN_72 H. BV_72 I. Cramps J. Psych_72 K. OTH_72 L. 999		PP_danger
72b.	What other danger signs did the mother mention will make her seek urgent care?	**Text**	Text		other_ppc_danger
73	Did mother list 3 or more danger signs on the list?	A. Yes B. No	A. 1 B. 0		PP_danger3

No.	Questions	Coding	Value	Skips	ODK Label
74	What are some signs that indicate a newborn is sick? *[Do not read the list.* *Probe; anything else?* *Mark all responses mentioned]*	A. Seizures/convulsions B. Fever C. Does not breastfeed/not eating right D. Fast/Difficult breathing E. The baby is too cold F. The baby is too small and/or the baby was born prematurely G. Palms/soles/Eyes/skin yellow H. Swollen abdomen I. Unconscious J. Reddish belly button with pus or foul smell K. Lethargic L. Cyanosis – purple/blue skin M. Umbilical cord infection N. Chest indrawing O. Other (specify) _____ P. Does not know	A. Seizure_74 B. Fever_74 C. DNBE_74 D. RapRR_74 E. BCold_74 F. BSmall_74 G. Yellow_74 H. Inf_ABD_74 I. Unconscious J. RBB_74 K. Lethargic L. Blue_74 M. cord_infection N. chest_indr O. OTH_74 P. 999		NB_Danger

No.	Questions	Coding	Value	Skips	ODK Label
74b.	Other specify - What other danger sign did the mother mention as an indicator for newborn illness?	Text	Text		Other_newborn_danger
75	Did mother list 3 or more danger signs on the list?	A. Yes B. No	A. 1 B. 0		NB_Danger3
76	After your last birth, did you have any complication or discomfort during postpartum?	**A.** Yes **B.** No ----------→ **X.** Doesn't remember----------→	A. 1 B. 0 C. 999	 **#79** **#79**	PP_Comp

No.	Questions	Coding	Value	Skips	ODK Label
77	What was the postpartum complication? *[Do not read the list of complications. Mark all that are applicable]*	**A.** Hemorrhaging **B.** Hypertension (Preeclampsia/eclampsia)/High blood pressure **C.** Infection/fever **D.** Fainting **E. Severe headache** **F. Doesn't remember** **G. Scar pain after CS** **H. Severe abdominal pain** **I.** Other (specify) _____	A. Hemorr_77 B. HTN_77 C. Infx_77 D. Faint_77 E. headache F. 999 G. cs_scar_pain H. sbd I. OTH_77		PP_Comp_type
77b.	What other complication did you have?	**Text**	Text		other_ppc_comp

No.	Questions	Coding	Value	Skips	ODK Label
78	Where did you receive treatment for your post-partum complication?	A. Nyagoto health center B. Marani health center C. Level 2 in sub-county D. Level 2 out of sub-county E. Level 3 in sub-county F. Level 3 out of sub-county G. Level 4 in sub-county H. Level 4 out of subcounty I. Level 5 J. Private Health Facility K. Other L. Home M. Doesn't remember	**A. Nyagoto_78** **B. Marani_78** **C. L2ISC_78** **D. L2OSC-78** **E. L3ISC_78** **F. L3OSC_78** **G. L4ISC_78** **H. L4OSC_78** **I. L5_78** **J. PHF_78** **K. OTH_78** **L. HOME_78** **M. 999**		PP_Comp_tx
78b.	Other (specify) – Where did you receive treatment for your post-partum complication?	Text	**Text**	**#78**	Other_specify_78
79	Would you like to get pregnant in the next year?	A. Yes B. No C. N/A is pregnant now→	A. 1 B. 0 C. 999	**#81**	FP_Need

80	Currently, what do you do to prevent pregnancy? *[Mark one option only—the most used!]*	**A.** No method **B.** Norplant/subcutaneous implants **C.** Shot/DepoProvera **D.** Pills/Birth control pills **E.** Copper T/Intrauterine device (IUD) **F.** Diaphragm **G.** Condom **H.**Foam/gel/spermicide/cream/tablet **I.** Surgical sterilization **J.** Male surgical sterilization/ Vasectomy **K.** Lactational Amenorrhea Method (LAM) **L.** Rhythm/Calendar/mucus plug/ Basal temperature/collar **M.** Abstinence **N.** Interrupted coitus/withdrawal	A. NON_80 B. IMPLNT C. DEPO D. PILL E. IUD F. DIAPH G. COND H. FGSCT I. BTL J. VAS K. LAM L. NATUR M. ABST N. PULLOUT O. OTH_80		FP_Meth

No.	Questions	Coding	Value	Skips	ODK Label
		O. Other_____			
	Other (specify) – Currently what do you do to prevent pregnancy?	**Text**	Text		Other_specify_80

MODULE 6: MATERNAL LACTATION, NUTRITION AND MICRONUTRIENTS

No.	Questions	Coding	Value	Skips	ODK Label
81	Have you ever breast fed [child name]?	A. Yes B. No ---------- → C. Doesn't remember------ →	A. 1 B. 0 C. 999	**#86** **#86**	Breastfed
82	Yesterday during the day or night did [child name] drink breastmilk?	A. Yes B. No	A. 1 B. 0		Yest_BF
83	Now I would like you to remember back when your baby was very young – even when s/he was a newborn. Please tell me how old the baby was when you first gave him/her any liquids other than breast milk – like water, juice, cow's milk or goat milk. [*Do not categorize medicine as any other liquid apart from breast milk*]	A. 6 months or older B. 0-5 months C. Hasn't given other liquids D. Doesn't remember	A. >6MNTHS B. 0-5MNTHS C. NONE_83 D. 999		First_Liquid

84	Please tell me how old the baby was when you first gave him/her semisolid foods (like soup, porridge)	A. 6 months or older B. 0-5 months C. Hasn't given solid food D. Doesn't remember	A. >6MNTHS_84 B. 0-5MNTHS_84 C. NONE_84 D. 999		First_solid
85	Age of [child name] *Note: this question was asked earlier in the interview. This is asked here to direct the interview to the appropriate questions*	A. 0-5 months ----------→ B. 6-11 months C. 12-24 months D. Doesn't know	A. 0-5MNTHS_85 B. 6-11MNTHS_85 C. 999	**#95**	Child_AgeMonth

COMPLEMENTARY FEEDING

No.	Questions	Coding	Value	Skips	ODK Label
	I am going to read some foods and beverages and would like you to tell me if [**NAME**] ate or drank these anytime yesterday				
86	Yesterday during the day or night did [child name] eat or drink grains, roots or tubers such as - corn, rice, ugali, noodles, oats, oatmeal, bread, pasta, hot cereal, cornmeal, barley, potato, yucca, taro root, cassava *[Mark yes if at least one root/tuber product was taken]*	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		Yest_Tubers_001

87	Yesterday during the day or night did [child name] eat or drink dairy products such as - Milk (canned, powdered, or fresh animal's milk) - cottage cheese, cream, cheese, yogurt *[Mark yes if at least one dairy product was taken]*	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		Yest_Dairy
88	Yesterday during the day or night did [child name] eat any foods made from legumes or nuts such as beans, lentils, peas, peanuts, ground nuts or soy? *[Mark yes if at least one bean/nut product was taken]*	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		Yest_Nut
89	Yesterday during the day or night did [child name] eat any fruits or vegetables rich in Vitamin A such as D. Something with tomatoes or tomato paste E. Yellow fruits (e.g. mango, papaya) F. Food that is orange or yellow inside like pumpkin, yellow sweet potato, carrots, squash, chayote *[Mark yes if at least one fruit/vegetable high in Vit A was taken]*	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		Yest_VitA

90	Yesterday during the day or night did [child name] eat any other fruits or vegetables? G. Examples: Leafy greens (radish leaves, tassel flower, peppermint, cilantro) H. Apple, avocado, banana, peach *[Mark yes if at least one fruit/vegetable was taken]*	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		Yest_FruitVeg
91	Yesterday during the day or night did [child name] eat any flesh foods? Meats like fish, chicken, beef, lamb, goat *[Mark yes if at least one meat was taken]*	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		Yest_Meat
92	Yesterday during the day or night did [child name] eat any eggs? *[Mark yes if at least food with eggs was taken]*	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		Yest_Egg
93	Yesterday during the day or night did [child name] eat food with iodized salt? [*Verify that salt has been iodized by looking at container*]	A. Yes B. No C. Doesn't remember	A. 1 B. 0 C. 999		Yest_Salt

94	*How many times did [child name] eat yesterday during the day and night?* *[Solid foods or semi-solid food only. Do not include breastmilk or any liquids]* *[We want to know how many times the child ate until satisfied. Not including small snacks or one or two mouthfuls of food.]*	**A**. _____times **(**If the answer is 7 or more, enter '7') (999= Does not know)	Number		Yest_Eat

MODULE 7: WATER AND SANITATION

No	Questions	Coding	Skips	Value	ODK Label
95	Does your house have a specific place to wash your hands?	**A**. Yes **B**. No----------→	**#97**	A. 1 B. 0	HW_Location
96	*[Ask to be shown the place dedicated for handwashing]* *Find out if the following three things are present:* - *Water (container or tap)* - *Soap, ashes, or other cleaning product* - *Container (bucket/basin/leak tin)*	A. Yes, all three components are present B. No, only some or none of the components were present		A. 1 B. 0	HW_Components

	Does the handwashing station contain ALL 3 types of items (water, cleaning product, and container)?				
97	What do you wash your hands with?	**A.** With water and soap/ashes/other cleaning products B. Water only ----------→ C. Other ----------→ D. Doesn't wash hands ----→	 **#99** **#99** **#99**	A. wth_wtr_othr B. wtr_onl C. other D. dnt_wash	Mother_HW
97b.	Kindly specify the other handwashing method				Other_specify_97
98	When do you normally wash your hands? *[Do not read the options, just count all the moments mentioned.]*	- Before food preparation - Before feeding the children - After using the toilet or latrine - After changing diapers or cleaning a child's bottom - Before eating Did mother mention at least 4 of the listed times? A. Yes		A. Bfr_food_prep B. Bfr_feed_baby C. Aftr_latrine D. Aft_chng_diape E. Bfr_eat A. 1	Mother_HWPractice Hw_knowledge

		B. No		B. 0	
99	Do you perform water treatment/purification so that water is safe to drink?	**A.** Yes **B**. No----------→	**#102**	A. 1 B. 0	Water_tx
100	What do you usually do to treat the water? *[Mark more than one method only if they use together (for example, filtering through cloth and chlorine]*	**A**. Let settle (have sediments collect at the bottom) **B.** Filter through cloth **C**. Boil **D**. Chlorine **E.** Filter (ceramic filter, sand, composite) **F**. Solar disinfection **G**. Other (Specify)_____ **X**. Don't know		A. Let_settle B. Filter_cloth C. Boil D. Chlorine E. Filter_ceramic F. Solar_dis G. Other H. 999	Water_tx_meth
	Other (specify) – What else do you usually do to treat the water?	**Text**		Text	Other_specify_100
101	When was the last time you treated the water with that method?	**A**. Today **B**. Yesterday **C.** 2 to 6 days ago **D.** 7 days to a month ago **E**. One month or more **X.** Do not remember		A. Today B. Yester C. 2_6 dy D. 7d_month E. Month_above X. 999	Water_tx_freq
102	How do you store your drinking water?	**A.** In a container (bucket, bottle, pot, jar, barrel, etc.), **B.** Rooftop tank/reservoir→ **C**. There is no water stored →	**#106** **#106**	A. Container B. Rooftop C. Not_stored	Water_store

103	Can I see the containers where drinking water is stored?	**A.** Yes **B.** No----------→	**#106**	A. 1 B. 0	Water_View
104	*[Observe and indicate what type of containers exist]*	**A.** With narrow mouth (≤3 cm) **B**. With wide mouth **C.** Both types		A. Narrow B. Wide C. both	Water_Cont
105	*[Observe and indicate]* Are the containers covered?	**A.** They all are **B.** Some are **C.** None are		A. All_are B. Some_are C. None_are	Water_cont_cov
106	What does the household have for feces disposal? *[Ask to be shown the place dedicated feces disposal]* *[Observe and indicate]*	A. Nothing/Open defecation B. Pit latrine without slab or open pit C. Pit latrine with slab D. Ventilated improved pit latrine E. Flush or pour flush toilet connected to sewer system, septic tank or pit latrine F. Other (specify)_____		A. OD B. Open_pitlatrin C. Pit_lat D. VIP_1 E. Flush_sept F. Other	Latrine

	Kindly specify what your household uses for feces disposal	Text		Text	Other_feces_disposal
107	The last time [child name] pooped, how and where did you discard the poop? [*If the answer is "cleaned it with water," ask specifically where the dirty water was discarded]* *[If the answer is "disposed of the poop" ask specifically where the poop was discarded.]*	**A.** Threw away the poop in the toilet or latrine **B.** Threw away the poop in a trash can or dumpster **C**. Threw away the poop outside in the yard away from house **D**. Threw away the poop outside in the yard near house **E.** Buried the poop **F.** Nothing. Left the poop where it was **G**. Cleaned with water then discarded dirty water into the toilet or latrine **H.** Cleaned with water then discarded dirty water into a sink connected to a sewage system		A. Threw_toilatri B. Threw_trash C. Threw_yard D. Threw_nearhous E. Buried F. Left_sameplace G. clean_toilatri	Feces_Disp

		I. Cleaned with water then discarded dirty water outside **J.** Other (Specify) .. …….. **X.** Does not know		H. Clean_sewage I. Clean_outside J. Other X. 999	
	Other (specify) - The last time [child name] pooped, how and where did you discard the poop?	Text		Text	Other_specify_The_last_tim

MODULE 8: VACCINATION

No.	Questions	Coding	Skips	value	ODK Label
108	In the next section, we will need your MNCH booklet. Is it available?	A. Yes B. No----------→	**114**	A. 1 B. 0	MNCH_Book
109	How old is the child?	A. 0-5 months- B. 6-11 months ----------→ C. 12-17 months----------→ D. 18-23 months ----------→	**#111** **#112** **#113**	A. 0_5 B. 6_11 C. 12_18 D. 18_24	Age_Vacc

110	Which of the following has [child name] received according to the MNCH booklet? *[for children <6 months]*	BCG (at birth) – Yes OPV1/Polio 1st Dose – 6 weeks OPV2/Polio 2nd Dose – 10 weeks OPV3/Polio 3rd Dose– 14 weeks IPV - 14 weeks Penta 1st Dose – 6 weeks Penta 2nd Dose – 10 weeks Penta 3rd Dose– 14 weeks Pneumococcal 1st Dose – 6 weeks Pneumococcal 2nd Dose– 10 weeks Pneumococcal 3rd Dose – 14 weeks Rotavirus 1st Dose – 6 weeks Rotavirus 2nd Dose – 10 weeks None of the above	**Go to 114**	a b c d e f g h i j k l m n 999	_6_Vacc
111	Which of the following has [child name] received according to the MNCH booklet? *[for children 6 months- 11 months – mark all that apply]*	Yes BCG at birth OPVo OPV1/Polio 1st Dose – 6 weeks OPV2/Polio 2nd Dose – 10 weeks OPV3/Polio 3rd Dose– 14 weeks IPV - 14 weeks Penta 1st Dose – 6 weeks Penta 2nd Dose – 10 weeks Penta 3rd Dose– 14 weeks Pneumococcal 1st Dose – 6 weeks Pneumococcal 2nd Dose– 10 weeks Pneumococcal 3rd Dose – 14 weeks Rotavirus 1st Dose – 6 weeks Rotavirus 2nd Dose – 10 weeks Measles vaccine - 6 months (in event of outbreak) Measles - 9 months Vitamin A - 6 months	**Go to 114**	a b c d e f g h i j k l m n o p	12_Vacc

		None of the above		Q 999	
112	Which of the following has [child name] received according to the MCH booklet? *[for children 12-17 months]*		Yes	**Go to 114**	18_Vacc
		BCG at birth		a	
		OPVo		b	
		OPV1/Polio 1st Dose – 6 weeks		c	
		OPV2/Polio 2nd Dose – 10 weeks		d	
		OPV3/Polio 3rd Dose– 14 weeks		e	
		IPV - 14 weeks		f	
		Penta 1st Dose – 6 weeks		g	
		Penta 2nd Dose – 10 weeks		h	
		Penta 3rd Dose– 14 weeks		i	
		Pneumococcal 1st Dose – 6 weeks		j	
		Pneumococcal 2nd Dose– 10 weeks		k	
		Pneumococcal 3rd Dose – 14 weeks		l	
		Rotavirus 1st Dose – 6 weeks		m	
		Rotavirus 2nd Dose – 10 weeks		n	
		Measles vaccine - 6 months (in event of outbreak)		o	
		Measles - 9 months		p	
		Vitamin A - 6 months		q	
		Vitamin A - 12 months		r	
		Albendazole - 12 months		s	
		None of the Above		999	
113	Which of the following has [child name] received according to the MCH booklet?		Yes	**Go to 114**	24_Vacc
		BCG at birth		a	
		OPVo		b	
		OPV1/Polio 1st Dose – 6 weeks		c	

	[for children 18-23 months]	OPV2/Polio 2nd Dose – 10 weeks			d	
		OPV3/Polio 3rd Dose– 14 weeks			e	
		IPV - 14 weeks			f	
		Penta 1st Dose – 6 weeks			g	
		Penta 2nd Dose – 10 weeks			h	
		Penta 3rd Dose– 14 weeks			i	
		Pneumococcal 1st Dose – 6 weeks			j	
		Pneumococcal 2nd Dose– 10 weeks			k	
		Pneumococcal 3rd Dose – 14 weeks			l	
		Rotavirus 1st Dose – 6 weeks			m	
		Rotavirus 2nd Dose – 10 weeks			n	
		Measles vaccine - 6 months (in event of outbreak)			o	
		Measles - 9 months			p	
		Measles vaccine - 18 months			q	
		Vitamin A - 6 months			r	
		Vitamin A - 12 months			s	
		Vitamin A - 18 months			t	
		Albendazole - 12 months			u	
		Albendazole - 18 months			v	
		None of the above			w	
					999	

MODULE 9: CHILD ILLNESS

No.	Questions	Coding	Skips	value	ODK LABEL
114	Now before we move to the next session I would want to know if your child was ill recently, has your [child name] been ill in the past two weeks?	A. Yes B. No ----------→	**END**	A. 1 B. 0	Ill_recent

115	Has [child name] had watery diarrhea or bloody diarrhea in the last two weeks?	Yes No----------→	**#121**	A. 1 B. 0	Diarr_Recent
115 b.	Did you seek assistance for [child name] diarrhea?	A. Yes B. No C. Doesn't remember/don't know		A. 1 B. 0 C. 999	
116 Where did you seek assistance? *[Mark all responses mentioned]*		A. Nyagoto health center B. Marani health center C. Level 2 in sub-county D. Level 2 out of sub-county E. Level 3 in sub-county F. Level 3 out of sub-county G. Level 4 in sub-county H. Level 4 out of subcounty I. Level 5 J. Private Health Facility K. Traditional healer/Local herbalist L. Relative/Friend M. Community health worker N. Pharmacy/shop/kiosk O. Other (specify)	**#118**	Nyagoto_116 Marani_116 L2ISC_116 L2OSC_116 L3ISC_116 L3OSC_116 L4ISC_116 L4OSC_116 L5_116 PHF_116 Trad_herb Rel_frien Chv Pha_otc OTH_116	Diarr_Assist
116 b.	Where specifically did you seek assistance?				Other_specify _116
117	How soon after the diarrhea symptoms appeared did you seek assistance?	A. Same day B. The next day C. Two days later D. More than two days later E. Don't know/don't remember		Same_day Next_day 2day_later More_2day 999	Diarr_Tx_Time

118	When [child name] was ill with diarrhea, what was given to them to treat the diarrhea? *[Probe:* Anything else?*]* *[Mark all that are mentioned. Show sample of ORS packet]*	A. Nothing B. ORS pack C. Zinc pack/pills D. ORS and zinc (co-pack) E. Liquids/fluids available at home (e.g. juice) F. Pill or syrup with zinc G. Pill or syrup without zinc H. Injection I. Intravenous (IV) solution J. Home remedy/herbs with lots of water K. Home remedy/herbs without lots of water L. Other specify_____		Nothing Ors_pack Zinc_pack Ors_zinc Home_liquids Syrup_withzinc Syrup_outzinc Inject Iv_soln Homerem_water Homerem_outwat other	
118 b.	Kindly specify what other was given to baby (child name) to treat the diarrhea				Other_specify_118
119	When [child name] had diarrhea, did you give them less, the same, or more liquids (including mother's milk) than you usually do?	**A.** Less than usual **B**. Same as usual **C.** More than usual **D.** I did not give any liquids **X.** Don't know		Less_usual Same_usual More_usual No_liquid 999	Diarr_Liq
120	When [child name] had diarrhea, did you give them less, the same, or more food than usual?	**A**. Less than usual **B**. Same as usual **C**. More than usual **D.** I did not give any foods **X**. Don't know		Less_usual Same_usual More_usual No_food Dnt_knw	Diarr_feed
121	Has your child had cough or pneumonia in the last two weeks?	A. Yes B. No----------→	**#126**	A. 1 B. 0	Pneu_recent
122	When [child name] had a cough, did they have any difficulty breathing or were	**A**. Yes **B**. No ----------→ **X**. Don't know----------→	**#124** **#124**	A. 1 B. 0 C. 999	Pneu_confirm

	they breathing faster than normal?				
123 *[Probe:* Anything else?*]* *[Mark all that are mentioned]*	What did you treat the cough with fast/difficult breathing with?	**A.** Nothing **B.** Antibiotic **C.** Cough syrup **D.** Pain killer/Panadol/Aspirin **E.** Home remedies/traditional herbs or medicines **F.** Other Specify …… **Z.** Don't know		A. Nothing B. Antibiotic C. Cough_syrup D. Pain_killer E. Homerem_herbs F. Other Z. 999	Pneu_Tx
123b	What other did you use to treat the cough?				
	Did you seek assistance?	A. Yes B. No C. Don't know/Doesn't remember		A. 1 B. 0 C. 999	Pneu_tx_other
124 *[Mark all responses mentioned]*	Where did you seek assistance?	A. Nyagoto health center B. Marani health center C. Level 2 in sub-county D. Level 2 out of sub-county E. Level 3 in sub-county F. Level 3 out of sub-county G. Level 4 in sub-county H. Level 4 out of subcounty I. Level 5 J. Private Health Facility K. Traditional healer/Local herbalist L. Relative/Friend M. Community health worker N. Pharmacy/shop/kiosk O. Other	**#126**	A. Nyagoto_124 B. Marani_124 C. L2ISC_124 D. L2OSC_124 E. L3ISC_124 F. L3OSC_124 G. L4ISC_124 H. L4OSC_124 I. L5ISC_124 J. PHF_124 K. Trad_herb L. Rel_frien M. Chv	Pneu_assist

		P. Doesn't remember		N. Pha_otc O. OTH_124 P. 999	
	Other (specify) – Where else did you seek assistance?	Text		Text	Other_specify_124
125	How soon after the cough/pneumonia symptoms appeared did you seek assistance?	A. Same day B. The next day C. Two days later D. More than two days later Z. Don't know/don't remember		A. same_day B. next_day C. 2day_later D. more_2day Z. 999	Pneu_Tx_Time
126	Has [child name] had fever with chills like malaria in the last two weeks?	A. Yes B. No----------→	**#131**	A. 1 B. 0	Malaria_recent
127	Was [child name] diagnosed with malaria by a health worker?	A. Yes B. No----------→	**#129**	A. 1 B. 0	Malaria_Confirm
128	When [child name] was ill with malaria, what was given to treat the fever/malaria	B. Medication other than ACT C. Home remedies/traditional herbs or medicines D. Nothing E. Don't know/don't remember		A. Al_act B. Diff_med C. Homerem_herbs D. Nothing E. 999	Malaria_Tx
128 b.	Did you seek assistance?	A. Yes B. No C. Doesn't remember/Don't know		A. 1 B. 0 C. 999	
129	Where did you seek assistance?	A. Nyagoto health center	**#131**	A. Nyagoto_129	Malaria_Assist

	[Mark all responses mentioned]	B. Marani health center C. Level 2 in sub-county D. Level 2 out of sub-county E. Level 3 in sub-county F. Level 3 out of sub-county G. Level 4 in sub-county H. Level 4 out of subcounty I. Level 5 J. Private Health Facility K. Traditional healer/Local herbalist L. Relative/Friend M. Community health worker N. Pharmacy/shop/kiosk O. Other P. Doesn't remember		B. Marani_129 C. L2ISC_129 D. L2OSC_129 E. L3ISC_129 F. L3OSC_129 G. L4ISC_129 H. L4OSC_129 I. L5_129 J. PHF_129 K. Trad_herb L. Rel_frien M. Chv N. Pha_otc O. OTH_129 P. DNR_129	
	Kindly specify the other place you sought assistance for baby [child name]	Text		Text	Other_specify_129
130	How soon after the fever with chills/malaria symptoms appeared did you seek assistance?	A. Same day B. The next day C. Two days later D. More than two days later E. Don't know/don't remember		A. Same_day B. Next_day C. 2day_later D. More_2day E. Dnt_knw	Malaria_Tx_Time
131	Has [child name] another illness in the past two weeks?	A. Yes B. No----------→ C. Don't know/don't remember	**END**	A. 1 B. 0 C. 999	Other_Recent
132	What was the illness?	_____			Other_Type

	Did you seek assistance for the illness?	A. Yes B. No C. Doesn't remember		A. 1 B. 0 C. 999	other_type_assis
133	Where did you seek assistance? *[Mark all responses mentioned]*	A. Nowhere/Did not seek assistance----------→ B. Nyagoto health center C. Marani health center D. Level 2 in sub-county E. Level 2 out of sub-county F. Level 3 in sub-county G. Level 3 out of sub-county H. Level 4 in sub-county I. Level 4 out of subcounty J. Level 5 K. Private Health Facility L. Traditional healer/Local herbalist M. Relative/Friend N. Community health worker O. Pharmacy/shop/kiosk P. Other (specify) Q. Doesn't remember	**END**	A. No_didnt B. Nyagoto_133 C. Marani_133 D. L2ISC_133 E. L2OSC_133 F. L3ISC_133 G. L3OSC_133 H. L4ISC_133 I. L4OSC_133 J. L5_133 K. PHF_133 L. Trad_herb M. Rel_frien N. Chv O. Pha_otc P. OTH_133 Q. 999	Other_Assist
133 b.	Other (specify) – Kindly specify where you sought assistance for the other illness	Text		Text	Other_assis_place
134	How soon after symptoms appeared did you seek assistance?	A. Same day B. The next day C. Two days later		A. Same_day B. Next_day C. 2day_later	Other_Tx_Time

		D. More than two days later E. Don't know/don't remember		D. More_2day E. 999	

Thank the mother for her collaboration!

"Please provide comments on any health concerns that require follow up (e.g. child is very malnourished) or any comments on things that might have affected the responses recorded (e.g. husband stepped in and answered many of the questions)"

Comments:_____

_____

_____

Appendix Section C: Tabulation Plans

Tabulation Plan Section 1:

Indicator	Numerator	Denominator	Formula	Answer
Health facility deliveries	"data-mod4_birth_newborncare-before_we_move_to_the_next_sec"= facility_deliv [column BJ, KPC48]	"data-HouseID-village" is not blank [column I<>""]	$\frac{Health\ Facility\ Delivery}{KPC48b = A} \times 100$ $Total\ Number\ of\ Women\ Surveyed\ (N)$	66/100 = 66% $\sqrt{(.66)(0.34) \div 100}$ Z= 1.96 for 95% CI CI= 56.8% LL, 75.2% UL
Pregnancy Complications	"data-Preg_Wom_Care-Preg_comp"= **1** AND "data-Preg_Wom_Care-Preg_comp_loc" = Nyagoto_41 or Marani_41 or L2ISC_41 or L2OSC_41 or L3ISC_41 or L3OSC_41 or L4ISC_41 or L4OSC_41 or L5_41 or Private Health Facility [Column AV, KPC38, Column AZ, KPC 41]	"data-Preg_Wom_Care-Preg_comp"= **1** [Column AV, KPC38]	$\frac{Women\ who\ experienced\ complications\ during\ pregnancy\ who\ received\ medical\ attention\ from\ a\ health\ professional\ at\ a\ health\ facility}{KPC38 = A\ AND\ [KPC41 = A,B,C,D,E,F,G,H,I,J]}$ $[KPC38 = A]$ Total number of surveyed women who reported experiencing complications during pregnancy	18/18 = 100%
Delivery Complications	"data-mod4_birth_newborncare-Birth_comp" = **BWC** AND "data-Preg_Wom_Care-Preg_comp_loc" = Nyagoto_45 or Marani_45 or L2ISC_45 or L2OSC_45 or L3ISC_45 or L3OSC_45 or L4ISC_45 or L4OSC_45 or L5_45 or PHF_45 or [Column BB, KPC42, Column BE, KPC45]	"data-mod4_birth_newborncare-Birth_comp" = **BWC** [Column BB, KPC42]	$\frac{Women\ who\ experienced\ complications\ during\ delivery\ who\ received\ medical\ attention\ from\ a\ health\ professional\ at\ a\ health\ facility}{KPC42 = A\ AND\ [KPC45 = A,B,C,D,E,F,G,H,I,J]} \times 100$ $[KPC42 = A]$ Total number of surveyed women who reported experiencing complications during delivery	6/6 = 100%
Postpartum Complications	data-mod5_PPC-PP_Comp = **1** AND "data-mod5_PPC-PP_Comp_tx" = Nyagoto_78 or Marani_78 or L2ISC_78 or L2OSC-78 or L3ISC_78 or L3OSC_78 or L4ISC_78 or	data-mod5_PPC-PP_Comp = **1** [Column CY, KPC76]	$\frac{Women\ who\ experienced\ complications\ during\ postpartum\ who\ received\ medical\ attention\ from\ a\ health\ professional\ at\ a\ health\ facility}{KPC76 = A\ AND\ [KPC78 = A,B,C,D,E,F,G,H,I,J]} \times 100$ $[KPC76 = A]$ Total number of surveyed women who reported experiencing complications during postpartum	Without OTH = 9/12 = 75% CI= 47%% LL, 102%% UL

	L4OSC_78 or L5_78 or PHF_78 or [Column CY, KPC76, Column DB, KPC78]			

Tabulation Plan Section 2:

Indicator	Numerator	Denominator	Formula
Respectful. Culturally appropriate care	"data-mod4_birth_newborncare-before_we_move_to_the_next_sec" **= facility_deliv** AND "data-mod4_birth_newborncare-respectful_delivery-HFD_Fam" **= 1** AND "data-mod4_birth_newborncare-respectful_delivery-HFD_Respect" **= 1** AND "data-mod4_birth_newborncare-respectful_delivery-HFD_Privacy" **= 1** AND "data-mod4_birth_newborncare-respectful_delivery-HFD_Position" **= 1** AND "data-mod4_birth_newborncare-respectful_delivery-HFD_trd_food" **= 1** AND [column BK, KPC48c Column BL, KPC49 Column BM, KPC50	"data-mod4_birth_newborncare-before_we_move_to_the_next_sec" **= facility_deliv** [column BK, KPC48B]	$$\frac{Women\ providing\ combination\ of\ Signifying\ Factors\ of\ Culturally\ Appropria}{Total\ Number\ of\ Women\ Surveyed\ Who\ Gave\ Birth\ in\ a\ Health\ Facility} \times 100$$ $KPC48b = A[KPC48c = A]\ AND\ [KPC49 = A]\ AND\ [KPC50 = A]\ AND\ [KPC51 = A]\ AND$ $KPC48b = A$

	Column BN, KPC 51 Column BO, KPC 52]		
Danger Sign Recognition - Preg	"data-Preg_Wom_Care-Preg_Dang3" **=1** [Column AU, KPC37]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ providing\ combination\ of\ Three\ Danger\ Signs\ in\ Pregnancy\ KPC37 = A}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Danger Sign Recognition – Delivery	"data-mod4_birth_newborncare-Delivery_Dang3" **= 1** [Column CG, KPC66]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ providing\ combination\ of\ Three\ Danger\ Signs\ in\ Delivery\ KPC66 = A}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Danger Sign Recognition – Post partum	"data-mod5_PPC-PP_danger3" **= 1** [Column CU, KPC73]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ providing\ combination\ of\ Three\ Danger\ Signs\ in\ Postpartum\ for\ Herself\ KPC73 = A}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Danger Sign Recognition – Newborn	"data-mod5_PPC-NB_Danger3" **= 1** [Column CX, KPC75]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ providing\ combination\ of\ Three\ Danger\ Signs\ in\ newborns\ KPC75 = A}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Birth plan/ Emergency transportation-household	"data-Preg_Wom_Care-Birthplan_Comp" Contains **Facility_Deliv** AND **Transport** AND **Money** AND **Person_Acc** AND **Person_Home** [Column AO, KPC 33]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ providing\ combination\ of\ Birth\ Plan\ Components\ KPC33 = A\ AND\ B\ AND\ C\ AND\ D\ AND\ E}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Breakdown by aspect: Birth plan/ Emergency	Percentage of women that had each birth plan aspect	"data-HouseID-village" **is not blank**	$\frac{Women\ providing\ combination\ of\ Birth\ Plan\ Components\ KPC33 = A}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$

transportation-household	"data-Preg_Wom_Care-Birthplan_Comp"= **Facility_Deliv** "data-Preg_Wom_Care-Birthplan_Comp"= **Transport** "data-Preg_Wom_Care-Birthplan_Comp"= **Money** "data-Preg_Wom_Care-Birthplan_Comp"= **Person_Acc** "data-Preg_Wom_Care-Birthplan_Comp"= **Person_Home** [Column AO, KPC 33]	[column I<>""]	$\frac{Women\ providing\ combination\ of\ Birth\ Plan\ Components\ KPC33 = B}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$ $\frac{Women\ providing\ combination\ of\ Birth\ Plan\ Components\ KPC33 = C}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$ $\frac{Women\ providing\ combination\ of\ Birth\ Plan\ Components\ KPC33 = E}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$ $\frac{Women\ providing\ combination\ of\ Birth\ Plan\ Components\ KPC33 = F}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Average age of first pregnancy of mothers with child under 24 months of age	SUM of "data-Mother_Obstetric-Mother_First_Preg" OF THOSE WITH data-Mother_Obstetric-Mother_Num_LB = **1** [Column AI, KPC27, Column AD24, KPC27]	data-Mother_Obstetric-Mother_Num_LB = **1** [Column AD, KPC24]	$Average\ Age\ of\ Women\ with\ children\ U2\ whose\ First\ Pregnancy\ was\ with\ that\ child$ $\frac{SUM\ [KPC27]\ WHERE\ KPC24 = 1}{KPC24 = 1}$ $Total\ Number\ of\ Women\ Surveyed\ who\ had\ their\ first\ Pregnancy\ in\ the\ last\ year$
Antenatal care: 4+ prenatal checks	"data-Preg_Wom_Care-anc_mnch" = **4+anc** [Column AK, KPC29]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ who\ had\ at\ least\ 4\ ANC\ Checks\ KPC29 = B}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Male partner involvement in maternal/newborn care	"data-Preg_Wom_Care-ANC_Partner_Att = **1** [Column AL, KPC30]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ whose\ partner\ accompanied\ them\ to\ at\ least\ 1\ ANC\ KPC30 = A}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$

Essential newborn actions (ENAs)	"data-mod4_birth_newborncare-ENC_CordCare" **= Meds_57** AND "data-mod4_birth_newborncare-ENC_Dry" = **DWCB_58** OR **SKIN_2_SKIN** AND "data-mod4_birth_newborncare-ENC_IBF" **= STAT** AND "data-mod4_birth_newborncare-ENC_Weigh" **= 1** AND "data-mod4_birth_newborncare-ENC_Measure" **= 1** AND "data-mod4_birth_newborncare-ENC_BCG" **= 1** AND "data-mod4_birth_newborncare-ENC_OPVO" **= 1** [Column BT, KPC56 Column BV, KPC57 Column BX, KPC58 Column BY, KPC59 Column BZ, KPC60 Column CA, KPC61 Column CC, KPC63]	"data-HouseID-village" **is not blank** [column I<>""]	$$\frac{Newborns\ Recieved\ Immediate\ Care\ Provisions}{Total\ Number\ of\ Women\ Surveyed\ (N)}$$ $[KPC\ 56 = A]\ AND\ [KPC57 = A\ or\ B]\ AND\ [KPC58 = A]\ AND\ [KPC59 = A]\ AND\ [KPC60\ AND\ [KPC61 = A]\ AND\ [KPC63 = A]$

Post-partum Care	"data-mod5_PPC-PPC_48" = **First_2D** AND "data-mod5_PPC-PPC_provider" = **doc_71,** OR **nurse_71,** OR **clinician** [Column CP, KPC70 Column CQ, KPC71]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ who\ reported\ having\ a\ Post-Partum\ Check\ within\ 48\ hours\ of\ Delivery\ [KPC70 = A]\ AND\ [KPC71 = A, B, or\ J]}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Family Planning	"data-mod5_PPC-FP_Need" = **0** AND "data-mod5_PPC-FP_Meth" = **IMPLNT**, or **DEPO,** or **PILL**, or **IUD**, or **DIAPH**, or **FGSCT**, or **BTL**, or **VAS** [Column DC, KPC79, Column DD, KPC80]	"data-mod5_PPC-FP_Need" = **0** [Column DC, KPC79]	$\frac{Women\ Who\ are\ Using\ a\ Modern\ Form\ of\ Contraception\ KPC79 = B\ AND\ KPC80 = B, C, D, E, F, G, H, I, or\ J}{KPC79 = B} \times 100$ $Number\ of\ women\ who\ don't\ want\ preg\ in\ next\ year$
Maternal handwashing behavior	"data-mod7_watsan-Mother_HW" = **wth_wtr_othr** AND "data-mod7_watsan-HW_knowledge" **=1** [Column DU, KPC97 Column DX, KPC98]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ who\ report\ that\ they\ washed\ their\ hands\ with\ soap\ and\ water\ in\ at\ least\ 4\ critical\ moments\ [KPC97 = A]\ AND\ [KPC98 = A]}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Proper point-of-use (POU) water treatment	"data-mod7_watsan-Water_tx_freq" = **Today**, or **yester** AND "data-mod7_watsan-Water_tx_meth" = **boil**, or	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ interviewed\ who\ stated\ that\ their\ household\ is\ using\ effective\ water\ treatme\ within\ the\ last\ two\ days\ [KPC101 = A\ or\ B]\ AND\ [KPC100 = C,\ D,\ E, or\ F\ ]}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$

	chlorine, or **filter_creamic**, or **solar_dis** [Column EA, KPC101 Column DZ, KPC100]		
Proper water storage	"data-mod7_watsan-Water_store" **= rooftop** OR ("data-mod7_watsan-Water_store"**= container** AND "data-mod7_watsan-Water_Cont" **= narrow** AND "data-mod7_watsan-Water_cont_cov" **= all_are"**) [Column EB, KPC102 Column ED, KPC104 Column EE, KPC105]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ interviewed\ who\ stated\ that\ their\ household\ stores\ all\ of\ their\ potable\ water\ as\ verified\ by\ interviewer\ [KPC102 = B]\ OR\ [KPC102 = A\ ]\ AND\ [KPC104 = A]\ AND\ [KPC105 = A]}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Improved Latrine	"data-mod7_watsan-Latrine"=**pit_lat,** or **VIP_1,** or **flush_sept**		$\frac{Women\ who\ report\ that\ their\ household\ is\ an\ ODF\ Household\ [KPC106 = C, D, OR\ E]}{Total\ Number\ of\ Women\ Surveyed\ (N)}$
Open Defecation Free (ODF) Household	"data-mod7_watsan-Latrine"= **pit_lat,** or **VIP_1,** or **flush_sept** AND "data-mod7_watsan-HW_Components" **= 1** [Column EF, KPC106 Column DT, KPC96]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ who\ report\ that\ their\ household\ is\ and\ ODF\ Household\ [KPC106 = C, D, OR\ E]\ AND\ KPC96 = A}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$

Proper treatment of diarrhea – increased feeding and fluids given to child	"data-mod9_childillness-Diarr_Recent" **= 1** AND "data-mod9_childillness-Diarr_Liq"**= more_usual** AND "data-mod9_childillness-diarr_feed" **more_usual** [Column EW, KPC119 Column EX, KPC120]	"data-mod9_childillness-Diarr_Recent" **= 1** [Column EP, KPC115]	$\frac{Women\ who\ report\ that\ their\ child\ had\ a\ diarrhea\ episode\ in\ the\ past\ 2\ weeks\ and\ received\ increased\ feeding\ and\ increased\ liquids\ KPC115 = YES\ AND\ [KPC119 = C]\ AND\ [KPC120 = C]}{KPC115 = YES\ Total\ Number\ of\ Children\ with\ Diarrhea\ Episode}$
Handwashing station with cleaning product, water and recipient	"data-mod7_watsan-HW_Components" **= 1** [Column DT, KPC96]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ who\ report\ that\ their\ household\ has\ a\ handwashng\ station\ with\ water, cleaning\ product, and\ container\ [KPC96 = A]}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Prevention of PPH	"data-mod4_birth_newborncare-before_we_move_to_the_next_sec" **= facility_deliv** AND "data-mod4_birth_newborncare-AMSTL_Bleed" **=1** [Column BJ, KPC48c, Column BQ, KPC53]	"data-mod4_birth_newborncare-before_we_move_to_the_next_sec" **= facility_deliv** [Column BJ, KPC48c]	$\frac{Women\ with\ HFD\ who\ report\ receiving\ an\ injection\ or\ pill\ to\ prevent\ hemorrhage\ KPC48b = 1\ AND\ [KPC53 = A]}{KPC48b = 1\ Women\ with\ a\ health\ facility\ delivery} \times 100$

Tabulation Plan Section 3:

Indicator	Numerator	Denominator	Formula
Exclusive breastfeeding (EBF) during first 6 months	"data-mod6_mat_lact_nut-First_Liquid" = **>6MNTHS** AND "data-mod6_mat_lact_nut-First_Solid" = **>6MNTHS_84** AND "data-mod6_mat_lact_nut-Child_AgeMonth" = **6-11MNTHS_85** OR **12-24MNTHS_85** [Column DG, KPC83, Column DH, KPC84, Column DI, KPC85]	"data-mod6_mat_lact_nut-Child_AgeMonth" = **6-11MNTHS_85** OR **12-24MNTHS_85** [Column DI, KPC85]	$\frac{Women\ who\ report\ first\ feeding\ and\ first\ liquid\ after\ 6\ months\ KPC83{=}A\ AND\ KPC84{=}A\ AND\ [KPC85{=}B\ OR\ C]}{[KPC85{=}B\ OR\ C]\ Children\ between\ 6{-}24\ Months} \times 100$
Exclusive breastfeeding (EBF) during previous day	"data-mod6_mat_lact_nut-Yes_BF" **= 1** AND	"data-mod6_mat_lact_nut-Child_AgeMonth" = **0-5MNTHS_85**	$\frac{Women\ who\ practiced\ EBF\ during\ the\ previous\ day\ [KPC82{=}A]\ AND\ KPC85{=}A}{[KPC85{=}A]\ Children\ between\ 0{-}6\ Months} \times 100$

	"data-mod6_mat_lact_nut-Child_AgeMonth" = **0-5MNTHS_85** [Column DF, KPC82, Column DI, KPC85]	[Column DI, KPC85]	
Proper feces disposal _ Curamericas version	"data-mod7_watsan-Feces_Disp" = **threw_toilatri** OR **clean_toilatri** OR **clean_sewage** [Column EH, KPC107]	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ who\ report\ that\ they\ safely\ disposed\ of\ their\ child's\ feces\ the\ last\ time\ they\ passed\ stool\ [KPC107{=}A,G,or\ H]}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$
Proper feces disposal _ USAID version	"data-mod7_watsan-Latrine" **=** **flush_sept** OR **VIP_1** OR **pit_lat** AND	"data-HouseID-village" **is not blank** [column I<>""]	$\frac{Women\ who\ report\ that\ they\ safely\ disposed\ of\ their\ child's\ feces\ the\ last\ time\ they\ passed\ stool\ [KPC106{=}C,D,or\ E]\ AND\ [KPC107{=}A\ or\ G]}{Total\ Number\ of\ Women\ Surveyed\ (N)} \times 100$

	"data-mod7_watsan-Feces_Disp" = **threw_toilatri** OR **clean_toilatri** OR [Column EF, KPC106] Column EH, KPC107]		
Proper treatment for diarrhea-ORS - USAID	"data-mod9_childillness-Diarr_Tx" = **ors_pack** OR **ors_zinc** AND "data-mod9_childillness-Diarr_Recent" = **1** [Column EU, KPC118, Column EP, KPC115]	"data-mod9_childillness-Diarr_Recent" = **1** [Column EP, KPC115]	$\frac{\substack{Women\ who\ report\ that\ their\ child\ had\ a\ diarrhea\ episode\ in\ the\ past\ 2\ weeks \\ and\ were\ given\ ORS \\ or\ Zinc \\ ([KPC118{=}B\ OR\ C])\ AND\ KPC115{=}YES}}{\substack{KPC115{=}YES \\ Total\ Number\ of\ Children\ with\ Diarrhea\ Episode}} \times 100$

Proper treatment for diarrhea-ORS – Curamericas version	"data-mod9_childillness-Diarr_Tx" = **ors_pack** OR **zinc_pack** OR **ors_zinc** OR **home_liquids** OR **syrup_withzinc** OR **IV_soln** OR **homerem_water** AND "data-mod9_childillness-Diarr_Recent" = **1** [Column EU, KPC118, Column EP, KPC115]	"data-mod9_childillness-Diarr_Recent" = **1** [Column EP, KPC115]	$\frac{\textit{Women who report that their child had a diarrhea episode in the past 2 weeks and were given some form of rehydration } [KPC118=B,C,D,E,F,OR\ J\ ] AND\ KPC115=YES}{KPC115=YES \textit{ Total Number of Children with Diarrhea Episode}} 100$
Immunization of young children – 6-11 months	"data-mod8_vaccination-_12_Vacc" Contains ALL: **A through N AND Q** AND	"data-mod8_vaccination-Age_Vacc" = **6_11** [Column EJ, KPC109]	$\frac{\textit{Women who report that their } 6-11 \textit{ month old child had received all required vaccinations per MCH records } [KPC111=A,B,C,D,E,F,G,H,I,J,K,L,M,N,and\ Q\ ] AND\ KPC109=B}{KPC109=B \textit{ Total Number of Women Surveyed with child } 6-11 \textit{ months old}} \times 100$

	"data-mod8_vaccination-Age_Vacc" = **6_11** [Column EL, KPC111, Column EJ, KPC109]		
Immunization of young children – 12-17 months	"data-mod8_vaccination-_18_Vacc" Contains ALL: **A through N, AND P** [Column EM, KPC112]	"data-mod8_vaccination-Age_Vacc" = **12_18** [Column EJ, KPC109]	$\frac{Women\ who\ report\ that\ their\ 12-17\ month\ old\ child\ had\ received\ all\ required\ vaccinations\ per\ MCH\ records\ [KPC112=A,B,C,D,E,F,G,H,I,J,K,L,M,N,and\ P\ ]\ AND\ KPC109=C}{Total\ Number\ of\ Women\ Surveyed\ with\ child\ 12-17\ months\ old\ KPC109=C} \times 100$
Immunization of young children –18 months	"data-mod8_vaccination-_24_Vacc" Contains ALL: **A through N, AND P** AND "data-mod8_vaccination-Age_Vacc" = **18_24**	"data-mod8_vaccination-Age_Vacc" = **18_24** [Column EJ, KPC109]	$\frac{Women\ who\ report\ that\ their\ 18-24\ mo\ old\ child\ had\ received\ all\ required\ vaccinations\ per\ MCH\ records\ [KPC113=A,B,C,D,E,F,G,H,I,J,K,L,M,N,and\ P\ ]\ AND\ KPC109=D}{Total\ Number\ of\ Women\ Surveyed\ with\ child\ 18-24\ months\ old\ KPC109=D} \times 100$

	[Column EN, KPC113, Column EJ, KPC109]		
Immunization of young children – Fully vaccinated	"data-mod8_vaccination-_24_Vacc" Contains ALL: **A through N, P AND Q** AND "data-Identification-Child_Age" Number is ≥ **18** [Column EN, KPC113, Column Q, KPC10]	"data-Identification-Child_Age" Number is ≥ **18** [Column Q, KPC10]	$\frac{\begin{array}{c}Women\ who\ report\ that\ their\ 18{+}mo\ old\ child\ had\ received\\ all\ required\ vaccinations\ per\ MCH\ records\\ [KPC113{=}A,B,C,D,E,F,G,H,I,J,K,L,M,N,P\ AND\ Q\ ]\ AND\ KPC10{\geq}18\end{array}}{\begin{array}{c}KPC10{\geq}18\\ Total\ Number\ of\ Women\ Surveyed\ with\ child\ 18\ months\ old\ or\ older\end{array}} \times 100$
Timely treatment of malaria with ACT	"data-mod9_childillness-Malaria_Tx" = **al_act** AND "data-mod9_childillness-Malaria_Tx_Time" = **Same_day** OR	"data-mod9_childillness-Malaria_Confirm" = **1** [Column FG, KPC127]	$\frac{\begin{array}{c}Women\ who\ report\ that\ their\ child\ had\ a\ malaria\ diagnosis\ in\ the\ past\ 2\ weeks\\ and\ were\ given\ ACT\ within\ 48\ hours\ after\ fever\ began\\ [KPC128{=}A]\ AND\ [KPC130{=}A\ or\ B]\ AND\ KPC127{=}YES\end{array}}{\begin{array}{c}KPC127{=}YES\\ Total\ Number\ of\ women\ who\ report\ that\ their\ child\\ had\ a\ malaria\ diagnosis\ in\ the\ past\\ 2\ weeks\end{array}} \times 100$

	Next_day AND "data-mod9_childillness-Malaria_Confirm" = **1** [Column FH, KPC 128 Column FL, KPC 130 Column FG, KPC127]		
Proper/timely care-seeking for pneumonia	"data-mod9_childillness-Pneu_recent" = **1** AND "data-mod9_childillness-Pneu_confirm" = **1** AND "data-mod9_childillness-Pneu_assist_place" = **Nyagoto_124** OR	"data-mod9_childillness-Pneu_recent" = **1** AND "data-mod9_childillness-Pneu_confirm" = **1**	$$\frac{\begin{array}{c}Women\ who\ report\ that\ their\ child\ had\ chest\ related\ cough \\ and\ difficulty\ or\ fast\ breathing\ in\ the\ past\ 2\ weeks \\ and\ were\ taken\ to\ an\ approproate\ health\ provider\ within\ 48\ hours \\ or\ presenting\ symptoms \\ [KPC121{=}A]\ AND\ [KPC122{=}A]\ AND\ [KPC124{=}A,B,C,D,E,F,G,H,I\ or\ J] \\ AND\ [KPC125{=}A,B,or\ C]\end{array}}{\begin{array}{c}[KPC121{=}A]\ AND\ [KPC122{=}A] \\ Women\ who\ report\ that\ their\ child\ had\ chest\ related\ cough \\ and\ difficulty\ or\ fast\ breathing\end{array}} \times 100$$

	Marani_124 OR **L2ISC_124** OR **L2OSC_124** OR **L3ISC_124** OR **L3OSC_124** OR **L4ISC_124** OR **L4OSC_124** OR **L5ISC_124** OR **PHP_124** OR AND "data-mod9_childillness-Pneu_Tx_Time" = **same_day** **next_day** [Column EY, KPC121 Column EZ, KPC122 Column FD, KPC124 Column FE, KPC125]		
Child deworming – 12 months - 17 months	"data-mod8_vaccination-_18_Vacc" **CONTAINS S** AND "data-mod8_vaccination-Age_Vacc"	"data-mod8_vaccination-Age_Vacc" = **12_18** [Column EJ, KPC109]	$\frac{\substack{Women\ with\ children\ 12-17\ months\ who\ report\ that\ their\ child\ had\ been\ dewormed\ in\ the\ past\ 6\ months \\ [KPC112\ CONTAINS\ 'S'] \ AND\ KPC109=C}}{\substack{KPC109=C \\ Total\ Number\ of\ Women\ Surveyed\ with\ child\ between\ 12\ months\ and\ 17\ months\ old}} \times 100$

	= **12_18** [Column EM,KPC 112 Column EJ, KPC109]		
Child deworming – 18-24 months. Received all	"data-mod8_vaccination-_24_Vacc" **Contains: U AND V** AND "data-mod8_vaccination-Age_Vacc" = **18_24** [Column EN, KPC113 Column EJ, KPC109]	"data-mod8_vaccination-Age_Vacc" = **18_24** [Column EJ, KPC109]	$\frac{Women\ with\ children\ 18{-}24\ months\ who\ report\ that\ their\ child\ had\ been\ dewormed\ in\ the\ past\ 6\ months\ [KPC113\ CONTAINS\ U\ AND\ V]\ AND\ KPC109{=}D}{KPC109{=}D} \times \frac{}{Total\ Number\ of\ Women\ Surveyed\ with\ child\ between\ 18\ and\ 24\ months\ old} 100$
Vitamin A – dose 1 - 6-11 months	"data-mod8_vaccination-_12_Vacc" **Contains Q** AND "data-mod8_vaccination-Age_Vacc" = **6_11**	"data-mod8_vaccination-Age_Vacc" = **6_11** [Column EJ, KPC109]	$\frac{Women\ with\ children\ 6{-}11\ months\ who\ report\ that\ their\ child\ had\ received\ Vitamin\ A\ Supplements\ in\ the\ past\ 6\ months\ according\ to\ their\ health\ card\ [KPC111\ CONTAINS\ Q]\ AND\ KPC109{=}B}{KPC109{=}B} \times \frac{}{Number\ of\ Women\ Surveyed\ with\ child\ between\ 6\ months\ and\ 11\ months\ old} 100$

	[Column EL, KPC111 Column EJ, KPC109]		
Vitamin A – dose 2 – 12-17 months	"data-mod8_vaccination-_18_Vacc" **CONTAINS Q** AND **R** AND "data-mod8_vaccination-Age_Vacc" = **12_18** [Column EM,KPC 112 Column EJ, KPC109]	"data-mod8_vaccination-Age_Vacc" = **12_18** [Column EJ, KPC109]	$\frac{\text{Women with children 6–11 months who report that their child had received Vitamin A Supplements in the past 6 months according to their health card } [KPC112 \text{ CONTAINS Q AND R}]\ KPC109=C}{KPC109=C} \times \frac{100}{\text{Number of Women Surveyed with child between 12 months and 17 months old}}$
Vitamin A – dose 3 – 18-24 months	"data-mod8_vaccination-_24_Vacc" **Contains: R, S** AND **T** AND "data-mod8_vaccination-Age_Vacc"	"data-mod8_vaccination-Age_Vacc" = **18_24** [Column EJ, KPC109]	$\frac{\text{Women with children 6–11 months who report that their child had received Vitamin A Supplements in the past 6 months according to their health card } [KPC111 \text{ CONTAINS R,S,and T}]\ AND\ KPC109=D}{KPC109=D} \times \frac{100}{\text{Number of Women Surveyed with child between 18 months and 24 months old}}$

	= **18_24** [Column EN, KPC113 Column EJ, KPC109]		
Minimum Dietary Diversity (MDD) of breastfed children	"data-Identification-Child_Age" **≥6** AND "data-Identification-Child_Age" **<24** AND COMBINATION OF 4 OR MORE OF THE FOLLOWING: "data-mod6_mat_lact_nut-Yes_BF" = **1** AND "data-comp_feed-Yest_Tubers_001" =**1** AND "data-comp_feed-Yest_Dairy" = **1**	"data-Identification-Child_Age" **≥6** AND "data-Identification-Child_Age" **<24** AND "data-mod6_mat_lact_nut-Yes_BF" = **1** [Column Q, KPC10 Column DF, KPC82]	**Dietary Diversity – breastfed children:** $\frac{\begin{array}{c}Women\ interviewed\ with\ children\ between\\ 6\ and\ 23\ months\ who\ provided\ sufficient\ dietary\ diversity\ within\ the\ past\ 24\ hours\\ KPC82{=}YES\ AND\ 6{\leq}KPC10{<}24\ AND\ Any\ Combination\ of\ Four\ or\ more\ Yes\\ (A)Responses\ for\ the\\ following{:}\\ [KPC86{=}A]\ OR\ [KPC87{=}A]\ OR\ [KPC88{=}A]\ OR\ [KPC89{=}A]\ OR\ [KPC90{=}A]\ OR\ [KPC91{=}A]\\ OR\ [KPC92{=}A]\end{array}}{\begin{array}{c}(6{\leq}KPC10{<}24\ AND\ KPC82{=}YES)\\ Total\ Number\ of\ Women\ with\ breastfed\ children\ 6{-}24\ months\ Surveyed\end{array}}$

	AND “data-comp_feed-Yest_Nut” = **1** AND “data-comp_feed-Yest_VitA” = **1** AND “data-comp_feed-Yest_FruitVeg” = **Yes** “data-comp_feed-Yest_Meat” = **Yes** AND “data-comp_feed-Yest_Egg” = **Yes** [Column DF, KPC82 Column DI, KPC85, Column DJ, KPC86, Column DK, KPC87, Column DL, KPC88,		

	Column DM, KPC89, Column DN, KPC90, Column DO, KPC91, Column DP, KPC 92]		
Minimum Meal Frequency (MMF) – breastfed children	"data-comp_feed-Yest_Eat" **≥2** AND "data-mod6_mat_lact_nut-Yes_BF" = **1** AND "data-Identification-Child_Age" **≥6** AND "data-Identification-Child_Age" **<9** [Column DR, KPC94, Column DF, KPC82, Column Q, KPC10] **PLUS** "data-comp_feed-Yest_Eat" **≥3**	"data-Identification-Child_Age" **≥6** AND "data-Identification-Child_Age" **<24** AND "data-mod6_mat_lact_nut-Yes_BF" = **1** [Column Q, KPC10 Column DF, KPC82]	Meal Frequency: $$\frac{\begin{array}{c}Women\ interviewed\ with\ breastfed\ children\ between\ 6\ and\ 23\ months\\ who\ provided\ sufficient\ feeding\ frequency\ within\ the\ past\ 24\ hours\\ (KPC94{\geq}2\ \ AND\ KPC\ 82{=}YES\ AND\ 6{\leq}KPC10{<}9){+}\\ (KPC94{\geq}3\ AND\ KPC\ 82{=}YES\ AND\ 9{\leq}KPC10\ {<}24)\end{array}}{\begin{array}{c}(6{\leq}KPC10{<}24\ AND\ KPC82{=}YES)\\ Total\ Number\ of\ Women\ Surveyed\ with\ child\ between\ 6\ and\ 24\ months\ old\end{array}}$$

	AND "data-mod6_mat_lact_nut-Yes_BF" = **1** AND "data-Identification-Child_Age" **≥9** AND "data-Identification-Child_Age" **<24** [Column DF, KPC82, Column DR, KPC94, Column Q, KPC10]		
Minimum Acceptable Diet – breastfed children 6-23 months		"data-Identification-Child_Age" **≥6** AND "data-Identification-Child_Age" **<24** AND	$\frac{Mothers\ of\ breastfed\ children\ between\ 6-24\ months\ who\ meet\ both\ MDD\ and\ MMF}{(6 \leq KPC10 < 24\ AND\ KPC82 = YES)}$ $Total\ Number\ of\ Women\ Surveyed\ with\ breastfed\ children\ between\ 6\ and\ 24\ months\ old$

		“data-mod6_mat_lact_nut-Yes_BF” = **1** [Column Q, KPC10 Column DF, KPC82]	