

Acronyms and Abbreviations

CGPP	CORE Group Project
UNICEF	United Nations International Children's Fund
USAID	United States Agency for International Development
WASH	Water and Sanitation
WHO	World Health Organisation
UNICEF	United Nations International Children's Fund
FGD	Focus Group Discussions
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KII	Key Informant Interviews
ToT	Trainer of Trainers
ODK	Open Data Kit
ADRA	Adventist Development Relief Agency
IRC	International Rescue Committee
WV-K	World Vision- Somalia
ARC	American Refugee Committee
M&E	Monitoring and Evaluation

1. Methodological Approach

The final evaluation of the CORE Group Project (CGPP) was based on a mix of qualitative and quantitative research methodologies. The quantitative methodologies adopted a 30-cluster sample approach used during the mid-term evaluation conducted in 2015 to sample villages and a randomly select eligible households living around the health facilities situated along the borders with neighbouring countries namely South Sudan, Ethiopia and Somalia. The household questionnaire, a quantitative tool structured in accordance with the results areas of the CGPP targeted households with mothers or caretakers of children aged 12-23 months while the qualitative approach targeted women and men with under five year old children, local and high level stakeholders, and employed various methods such as focus group discussions and key informant interviews with men and women, CGPP project staff and stakeholders.

Target Population

In each of the two regions of Somalia, the quantitative study targeted households with children aged 12-23 months for interviews to determine socio-demographic characteristics, SIA coverage, SIA polio immunization knowledge and attitudes, routine immunization history, routine immunization knowledge & attitudes, acute flaccid paralysis and cross-border behaviour. The qualitative study on the other hand targeted mothers and fathers of children under five years, community mobilisers, CORE group project staff, religious leaders, community and district level stakeholders and high level stakeholders such as WHO, UNICEF, USAID and Ministry of Health (MoH)

Study Area and Population

The study was conducted in the five regions and subsequently in five districts targeted by the CORE Group Polio Project in Somalia. The regions comprised of Dolow District, Belet Hawa District, Elwak, District, Gerille Sub-District Afmadow (Dhobley Sub-District), Badhadhe District as shown in the table below;

Map 1: GPS location of the study area and respondents, CORE Group Project Areas, Somalia

S/n	Regions	Districts
1	Gedo Region	Dolow District, Belet Hawa District, Elwak, District, Gerille Sub-District
2	Lower Juba Region	Afmadow (Dhobley Sub-District), Badhadhe District
Total		

Sampling methods and sample size

The sample size of 240 households for each region was derived from modifying the simple random sampling design sample size. In a simple random sampling design, a sample size (n) of 96 is derived based on the formula: $n = z^2 (pq) / d^2$. A cluster sample usually introduces bias in the form of the design effect into the sampling frame, meaning that households in close proximity may have more in common than households that are from different areas of the same community, which therefore decreases their possible variation. Therefore, the number of households used in this evaluation was doubled to at least 192. This was increased even further by 25% to a sample size of 240 eligible households for each county. Consequently, a WHO 30-cluster stratified sampling design was adapted for each of the counties, and 8-10 households were interviewed in each cluster.

The final sample size for all the two regions was $30 \times 8 \times 2 = 480$ mothers/caretakers with children 12-23 months of age. The number of clusters per district or within a particular community were selected randomly based on its uniqueness in demography, and the location of the health facilities supported along the border by the CORE Group Polio Project, Somalia.

Survey Personnel and Data Collection

Survey Personnel

The household data was collected by experienced quantitative research assistants who resident in Somalia and are conversant the geography and local language of the target population. The research assistants training took place in two sites, Mandera and Dhobley where the team leaders and research assistants were trained on the sampling design, data collection methods, interviewing techniques, field procedures, and data quality assurance. The methodologies used during the trainings included practical sessions on reading and collecting information from Immunization Cards, lectures, plenary, mock interviews, fieldwork practices, discussions in smaller groups, and tests developed to examine the understanding of the trainees in regard to using the tools and Open Data Collect (ODK). The team leaders and research assistants trained in Mandera were assigned Gedo Region while those trained in Dhobley assigned to Lower Juba Regions. Each team comprised of a supervisor and five research assistants. In total, 485 randomly selected mothers/caregivers of children aged 12-23 months were interviewed, this comprised of approximately 240 mothers/caregivers per region.

The secretariat, Somalia-Aid, and International Rescue Committee (IRC) teams supported the field teams throughout the entire assignment. The lead consultants, in an inception meeting participated in a Skype meeting convened by the CGPP secretariat and M&E Technical specialist to review the qualitative data collection tools and sampling approaches. This helped establish the number of FGDs and KIIs for each region using similarity of target groups as the deciding factor.

Data Collection Exercise

The data collection began on 22nd September and ended on the 30th September 2017. The team leaders and the research assistants were first trained on Open Data Kit (ODK), a mobile data collection application before actual data collection. The research assistants in each region were split into groups of two and assigned clusters and villages based on their geographical knowledge of the districts. An inception meeting with local leaders was held in each region to introduce the evaluation purpose, methodology and also to agree on target health facilities and villages. These were facilitated by the Somalia Aid and IRC.

The research assistants sort for consent before interviewing each of the randomly selected eligible households having mothers or caretakers of 'index' child aged 12 to 23 months. Smart phones were used to conduct a face to face interview with mothers at household level and data transmitted to the central server hosted by ONA, a data collection platform. The number of interviews conducted by each research assistant varied from 6-8 interviews per day given each interview took approximately 45 minutes. The focus group discussions with women and men who are parents of children under five comprised at least eight community members per focus group discussion. These were conducted in different communities or villages other than those targeted for household survey. The team leaders took notes and recorded the discussions using tape recorders. These were later transcribed and translation to English by the team leaders.

Data Collection Tools

The household survey tool and the interview guides were already designed by the secretariat and Global M&E consultant, and these formed the basis of the evaluation. The household survey tool was used to collect information from eligible mothers or caregivers having children aged 12-23 months while interview guides were used to collect information from mothers or fathers, community mobilisers/volunteers, CORE Group Project staff, community level stakeholders, high level stakeholders and religious leaders. The household survey tool was translated into Somalia language, corded into CSV files and forms imported into ONA platform. The household data was collected using smart phones and data submitted using ODK collect. Interviews in Gedo and Lower Juba were all conducted in Somalia language. This ensured that same questions were asked by different research assistants in the same manner.

Data quality assurance

Debrief meetings were held every evenings after the data collection, and team leaders made sure saved forms are complete and free from any errors before data submission into the central server. Similarly, an IT expert doubling as a statistician conducted real time reviews to eliminate and correct common mistakes such as blanks, skips, unreadable notes etc., and shared findings with the field teams to avoid repetitive errors. The lead consultants on the other hand, at the end of each day, separately reviewed the uploaded forms and ensured that mistakes arising thereof are addressed prior to the next day of data collection. The household data were cleaned and analysed according to themes while also making sure that notes and voice obtained through Key informant interviews and Focus Group Discussions were accurately transcribed. Open Data Kit (ODK) collect was used to transmit raw data into the central server while SPSS and advance STATA were used to analyse data exported from the ONA server. The team leaders conducted regular spot-check and reviews of the completed interviews to ensure data collected meets the prescribed standard and quality.

Data Management and Analysis

The management and analysis was conducted by the data scientist supported by lead consultants who are experts in quantitative and qualitative techniques. The data was cleaned and analysed using descriptive statistics of frequencies and cross tabulations to outline correlations of key indicators. The qualitative data analysis involved coding of transcripts from qualitative interviews to establish and highlight the emerging themes around the main indicators and to triangulate the information with the findings from quantitative data and baseline. The inferences from these analyses were complementary in nature and helped provide a clear picture of project performance and impact.

2. Socio-Demographic Profile

This household survey was conducted from 19 to 28, September 2017 in two regions namely Gedo and Lower Juba. Gedo region comprised of Dolow District, Belet Hawa District, Elwak District, Gerille Sub-District while Lower Juba comprised of Afmadow (Dhobley Sub-District) and Badhadhe District. This comprised of six districts, however Gerille Sub-District was left out because of security issues. The regions were divided into 60 clusters, 30 clusters per region based on the population size and location of the facilities. In total, 485 household interviews with mothers/caretakers having children aged 12-23 months were conducted. The sample distribution by the counties is shown in the table below;

Table 1: GPS location of the study area and respondents, CORE Group Project Areas, Somalia

County	Male	Female	Total
Afmadow Dhobley Sub District	2	122	124
Badhadhe District	21	98	119
Belet Hawa District	3	71	74
Dolow District	8	136	144
Elwak District	0	24	24
Grand Total	34	451	485

Characteristics of respondents

Of the sampled households, 87 (20.4%) were urban and 1098 (76.2%) were rural residents. More than 94% of the respondents were mothers' of the index child. Majority of the respondents (54.7%) were in the age group 20-29 years, females constituted 96.0% and 65.9% were Muslims by religion. Majority of the respondents (77.7%) had no formal education at all, 20.4% prefers leaving their child with their mother or partner when not at home, 74.6% involved in domestic work and 51.0% have lived in the village for more than 10 years (Table 2).

Table 2: Socio-demographic Characteristics of Respondents, CORE Group Project Areas, Somalia¹

Characteristics	Number	%
Residence		
Urban	87	17.9%
Rural	398	82.1%
Total	485	100%
Relationship to the index child		
Mother	444	91.5%
Other	41	8.5%
Total	485	100%
Age		
< 20	28	5.8%
20-29	223	46.0%
30-39	179	36.9%
40+	55	11.3%
Total	485	100%
Sex		
Male	34	7.0%
Female	451	93.0%
Total	485	100%
Religion		
Muslim	482	99.4%
Protestants and other Christians	1	0.2%
Hindu	2	0.4%
Total	485	100%
Educational status		
No education (Illiterate)	417	86.0%
Primary incomplete	32	6.6%
Primary complete	29	6.0%
Secondary+	7	1.4%
Total	485	100%
Occupational status		
Domestic work	270	55.7%
Farmer	27	5.6%
Pastoral/Semi-pastoral	17	3.5%
Business or office	104	21.4%
Other	67	13.8%
Total	485	100%
Years lived in the Somalia		
< 5 years	146	30.1%

¹ Refer to the indicator sheet for a more a detailed analysis per county

5-9 years	177	36.5%
10+ years	162	33.4%
Total	485	100.0

3. SIA coverage

This section of the report looks at the SIA coverage of most recent round of vaccination that happened in March 2017 and in the counties targeted by the CORE Group Polio Project. The total number of children who are under 5 living with the respondents in the same household were 756 children. Out of these, 485 children (female 50.7%) were randomly selected and the respondent questioned regarding their vaccination status. A majority, 66.8% were below one year of age, 94.2% had ever received polio vaccination that is drops in the mouth in a vaccination campaign, about 68.0% of the respondent reported their children received mouth drops while 29.9% reported their children did not. Worth noting is that 61.4% of the respondents were aware about the March polio vaccination campaign and 55.7% were visited by the vaccinators (Table 3).

Table 3: Children characteristics, vaccination status of children under 5 selected and finger mark, CORE Group Polio Project Areas, Somalia

Characteristics of sampled children under 5	Number	Percent
Gender		
Male	239	49.3%
Female	256	50.7%
Age distribution		
< 1 yr.	54	66.8%
≥ 1 ≤ 3	57	11.8%
> 3 ≤ 5	104	21.4%
Ever received polio vaccination in a vaccination campaign		
Yes	457	94.2%
No	25	5.2%
Don't know	3	0.6%
Received polio vaccination in the last/recent vaccination campaign		
Yes	330	68.0%
No	145	29.9%
Don't know	10	21.1%
For those reported vaccinated, finger mark observed available	234	70.9%
Households visited by vaccinators- the last polio round–march 2017		
Visited	270	55.7%
Not visited	173	35.7%
Don't know	42	8.7%
Knowledge of the last/recent polio campaign – March 2017		
Awareness of the campaign	298	61.4%
Awareness of the campaign	187	38.6%
Total	485	100%

4. SIA polio immunization knowledge & attitudes

This section captures results on the respondent's knowledge and attitude about polio vaccination in mass campaigns. As illustrated in the table 4 shown below, about 1.2% of the mothers/caretakers informed a child should get polio vaccination 9 times while response from the majority 74.6% ranged between one and eight times. On the other hand 92.2% of the mothers were of the opinion that receiving polio vaccine many times helps protect a child from polio, and about 99.4% agreed that a child should receive polio vaccinations during campaigns.

Table 4: Respondent's general knowledge and attitude about polio vaccination in mass campaigns, CORE Group Polio Project Areas, Somalia

Knowledge and attitude of sampled respondents	Number	Percent
# of times a child should get polio vaccination		
< 8	362	74.6%
9 times	6	1.2%
10+	1	0.2%
Don't know	116	23.9%
Respondents opinion on a child receiving polio vaccine many times		
Child gets more protection from polio	447	92.2%
Child may be harmed by the vaccine	7	1.4%
Nothing - not helpful or harmful	2	0.4%
Don't know	29	6.0%
Agree that a child should receive polio vaccination during campaigns		
Agree	482	99.4%
Don't agree	2	0.4%
Don't know	1	0.2%
Total	485	100%

5. Routine Immunization History

This section contain results on routine immunization history of children aged 12-23 months. In view of children with vaccination cards, 2.3% of the children had vaccination cards at the time of the interview, 44.5% reported they have immunization cards while 53.2% did not have cards at all. Of the children who did not have cards, 16.7% had cards before but either got lost, got burnt in the house or the mother misplaced the card. Of the children who had immunization cards, 36.4 % received vaccination during campaigns that were never recorded in the cards.

Table 5: Immunization history of children aged 12-23 months in the CORE Group Polio Project Areas, Somalia

Immunization history of children aged 12-23 months	Number	Percent
Gender		
Male	237	48.9%
Female	248	51.1%
Vaccination cards		
Yes, child immunization card seen	11	2.3%

Yes, child immunization card not seen	216	44.5%
No card	258	53.2%
Child with no card who ever had one before²		
Yes	43	16.7%
No	197	76.4%
Don't know	18	7.0%
Vaccinations received other than during vaccination campaigns that were never recorded in the cards³		
Yes	4	36.4%
No	5	45.5%
Don't Know	2	18.2%
Children whose cards were not seen or did not have a card but received vaccination – not during campaign⁴		
Yes, received	368	77.6%
No did not receive	87	18.4%
Don't Know	19	4.0%
Total	485	100%

Vaccination coverage by data verification source

The vaccination status of children were assessed based on the card and mothers or caretakers report or history. As shown in figure 1, the proportion of children who got vaccinated based on the card for each vaccine varied between 1.0% for measles and 2.3% for BCG. Similarly, based on reports of mothers/caretakers, the proportion of children vaccinated for the different vaccines ranged between 0.6% for Penta2 and 93.0% for OPV1. The proportion of children vaccinated based on both card and history ranged between 2.3% for Penta2 and 95.3% for OPV0.

² This was response from mothers/caretakers who did not have a vaccination card at all

³ This was response from mothers/caretakers who had vaccination cards

⁴ The response was obtained from mothers/caretakers who claimed their children were vaccinated but their cards were not seen or did not have a card at all

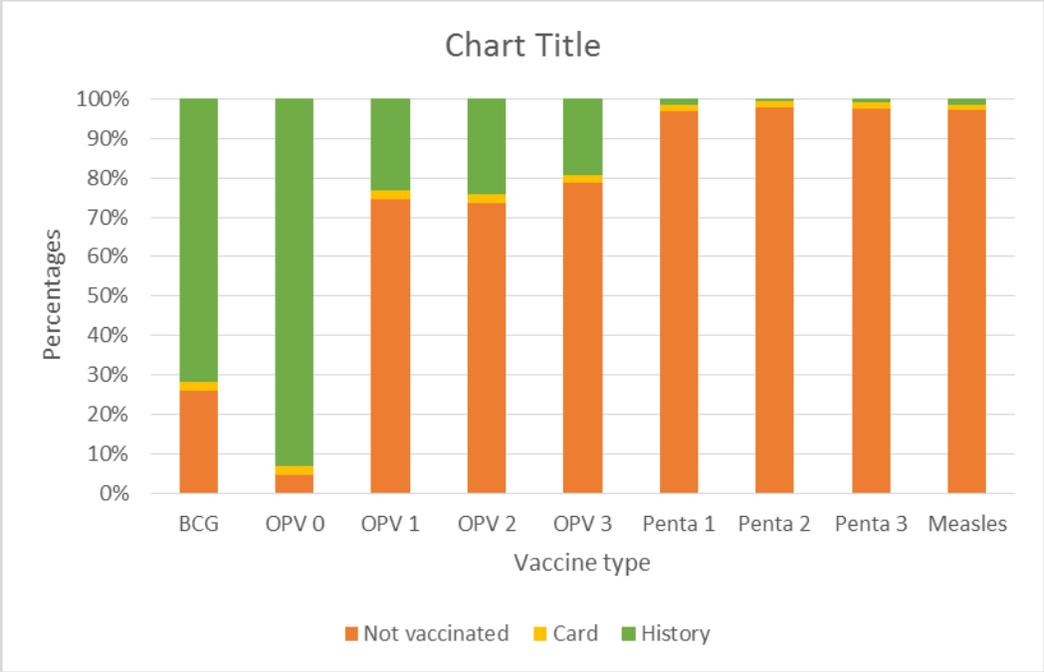


Fig. 1: Vaccination coverage by vaccine and verification source, CORE Group Polio Project Areas, Somalia

Vaccine	Not vaccinated		Card		History		Card + History	
	n	%	n	%	n	%	n	%
BCG	126	26.0%	11	2.3%	348	71.8%	359	74.0%
OPV 0	23	4.7%	11	2.3%	451	93.0%	462	95.3%
OPV 1	362	74.6%	11	2.3%	112	23.1%	123	25.4%
OPV 2	357	73.6%	11	2.3%	117	24.1%	128	26.4%
OPV 3	382	78.8%	9	1.9%	94	19.4%	103	21.2%
Penta 1	469	96.7%	8	1.6%	8	1.6%	16	3.3%
Penta 2	474	97.7%	8	1.6%	3	0.6%	11	2.3%
Penta 3	473	97.5%	8	1.6%	4	0.8%	12	2.5%
Measles	472	97.3%	5	1.0%	8	1.6%	13	2.7%

Table 6: Vaccination coverage by data source and vaccine, CORE Group Polio Project Areas, Somalia

Vaccination dropout rates

Based on data from vaccination cards, dropout rates between different vaccines were determined using the vaccination dates in the cards. Accordingly, Measles dropout rate was calculated among those who took BCG and Penta1 but failed to take Measles vaccine. In that respect BCG – Measles dropout rate was 54.5% while that of Penta1 – Measles was 60.0%. All these results were way above the minimum expected dropout rate of 10%. Additional information is contained in the figure 2 below shows other dropout rates.

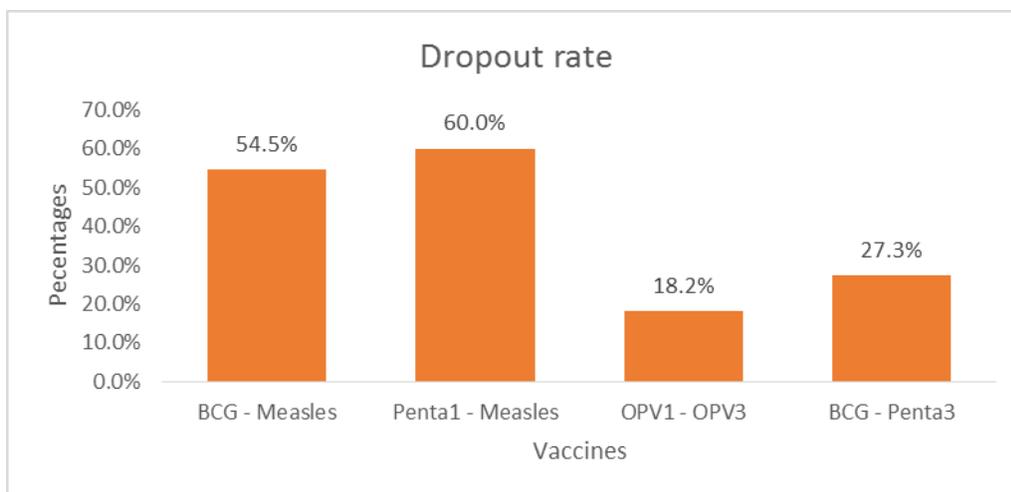


Fig 2: Dropout rates based on dates from vaccination card in the CORE Group Polio Project Areas, Somalia

Table 6A: Vaccination coverage for the Nine Antigens by respondents' characteristics, health service use and vaccination related factors in the CORE Group Polio Project Areas, Somalia

Characteristics respondents, health service use and vaccination related issues	Missed at least one of the nine vaccine + missed all		Received all nine vaccines		Total	p-value
	%	No.	No.	%		
Residence						1
Urban	100.0%	87	0	0.0%	87	
Rural	100.0%	398	0	0.0%	398	
Total		485	0		485	
Ever attended formal school						0.41737221
Yes	100.0%	68	0	0.0%	68	
No	99.0%	413	4	1.0%	417	
		481	4		485	
Highest grade completed						
Primary incomplete	100.0%	32	0	0.0%	32	
Primary complete	100.0%	29	0	0.0%	29	
Secondary+	100.0%	7	0	0.0%	7	
		68	0		68	
Mother/Caretaker religion						0.98752679
Muslim	99.2%	478	4	0.8%	482	
Christians	100.0%	1	0	0.0%	1	
Hindu	100.0%	2	0	0.0%	2	
Total		481	4		485	

As shown in figure 3 and 4 below, 14% of the total number of respondents interviewed in the five districts informed ever attending formal education. Of these 47.1% did not complete primary, 42.6% completed primary education while the rest 10.3% completed secondary education.

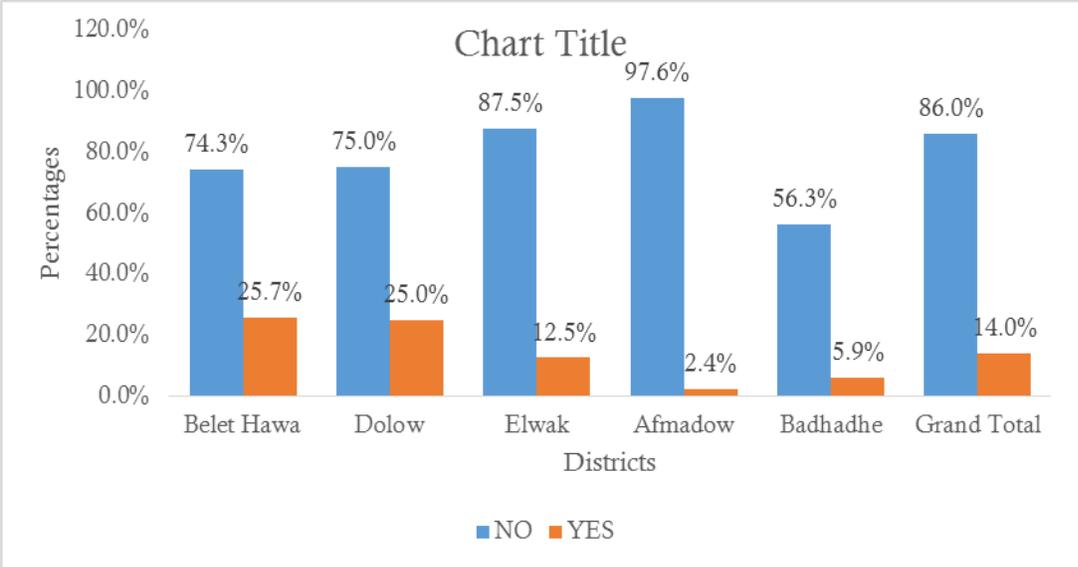


Fig. 3: Respondents level of education disaggregated by County CORE Group Polio Project Areas, Somalia

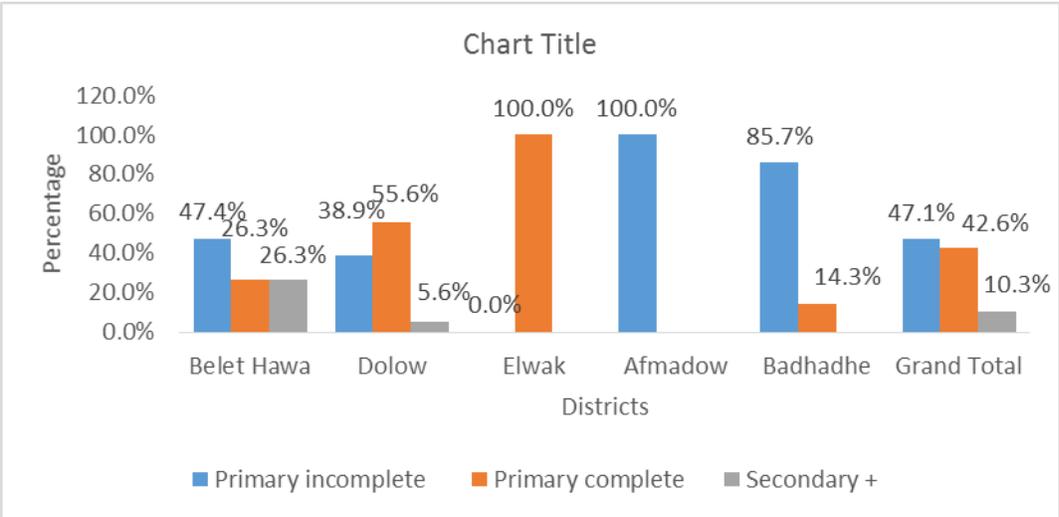


Fig. 4: Highest level of education disaggregated by County, CORE Group Polio Project Areas, Somalia

The respondents especially mothers who work outside home were asked about who takes care of the child when they are not at home, and interestingly it emerged that most mothers preferred leaving their children with neighbours (23.1%) followed by the child’s grandmother (20.4%) and husband at 20.2% of all the responses. The reason for leaving the child with neighbours was most prominent in households where the husbands are at home most of the time or are engaged in work outside home. In urban areas particularly in Nairobi, this was being attributed to economic reasons such as the family not being able to afford services of a caretaker. (Figure 12)

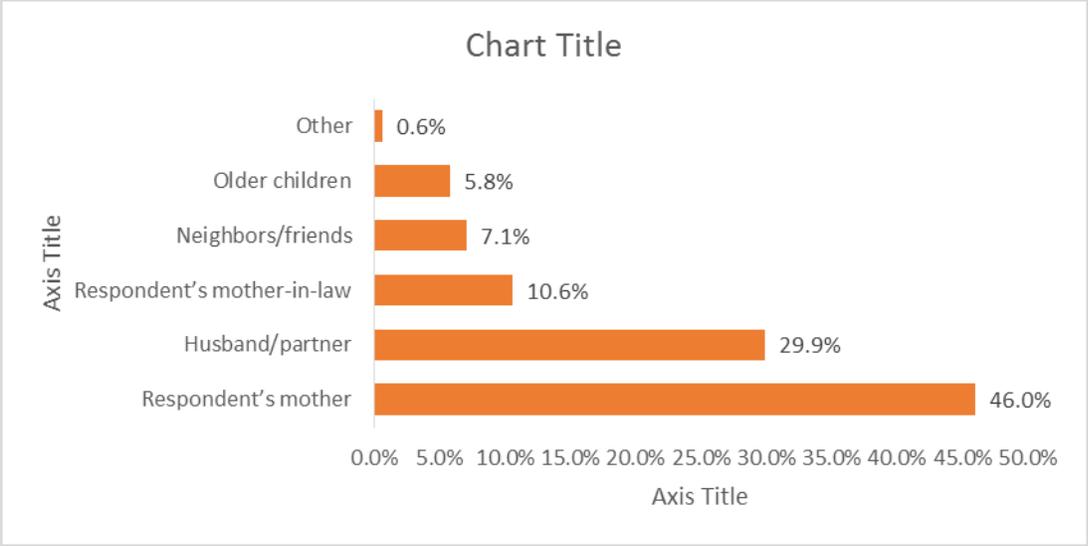


Fig 5: Child caretakers during mother’s absence in the CORE Group Polio Project Areas, Somalia

As shown in figure 6 and 7 below, 61.4% of the respondents received information and were aware about the Polio campaign that took place nationally in March 2017, only 38.6% were not aware. Of those who were aware, 43.4% informed they knew about it through community health volunteers, 17.0% informed they knew about polio campaign through friends and neighbours, 9.4% knew through SMS while printed materials came fourth at 8.7%.

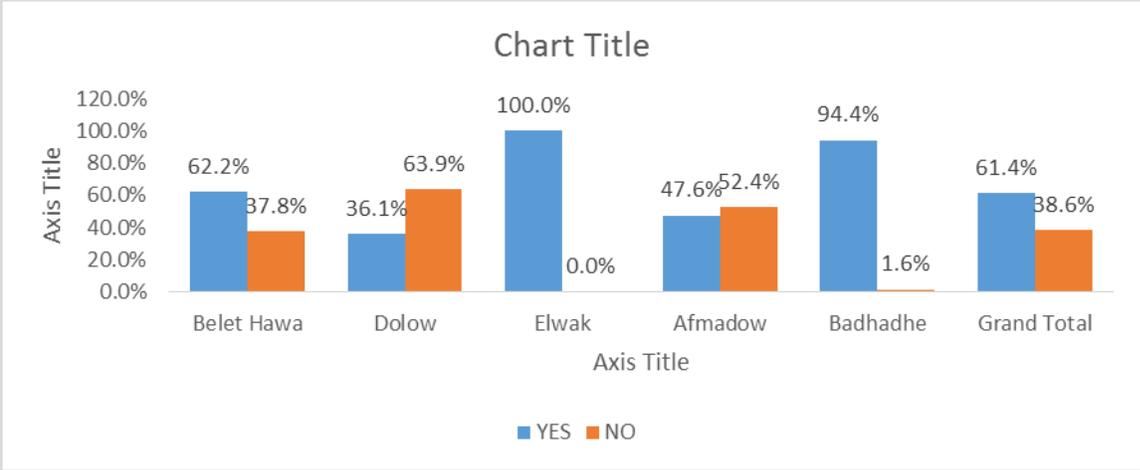


Fig 6: Respondents knowledge of the recent Polio campaign in the CORE Group Polio Project Areas, Somalia

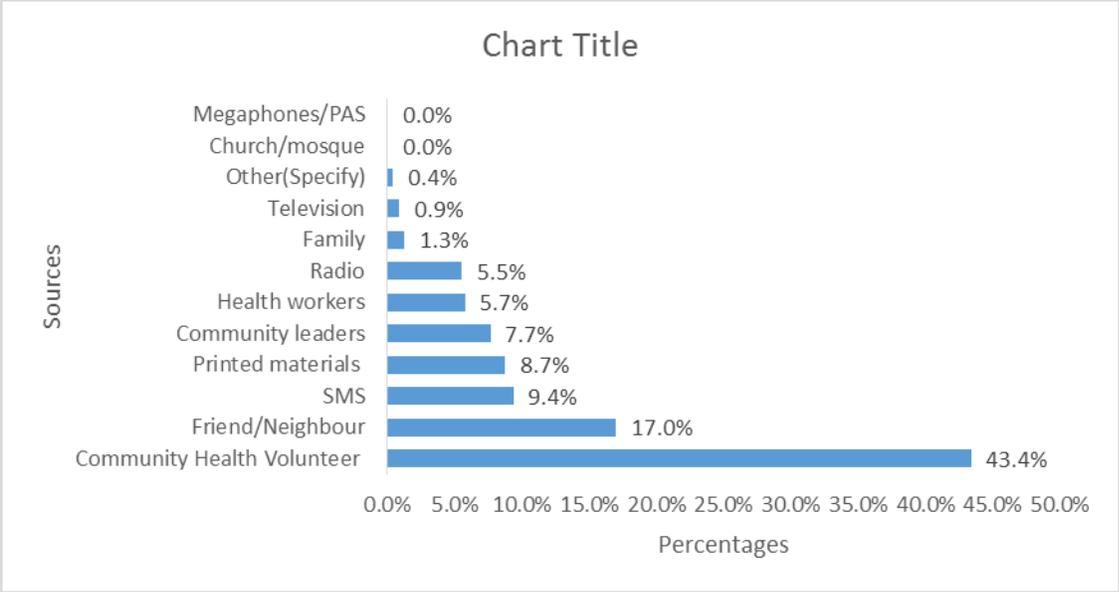


Fig 7: Source of information about recent Polio campaign in the CORE Group Polio Project Areas, Somalia

As shown in the fig. 8 and 9 below, 30.4% of the respondents informed they get their children vaccination from mobile clinics, 27.5% said their children receive vaccination from Health facilities and the rest were split between others such as private clinics, faith based clinics and outreach sites. In Gedo regions, majority, 80.0% of the respondents can access these health facilities in less than 30 minutes while in Lower Juba, 51% of the respondents informed it takes less than 30 minutes to reach the health facilities. This means the health facilities especially in Gedo region are more accessible and households who reside far away are still able access them by foot.

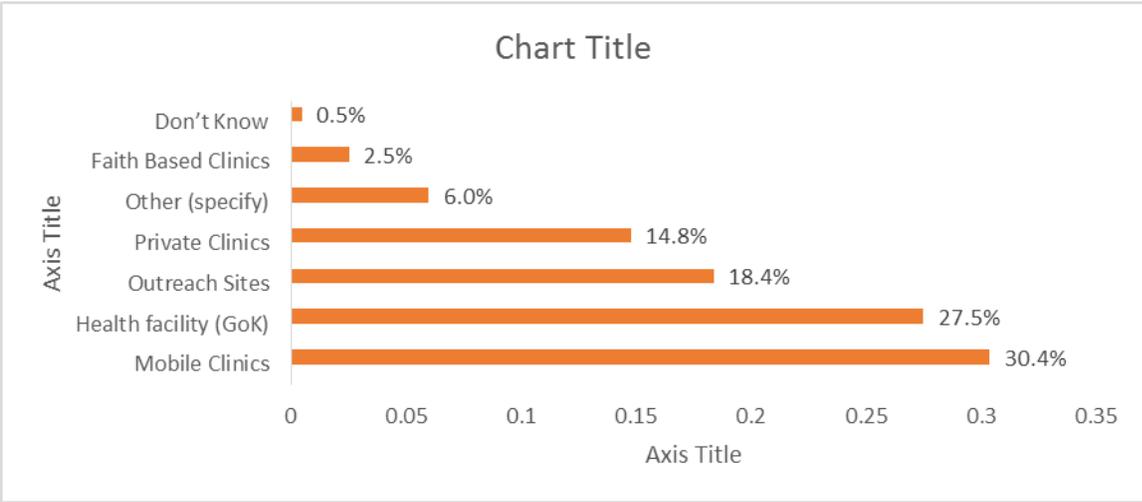


Fig. 8: Where to take a child for vaccination in CORE Group Polio Project Areas, Somalia

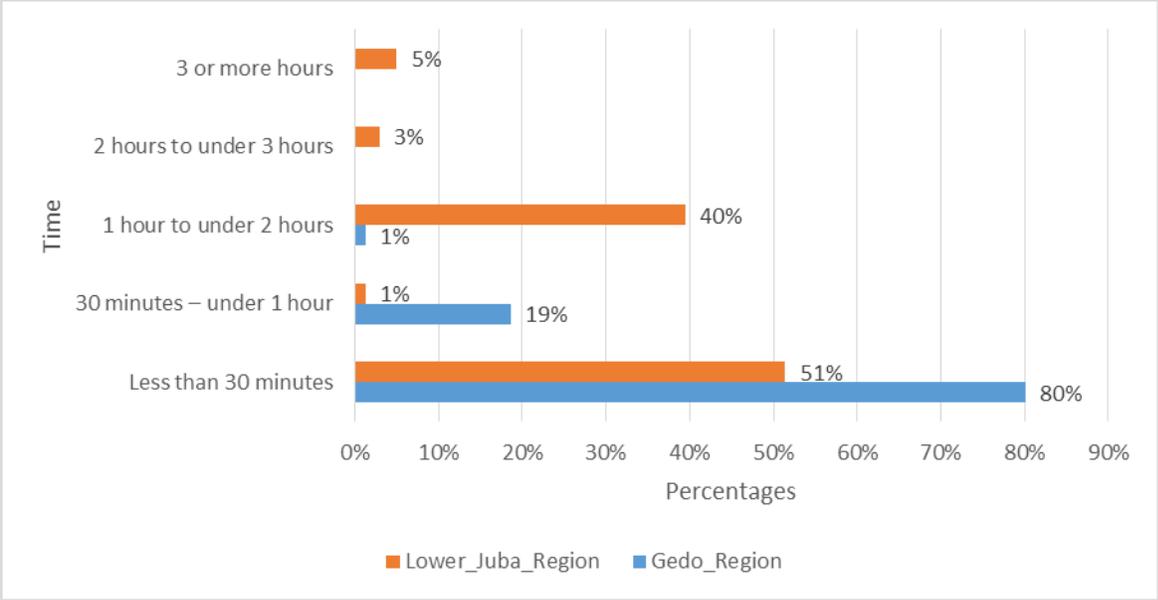


Fig. 9: Time it takes to the place of vaccine in CORE Group Polio Project Areas, Somalia