

**Mortality and Morbidity Survey,
Agago County, Pader District,
Northern Uganda**



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Executive Summary

Introduction

With the ongoing peace process in Juba, South Sudan, in which the government of Uganda and the Lord's Resistance Army (LRA) signed a cessation of hostilities agreement in August 2006, the people of Pader District, Northern Uganda, have experienced relative peace. With the reduction in insecurity, this has prompted some Internally Displaced Persons (IDPs) to begin returning to their home villages or resettlement sites, also known as 'satellite' camps, located close to home villages for the first time in two decades.

The Medair medical programme which has been running in Pader district, Agago County, for the last three years aims at improving the accessibility of the displaced population to basic curative and preventive healthcare, and to improving the quality of the health care system by assisting the functioning of the supported health services in 8 targeted IDPs camps.

Survey objectives and methods

The objectives of this survey were to:

1. Compare changes in the health status of the targeted displaced population with findings of the survey conducted in June/July 2006,
2. Measure outcomes of Medair interventions against log frame indicators for 2007 programme,
3. Assist in defining the programme strategy for 2008, and
4. Tentatively compare indicator results between major camps and resettlement sites.

The survey adopted a retrospective approach to the measurement of mortality and morbidity in 11 IDP camps, 6 of which were satellite camps/resettlement sites. The mean recall period was 225 days from 1st January to 21st September 2007. A systematic random sampling method was applied in selecting the households and data was collected using a structured questionnaire. The survey sampled a total of 2004 households in which 10,651 persons (including 2288 children under 5 years of age) were enumerated.

Main findings and recommendations

The variables investigated in this survey were mortality, morbidity, measles immunisation coverage, bed net coverage and usage, and awareness on HIV/AIDS modes of transmission/prevention and perception of households on availability of HIV/AIDS services. Table 1 below summarises the key findings on mortality, morbidity and measles immunization coverage.

Table 1: Summary of key findings on mortality, morbidity and measles immunization coverage

	Adilang	Amyel	Geregere	Lira Kato	Lukole	Odokomit	Namabili	Lacekotoo	Ogwang Kamolo	Ongalo	Orina
SURVEY PROFILE											
Estimated population	15450	9624	7140	8766	9726	6498	5370	702	1914	2004	3132
Estimated number of households	2575	1604	1190	1461	1621	1083	895	117	319	334	552
Households sampled	455	269	219	265	290	190	73	17	31	57	138
Number of persons in the sampled households	2449	1501	1177	1424	1504	949	360	87	174	313	713
Number of children U5	519	339	252	303	337	182	78	19	39	63	157
MORTALITY											
Crude mortality rate (deaths per 10 000 per day) (95% CI)	0.51 (0.03 -0.07)	0.72 (0.44 – 1.02)	0.36 (0.12 – 0.57)	0.64 (0.41 – 0.95)	0.37 (0.12 – 0.59)	0.70 (0.29 – 1.05)	0.57 (0.03 – 1.07)	1.16 (0.37 – 2.74)	1.07 (0.08 – 2.06)	0.59 (0.03 – 1.16)	0.54 (0.15 – 0.98)
Under 5 mortality rate (under 5 deaths per 10 000 children under 5 per day) (95% CI)	0.74 (0.23 – 1.24)	1.11 (0.35 – 1.87)	0.95 (0.13 – 1.78)	1.11 (0.30 – 1.91)	0.58 (0.11 – 1.26)	2.17 (0.53 – 3.81)	1.37 (0.51 – 3.24)	2.69 (2.58 – 5.94)	1.19 (0.40 – 1.98)	2.20 (0.22 – 4.62)	1.28 (0.04 – 2.5)
Top self reported causes of death (%)	Malaria (42.9%)	Malaria (25.0%)	Respiratory infections (33.3%)	Malaria (40.0%)	Malaria (16.7%)	Malaria (35.7%)	Malaria (25.0%)	Malaria (50.0%)	Malaria (75.0%)	Malaria (25.0%)	Respiratory infections (37.5%)
	Bloody diarrhoea (7.1%)	Respiratory infections (16.7%)	Violence (11.1%)	Respiratory infections (15.0%)	Respiratory infections (16.7%)	HIV/AIDS (14.3%)	Respiratory infections (25.0%)	-----	Respiratory infections (25.0%)	Bloody diarrhoea (25.0%)	Malaria (12.5%)
	HIV/AIDS (7.1%)	Violence (12.5%)	HIV/AIDS (11.1%)	Violence (15.0%)	-----	Violence (14.3%)	Violence (25.0%)	-----	-----	Oral candidiasis (25.0%)	-----
MORBIDITY											
Number and percentage of persons who suffered episode of illnesses in the last 2 weeks	471 (20.7%)	362 (16.0%)	294 (13%)	213 (9.4%)	384 (17.0%)	213 (9.4%)	77 (3.4%)	15 (0.7%)	31 (1.4%)	50 (2.2%)	151 (6.7%)
Major morbidity symptom reported in the population in the last two weeks	Malaria (34.2%)	Malaria (43.4%)	Malaria (38.8%)	Malaria (39.4%)	Malaria (32.8%)	Malaria (36.2%)	Malaria (24.7%)	Malaria (60.0%)	Malaria (35.5%)	Malaria (36.0%)	Malaria (39.7)
MEASLES IMMUNIZATION											
Measles immunization coverage in Children U5	58.3%	53.8%	65.9%	65.2%	61.3%	59.1%	58.8%	50.0%	58.8%	69.8%	57.4%

Mortality Rates

The overall CMR was 0.56 deaths/10,000 persons/day, which is below the emergency threshold of 1.0. However, in Lacekotoo and Ogwang Kamolo, the CMRs were above the emergency threshold at 1.16 and 1.07 respectively. Aggregate U5MR was 1.07 deaths/10,000 persons/day, again, below the emergency threshold of 2.0. However, in Odokomit, Lacekotoo and Ongalo the U5MRs were above the emergency threshold at 2.17, 2.69, and 2.20 respectively. It is worth noting that each of the camps in which mortality rates were above the emergency thresholds, are satellite/resettlement sites.

Morbidity

Malaria and respiratory infections contributed to the largest self reported causes for both morbidity and mortality in the overall population and U5 population enumerated.

Measles Immunization

The over all measles immunization coverage among 9 to 59 months old children was 59.1%.

Bed net coverage and usage

It was found that 88.1% of the households sampled had at least 1 Insecticide Treated Net (ITN). 77.5% of the households had knowledge of the appropriate use of bed nets in order to effectively prevent mosquito bites.

Awareness on HIV/AIDS and availability of services

The general level of awareness of households on modes of HIV transmission and prevention appears to be good – 86.5% of households were able to give correct answers to questions on modes of HIV transmission, and 83.6% were able to give correct answers to the questions on preventative practices. However, perceptions on the availability of HIV/AIDS services in the community, which may potentially reflect the accessibility to the services, are low for the key services investigated - Anti-Retroviral Therapy (ART) was 31.5%, Voluntary Counselling and Testing (VCT) was 50.3%, Prevention of Mother to Child Transmission (PMTCT) was 33.7% and Home Based Care (HBC), 9.8%.

Recommendations

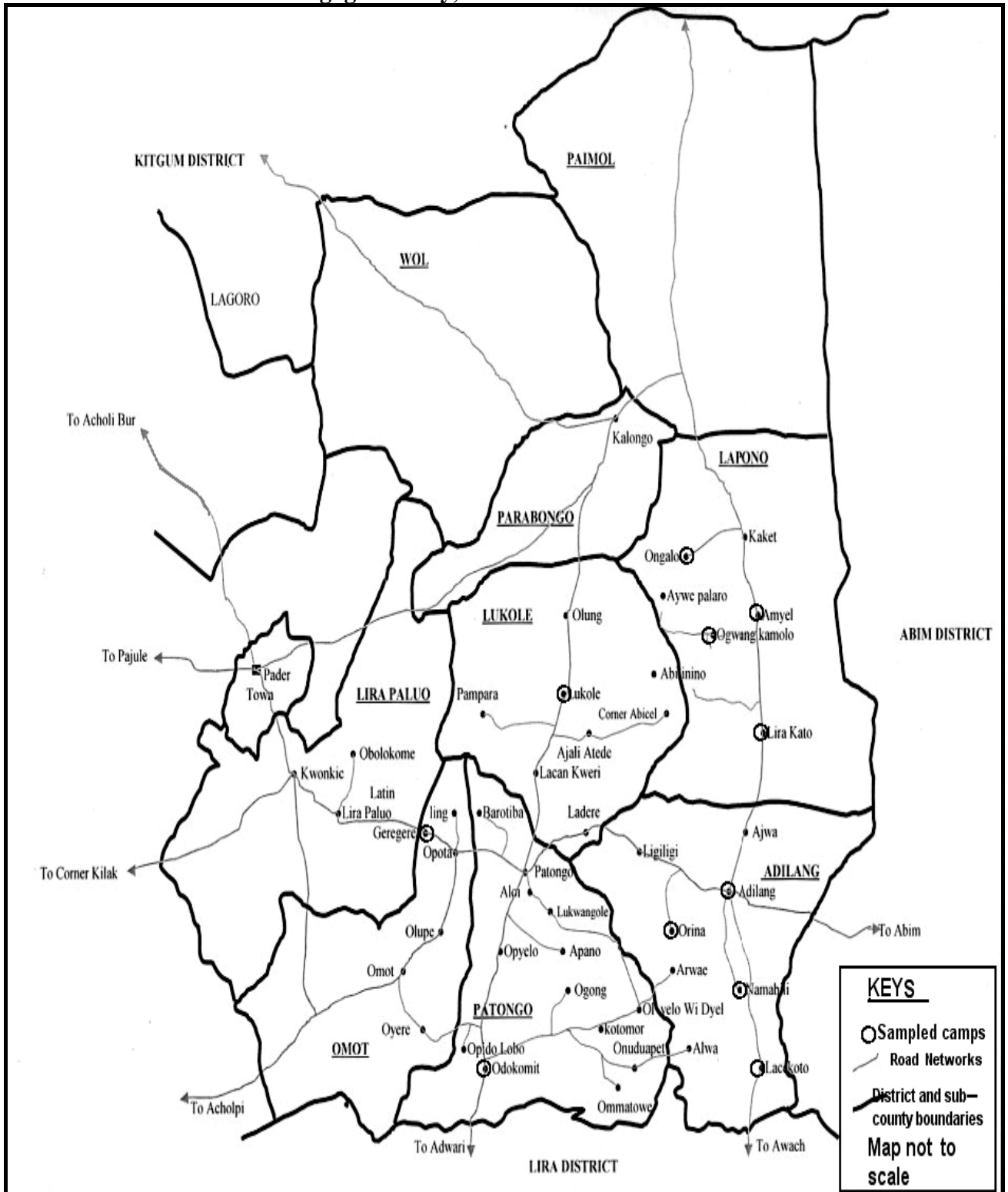
The following recommendations were suggested to guide health interventions in the survey area:

- i) Health interventions should target IDP camps with a CMR and U5MR higher than the emergency thresholds, and also those camps with comparatively higher rates, although still below emergency thresholds.
- ii) To reduce morbidity rates and consequently mortality, emphasis should be placed on tackling malaria and respiratory infections, the leading causes of both mortality and morbidity.
- iii) For satellite camps where accessibility to curative services may be more difficult, capacity of the Village Health Teams (VHT) should be strengthened.
- iv) Parents and households members need to continue to be sensitised on the need to immunize children U5 against measles in addition to the current immunization activities being organised in the various camps.
- v) ITN distributions should attempt not only to address household coverage, but also access of individuals within households and correct usage of ITNs

- vi) Efforts to tackle HIV/AIDS, in addition to sensitization on modes of transmission and prevention, should be directed to increasing awareness and accessibility to HIV/AIDS services in the community.

Map of the Study Area

Agago County, Pader District



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Acronyms and Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti Retroviral Therapy
CDC	Centre for Disease Control
CMR	Crude Mortality Rate
HBC	Home Based Care
HIV	Human Immune Virus
IDP	Internally Displaced Persons
KAP	Knowledge Attitudes and Practices
LRA	Lord's Resistance Army
MoH	Ministry of Health
PMTCT	Prevention of Mother to Child Transmission
UAC	Uganda Aid Commission
UNICEF	United Nations Children Fund
U5MR	Under 5 Mortality Rate
VCT	Voluntary Counselling and Testing
VHT	Village Health Team
WFP	World Food Programme
WHO	World Health Organization

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1.0 Introduction

1.1 Context

Northern Uganda is currently undergoing a transition period due to the ongoing peace process in Juba, South Sudan between the government of Uganda and the Lord's Resistance Army (LRA). This has led to relative peace in the region following the signing of a cessation of hostilities agreement in August 2006, following two decades of civil war. The increasing security has prompted some of the Internally Displaced Persons (IDPs) who have been living in IDP camps across the region for over a decade to begin returning to their home villages, while others are moving to satellite/transit camps as an initial stage in returning to home villages. Most of the satellite camps are located in parishes where ancestral land is accessible and cultivation of farm land in these areas has started.

Medair has been supporting health services in Pader district for the last 3 years; the overall objectives of the medical project in the district has been to ensure access of the displaced population in Agago County to basic curative and preventative healthcare, and to improve the medium to long-term quality of the healthcare system by improving the functioning of supported health services in 8 targeted major camps.

1.2 Objectives/Justifications of the Survey

Last year in June/July, Medair conducted a mortality survey in 6 IDP camps¹ in which they were implementing a medical programme, which revealed that the overall CMR (0.59 deaths/10,000/day) and U5MR (1.52 deaths/10,000/day) had decreased compared to the general survey conducted by the Ministry of Health (MoH) and World Health Organisation (WHO) in 2005 covering Gulu, Kitgum and Pader districts. However, there were still areas for concern, particularly the disproportionately high U5MR in Amyel IDP camp and low coverage of measles immunization among children U5. This has prompted Medairs proposal to repeat the mortality and morbidity survey this year with the following objectives:

1. To make comparisons with last year's survey, establishing any changes in the health status of the target population;
2. To measure outcomes of Medair interventions against log-frame indicators;
3. To assist with defining next year's strategy and project proposal; and
4. To tentatively compare indicator results between major camps and resettlement sites.

Although the health situation is expected to have improved following last years interventions, the current pattern of population movement where displaced households are moving from the main camps to satellite/transit camps or home villages presents new challenges. Firstly, the displaced households are moving to areas where services, health services in particular, are either inaccessible or non-existence; secondly, as the region makes the transition from an 'emergency' to 'recovery', and subsequently development stage, there is a need for the overall realignment of programme strategy to enhance sustainability of intervention outcomes during the recovery period.

¹ Adilang, Amyel, Geregere, Lira Kato, Lukole and Odokomit

2.0 Methods

2.1 Study design and Population

The survey adopted a retrospective approach to the measurement of mortality data. The mean recall period for the survey was eight to eight and half months, beginning from the 1st January 2007 (New Year day) to the survey date, 4th to 21st September 2007. To facilitate recall of the dates, of major events within households such as death, abduction, disappearance etc, major public holidays during the period such as New Year day, Easter, Martyrs day and Heroes day were used to help respondents recall the dates of events.

The population from which the samples were selected were people living in 11 IDP camps in Pader district, Agago County. Six of the camps surveyed were those in which Medair have been implementing the Medical Programme for the last three years and in which the previous survey of June/July 2006 was conducted; these IDP camps are Amyel, Lira Kato, Adilang, Odokomit, Lukole and Geregere. The satellite camps included in this year survey are Orina, Namabili, Lacekoto, Ongalo, and Ogwang Komolo. It should be noted that due to the spontaneous movement of the people in the region, the population in the satellite camps are assumed to be the same ones moving from the major camps where health interventions have been implemented. These camps were specifically identified in the survey design to facilitate initial comparisons of the mortality, morbidity and other variables between the two locations – major and satellite camps.

2.2 Sampling and Sample Selection

We applied a systematic random sampling method in calculating and selecting the households to be included in the survey. Sample sizes for each of the camps were calculated separately since it was possible to obtain the estimated households for each of the targeted camps. The estimates of CMR and U5MR were based on the mortality thresholds commonly used to define emergency situations i.e. $CMR \leq 1$ death/10,000/per day, and $U5MR \leq 2$ deaths/10,000/day. In the calculation of the sample sizes, we assumed an average household size of 6 persons,² a mean recall period of 225 days and a design effect of 1 (systematic survey).

Sample selection at camp level was guided by systematic sampling technique. In each of the camps the first household for each of the interviewers was drawn entirely at random, the subsequent n^{th} households were selected based on the sampling interval calculated using the formulae below:

$$\text{Sample interval} = \frac{\text{Estimated number of households in camp X}}{\text{Household sample size required for camp X}}$$

In a situation where adult members of a sampled household were not present at home at the time the interviewers approached the household, a note was left with the children/neighbours and the household was checked twice before replacement with the nearby household.

Where adult members of the household did not consent to the survey, there was no replacement; and where the household was uninhabited because members had left for

² This was based on the outcome of June/July 2006 survey conducted by Medair.

example to their home villages or another camp, such households was disregarded and the next household was considered instead. To avoid double counting, the interviewers marked an 'M' on the doors of the sampled households. The interviewers were also assigned to different zones within a camp in the event where zone division existed.

In this survey 'household' was defined as a group of persons having a shared arrangement for cooking/eating meals.

2.3 Survey Planning and Data Collection

Planning for the survey began with a review of findings of health related surveys both in Uganda and other African countries where similar studies have been conducted and have a similar setting of civil war. The review of this literature and Medairs specific survey objectives guided the design of this survey.

Implementation of the survey started with identification of local interviewers who had a minimum qualification, Uganda Advance Certificate of Education and a full understanding of the local language and cultural context. The interviewers were then given two days training on the theory, design and objectives of the survey; the training period also allowed considerable time for orienting the interviewers on the survey tool. Survey questions were interpreted and translated into the local language (Luo) and pre-tested in a village near Abim town council, Abim district; corrections/comments emerging from the pre-test were then integrated into the final tool (Annex 1).

The interviewers under the supervision of a research supervisor collected the data from the 11 IDP camps over a period of 18 days from the 4th to 21st September 2007. During the data collection, there was continuous editing of the collected data by both the interviewers and the research supervisor.

Data for the survey was collected using a modified version of the structured questionnaire used in the June/July 2006 survey to facilitate comparisons of the findings.

2.4 Data processing, Entry, Validation and Analysis

Before data was entered in the computer for analysis, in addition to the editing that was done in the field during the period of data collection, the entire questionnaire was checked against error and inconsistency, and then coded. Data was then entered using Epi-info 3.3.2 (CDC Atlanta, USA 2005). Validation and cleaning of the data was done by re-entering 20% of the entire questionnaire to check for any inconsistencies or errors that could have occurred during data entry.

The analysis of the data to reveal the status of Crude Mortality Rate (CMR), Under 5 years Mortality Rate (U5MR) and other variables investigated was carried out using Epi-info 3.3.2 and SPSS 10.0 statistical software.

3.0 Results

3.1 Survey Profiles

The data collection was started on the 4th September 2007 and completed on the 21st September 2007, during which a total of 2004 households were surveyed from 11 IDP camps. In the households, there were 10,651 persons of which 2288 were children under 5 years of age. The mean recall period was 225 days. Details of the population profiles are presented in Table 2 below.

Table 2: Profiles of the sampled population

Camp	Estimated population	Estimated households	Sampled households	Total No. of persons in the sampled households	No. of U5 in the sampled households	Date of Survey (September 2007)
Adilang	15450	2575	455	2449	519	10 th to 12 th
Amyel	9624	1604	269	1501	339	4 th to 6 th
Geregere	7140	1190	219	1177	252	20 th to 21 st
Lira Kato	8766	1461	265	1424	303	8 th to 15 th
Lukole	9726	1621	290	1504	337	18 th to 19 th
Odokomit	6498	1083	190	949	182	17 th to 18 th
Namabili	5370	895	73	360	78	13 th
Lacekotoo	704	117	17	87	19	13 th
Ogwang	1914	319	31	174	39	7 th
Kamolo						
Ongalo	2004	334	57	313	63	6 th
Orina	3132	552	138	713	157	13 th to 14 th
Total	70328	11751	2004	10651	2288	18 days

Table 2 shows that a total of 2004 households were sampled out of 11,751 households, which represent 17.0% of the total number of households in the survey area. During data collection however, data from 21 households was discarded due to failure to meet the minimum standard for inclusion. Comparatively, more households were enumerated from the major IDP camps;³ this table reflects the population and household compositions in the major and satellite IDP camps. None of the households approached to participate in the survey refused to take part in answering the questions from the questionnaire.

3.1.1 Distribution of the Sampled Population by Sex and Age Group

Table 3 and Figures 1, 2 and 3 below presents the distribution of the surveyed population by sex and age groups.

³ The major IDP camps were Adilang, Amyel, Geregere, Lira Kato, Lukole and Odokomit.

Table 3: Distribution of the total population by sex and age group

Age Range	Male	Percent	Female	Percent	Total	Percent
0- 4	1081	26.2	1207	22.2	2288	21.5
5-15	1816	44.0	1759	32.3	3575	33.6
15-49	1940	47.0	2104	38.7	4044	38.0
50+	373	9.0	371	6.8	744	7.0
Total	5210	100.0	5441	100.0	10651	100.0

Table 3 above indicates that there were more females enumerated in the survey population than males. Children U5 constituted 21.5% of the total population sampled. Persons aged 50 years and above represented only 7% of the total enumerated population. Figures 1, 2 and 3 below present the graphical distribution of the population by age range.

Figure 1: Sex and age bar chart for the total surveyed population

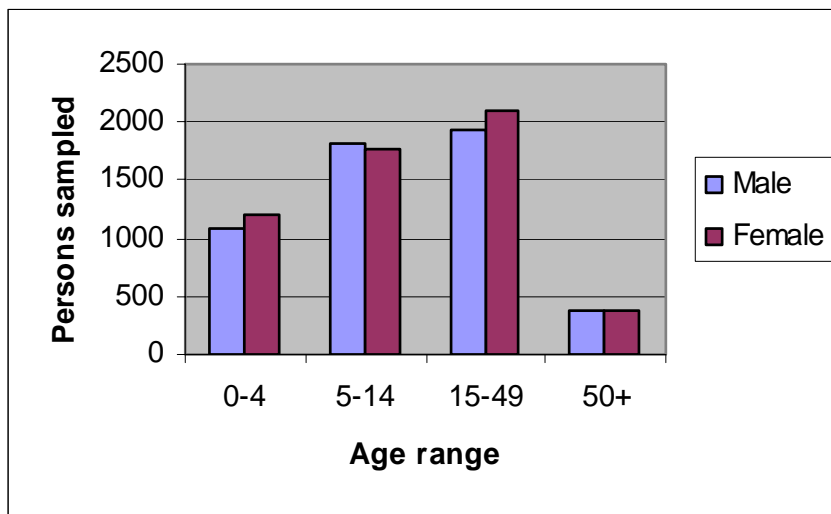
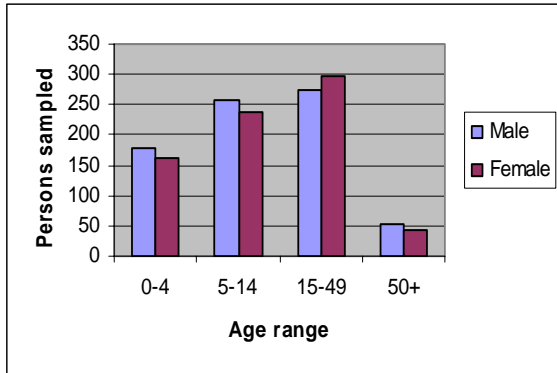


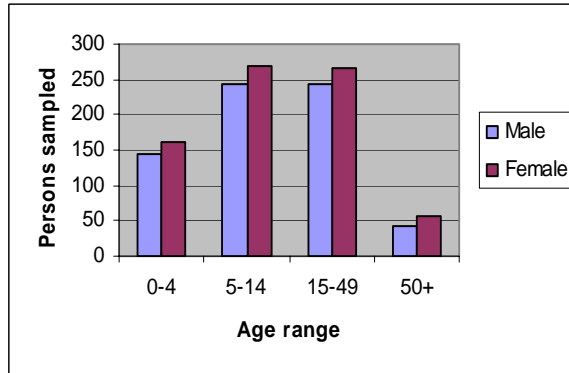
Figure 1 illustrates that the majority of persons sampled are in the age range of 15 to 49 years old followed by those aged 5 to 14 years old. The subsequent figures (Figure 2 and 3) illustrate the camp specific distribution in the major and satellite camps respectively.

Figure 2: Camp specific sex and age bar charts (Major camps)

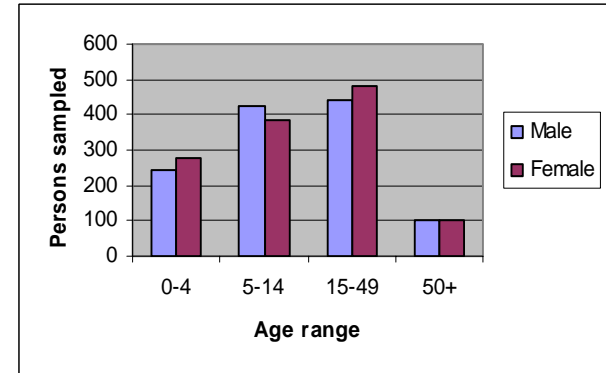
Amyel IDP camp



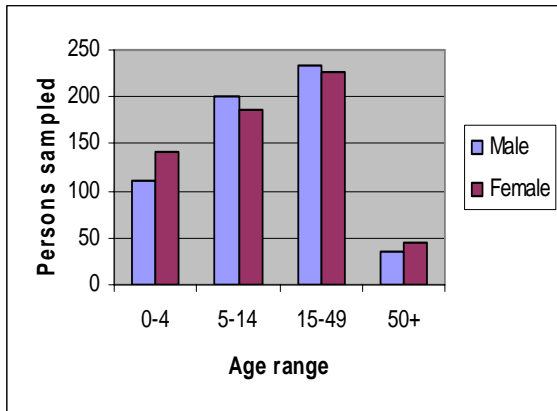
Lira Kato IDP camp



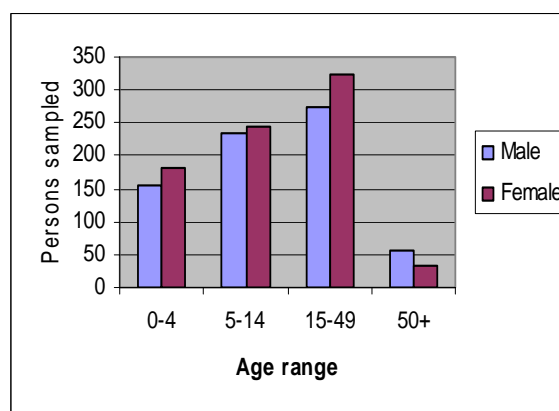
Adilang IDP camp



Geregere IDP camp



Lukole IDP camp



Odokomit IDP camp

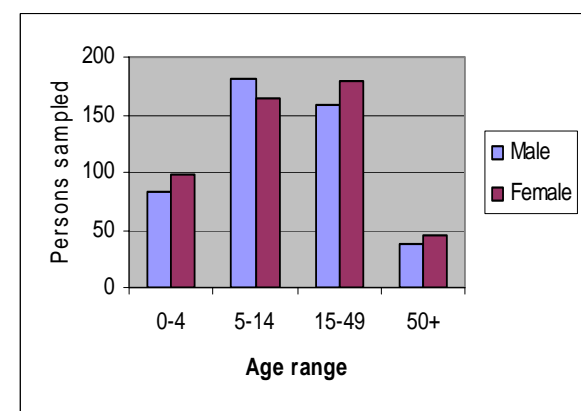
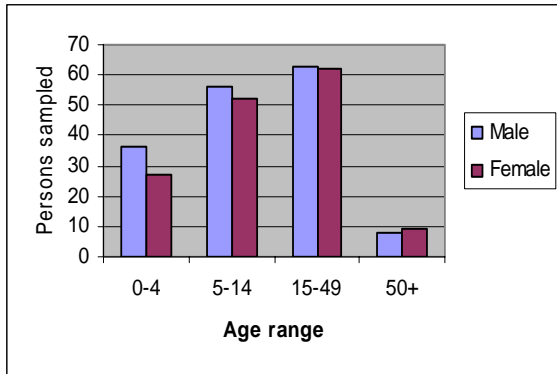
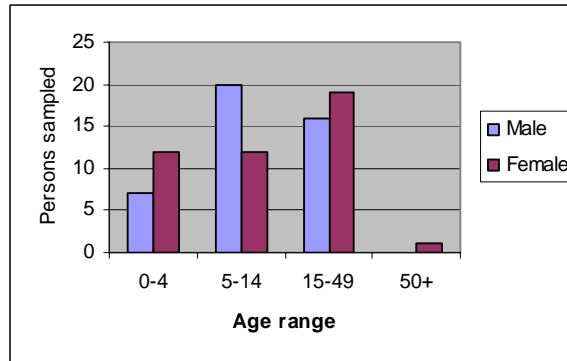


Figure 3: Camp specific sex and age bar charts (Satellite camps)

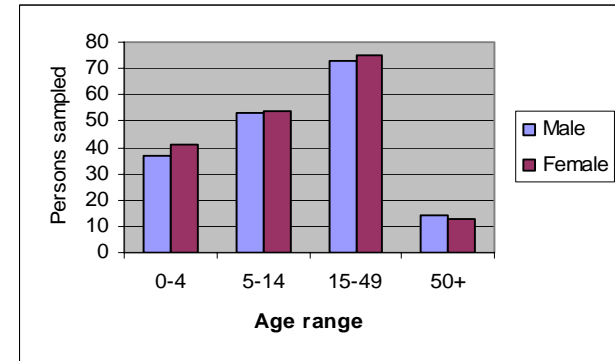
Ongalo IDP camp



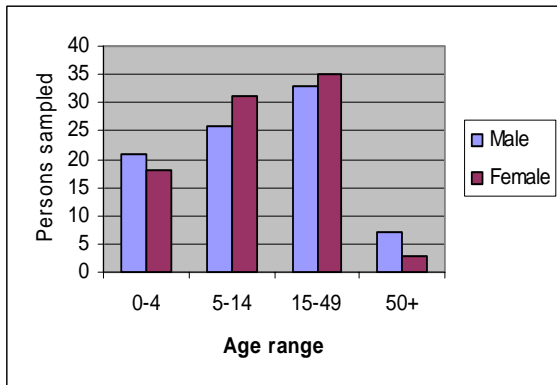
Lacekotoo IDP camp



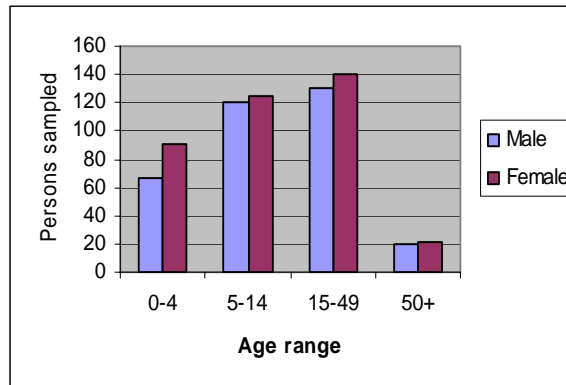
Namabili IDP camp



Ogwang Kamolo IDP camp



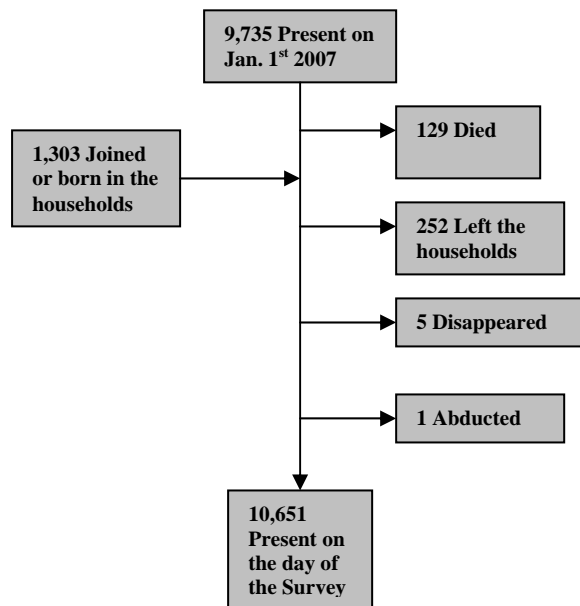
Orina IDP camp



3.2 Sample Evolution during the Recall Period

Evolution of the sampled population during the recall period reflects the dynamic changes in the households during this period; it also indicates the period of exposure to potential risks by the sampled population. Consideration was given to establish the number of household members who remained within a specified camp throughout the recall period, those who joined or were born in the households, those who left the households for another location, those who died, were abducted and those who had disappeared. The dynamics have implications on the mortality and morbidity rates in the considered sampled population. Figures 4 below present the total sample evolution.

Figure 4: Total sample evolution



The evolution chart indicates that at the beginning of the recall period (1st January 2007), 9,735 persons were present in the households. In the course of the recall period, 1,303 joined or were born in the households. From the 1st January 2007 to the time when data collection was conducted (4th to 21st September 2007), there were a total of 129 deaths, 252 people who left the households for another location, 5 disappeared and one abduction. The dynamics of the population in each of the camps surveyed are presented in Figures 5 and 6 below for major and satellite camps respectively.

Figure 5: Camp specific sample evolution (Major camps)

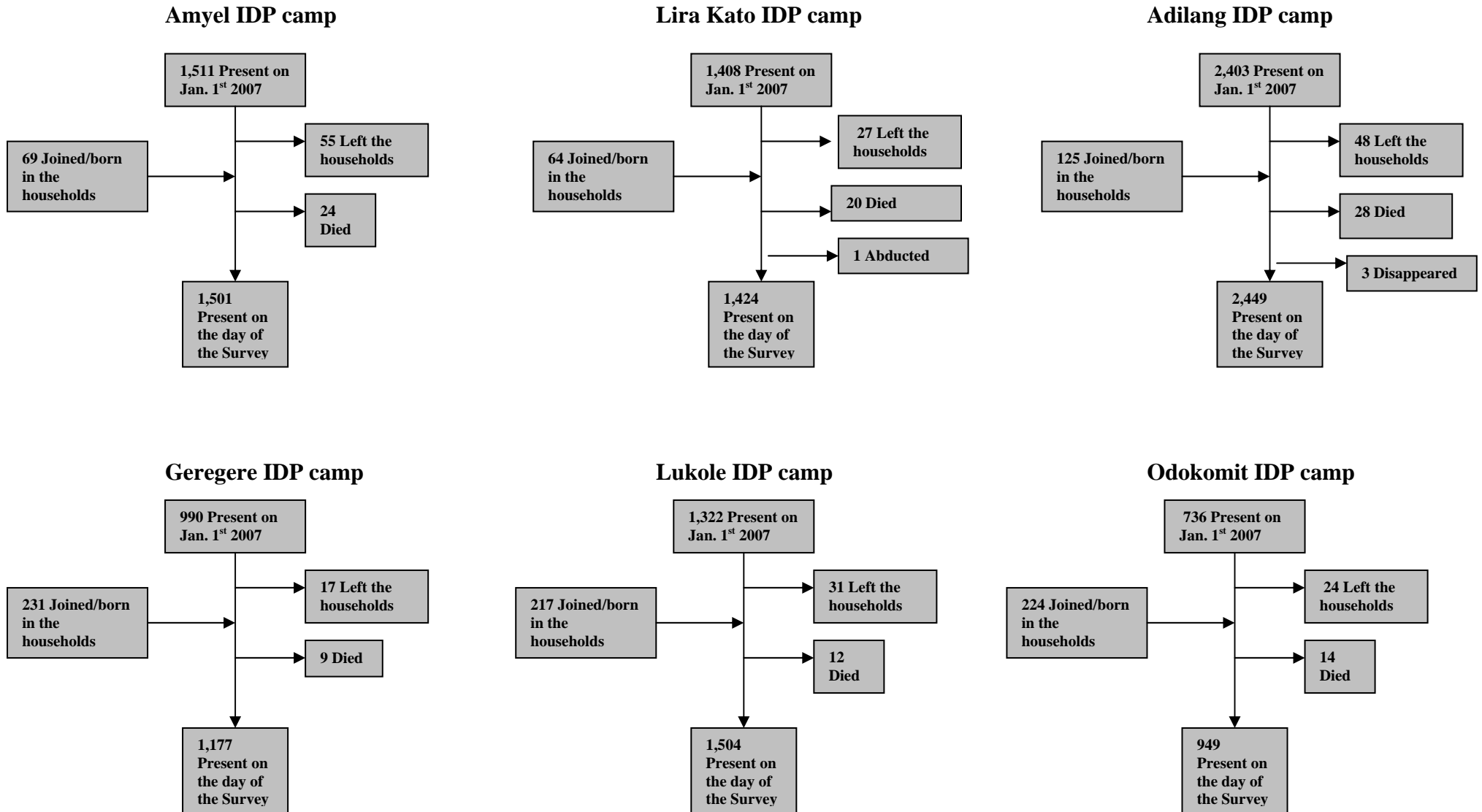
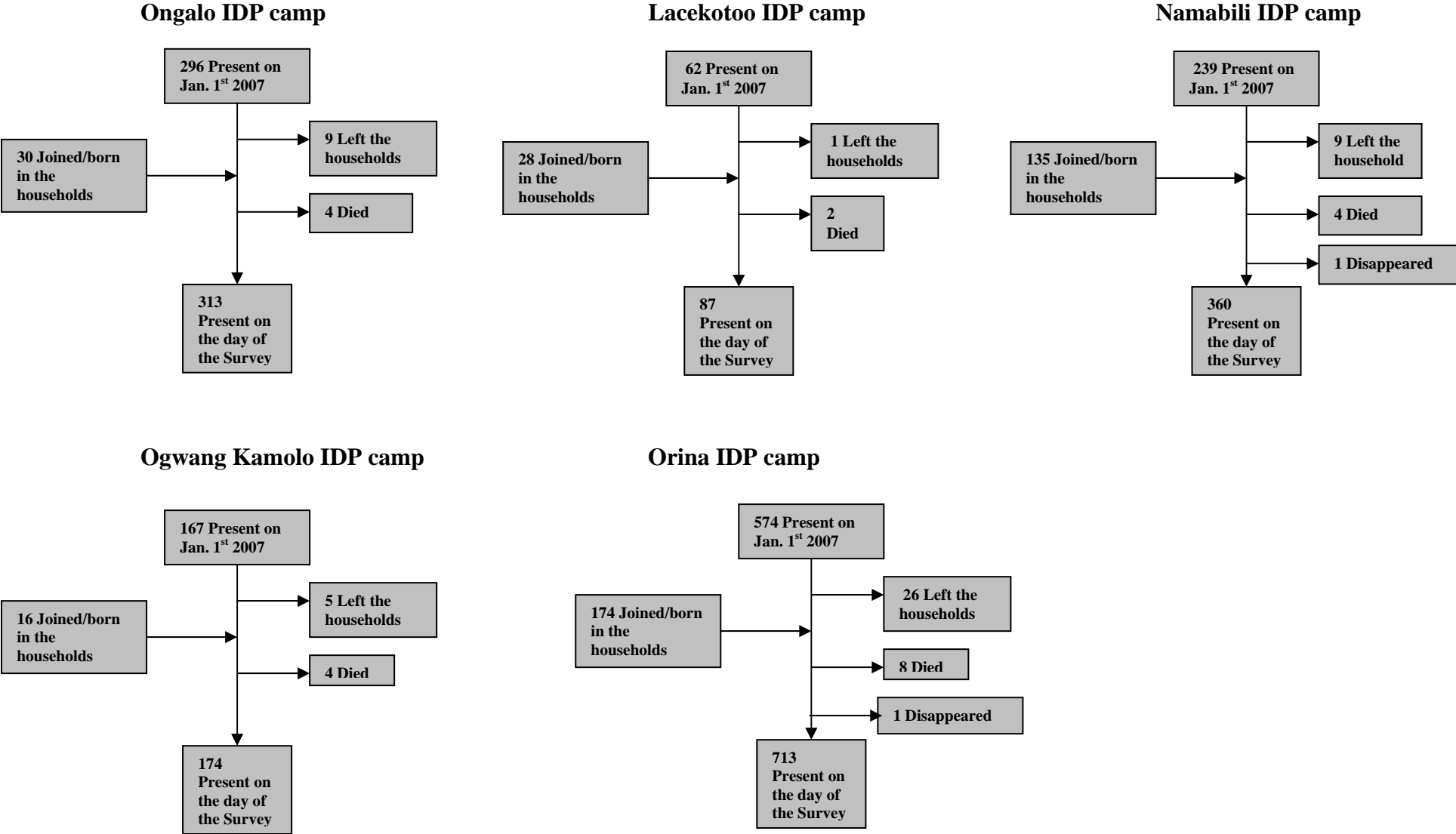


Figure 6: Camp specific sample evolution (Satellite camps)



3.3 Year of Arrival in the Camp

Households arrived in the respective camps at different times. For the households living in the satellite camps, most of them moved from the major camps following the relative peace being experienced in the past one to two years. Table 4 below present the different years in which households arrived in the surveyed camps.

Table 4: Year of household's arrival in the IDP camps

Camp	Year of arrival								Total
	2000	2001	2002	2003	2004	2005	2006	2007	
Adilang	37	38	173	149	11	4	17	26	455
Amyel	15	4	37	167	33	7	3	3	269
Geregere	3	2	20	23	63	61	35	12	219
Lira Kato	12	5	37	140	37	7	12	15	265
Lukole	9	3	22	35	70	113	25	13	290
Odokomit	4	4	6	15	29	37	57	38	190
Lacekotoo	1	0	0	0	0	0	7	9	17
Namabili	1	0	2	1	0	0	12	57	73
Ogwang	0	0	1	0	0	0	10	20	31
Kamolo									
Ongalo	3	0	1	0	0	1	35	17	57
Orina	3	0	0	0	1	3	60	71	138
Total no. of households	88	56	299	530	244	233	273	281	2004

Table 4 indicates that the sampled households arrived in the respective IDP camps at different times, possibly reflecting the trend of the civil war in the region over the course of the two decades. In Pader district, Agago sub-county where the survey was conducted, most IDPs arrived in the major camps from the year 2000 (no household in this survey stated arrival before the year 2000). The year 2003 witnessed the biggest influx of the displaced persons into IDP camps. IDPs who have settled in the satellite/transit camps moved predominantly during the years 2006 and 2007.

3.4 Crude Mortality Rate and Under 5 Mortality

We designed the survey to measure a Crude Mortality Rate (CMR) of ≤ 1 death/10,000 persons/day and U5MR of ≤ 2 deaths/10,000 persons/day (standard emergency thresholds). Mortality was measured retrospectively for each of the camps;

3.4.1 Crude Mortality Rate (CMR)

The overall CMR, based on the mean recall period of 225 days, was 0.56 deaths/10,000 persons/day (CI 0.42% – 0.62%). Specific CMR for each of the camps is presented in Table 5 below.

Table 5: CMR for specific camps

Camp	Deaths Reported	Recall period	Population	CMR/10000/day	95%CI
Adilang	28	224	2449	0.51	(0.30%- 0.70%)
Amyel	24	218	1501	0.72	(0.44%- 1.02%)
Geregere	9	232	1177	0.36	(0.12%- 0.57%)
Lira Kato	20	220	1424	0.64	(0.41%- 0.95%)
Lukole	12	231	1504	0.37	(0.12%- 0.59%)
Lacekotoo	2	225	87	1.16	(0.37%- 2.74%)
Namabili	4	225	360	0.57	(0.03%- 1.07%)
Odokomit	14	230	949	0.70	(0.29%- 1.05%)
Ogwang Kamolo	4	219	174	1.07	(0.08%- 2.06%)
Ongalo	4	218	313	0.59	(0.03%- 1.16%)
Orina	8	226	713	0.54	(0.15%- 0.98%)
Total	129	225	10651	0.56	(0.42%- 0.62%)

Table 5 highlights that the CMRs in the respective camps, with the exception of Lacekotoo and Ogwang Kamolo, are below the emergency threshold. However, Amyel, Odokomit, and Lira Kato have comparatively higher CMRs than the rest of the camps even though the rates are below the emergency threshold.

3.4.2 Causes of Mortality

Verbal autopsy by members of the households where deaths occurred, reported the causes of deaths in the sampled households. Table 6 below summarizes the causes of deaths as reported by the households during the recall period in each of the camps surveyed.

Table 6: Camp-specific percentage of causes of deaths in the sampled households

Camp	Watery diarrhoea	Bloody diarrhoea	Respiratory infections	Malaria	Measles	Un-Known	Oral Candidiasis ('Two Lango')	AIDS	Violence	Others
Adilang	0.0	7.1	3.6	42.9	0.0	7.1	0.0	7.1	7.1	25.0
Amyel	0.0	0.0	16.7	25.0	4.2	16.7	4.2	0.0	12.5	20.8
Geregere	11.1	0.0	33.3	11.1	0.0	0.0	0.0	11.1	11.1	22.2
Lira Kato	0.0	0.0	15.0	40.0	0.0	10.0	5.0	5.0	15.0	10.0
Lukole	0.0	0.0	16.7	16.7	0.0	58.3	0.0	0.0	0.0	8.3
Lacekotoo	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0
Namabili	0.0	0.0	25.0	25.0	0.0	0.0	0.0	0.0	25.0	25.0
Odokomit	7.1	0.0	7.1	35.7	0.0	7.1	0.0	14.3	14.3	14.3
Ogwang Kamolo	0.0	0.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0
Ongalo	0.0	25.0	0.0	25.0	0.0	0.0	25.0	0.0	0.0	25.0
Orina	0.0	0.0	37.5	12.5	0.0	0.0	0.0	0.0	0.0	37.5
Overall %	2.3 (0.5-6.6)	2.3 (0.5-6.6)	14.7 (9.1-22.0)	31.8 (23.9-40.6)	0.8 (0.0-4.2)	13.2 (7.9-20.3)	2.3 (0.5-6.6)	4.7 (1.7-9.8)	9.3 (4.9-15.7)	18.6 (12.3-26.4)

Table 6 indicates that overall, malaria was the leading cause of deaths in the population during the recall period followed by respiratory infections of which the main symptoms reported were cough and difficulty in breathing.

3.4.3 U5 Mortality Rate

During the recall period, there were 51 deaths reported among the U5 population in the sampled households; this represents an U5MR of 1.07 deaths/10,000 persons/day (CI 0.79% – 1.40%). U5MR in each of the sampled camps is presented in Table 7 below.

Table 7: Camp Specific U5 mortality rates

Camp	Deaths	Recall period	Population	CMR/10000/day	95%CI
Adilang	8	224	519	0.74	(0.23%- 1.24%)
Amyel	8	218	339	1.11	(0.35%- 1.87%)
Geregere	5	232	252	0.95	(0.13%- 1.78%)
Lira Kato	7	220	303	1.11	(0.30%- 1.91%)
Lukole	4	231	337	0.58	(0.11%- 1.26%)
Lacekotoo	1	225	19	2.69	(2.58%- 5.94%)
Namabili	2	225	78	1.37	(0.51%- 3.24%)
Odokomit	8	230	182	2.17	(0.53%- 3.81%)
Ogwang Kamolo	1	219	39	1.19	(0.40%- 1.98%)
Ongalo	3	218	63	2.20	(0.22%- 4.62%)
Orina	4	226	157	1.28	(0.04%- 2.52%)
Total	51	225	2,288	1.07	(0.79%- 1.40%)

Table 7 indicates that in Lacekotoo, Ongalo and Odokomit, the U5MR is above the emergency threshold. Comparatively, there are also higher U5MR in the satellite camps than in the major camps. The reported causes of deaths in the U5 population are presented in Table 8 below.

Table 8: Camp-specific percentage of causes of deaths among the U5

Camp	Watery diarrhoea	Bloody diarrhoea	Respiratory infections	Malaria	Measles	Oral candidiasis ('Two Lango')	AIDS	Unknown	Others
Adilang	0.0	0.0	12.5	75.0	0.0	0.0	0.0	0.0	12.5
Amyel	0.0	0.0	12.5	50.0	12.5	0.0	0.0	25.0	0.0
Geregere	20.0	0.0	40.0	20.0	0.0	0.0	0.0	0.0	20.0
Lira Kato	0.0	0.0	0.0	57.1	0.0	14.3	0.0	28.6	0.0
Lukole	0.0	0.0	0.0	25.0	0.0	0.0	0.0	50.0	25.0
Lacekotoo	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Namabili	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0
Odokomit	0.0	0.0	12.0	62.5	0.0	0.0	0.0	12.5	12.5
Ogwang Kamolo	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Ongalo	0.0	33.3	0.0	33.5	0.0	0.0	0.0	0.0	0.0
Orina	25.0	0.0	25.0	25.0	0.0	0.0	0.0	0.0	25.0
Overall %	4.0 (0.5-13.5)	3.0 (0.0-10.4)	13.8 (5.7-26.3)	54.3 (36.6-65.2)	1.1 (0.0-10.4)	1.3 (0.5-13.5)	0.0 (0.0-0.0)	10.5 (5.7-26.3)	8.6 (3.3-21.4)

In almost all of the camps, irrespective of whether it was a major camp or resettlement sites, malaria and respiratory infections remain the leading causes of deaths reported in the U5 population during the recall period.

3.5 Morbidity

Morbidity measures the occurrence of episodes of illnesses that did not result in death, in the population during the last two weeks of the recall period in the sampled IDP camps. The survey findings highlight the total morbidity, U5 morbidity, main symptoms of the episode of the illnesses, sources of treatment, and reasons given why household members did not seek health care services from health centres or hospitals.

During the last two weeks of the recall period, 2261 episodes of morbidity were reported. This proportion represents 21.2% of the 10,651 persons sampled in the survey. 41.9% (CI 39.9 – 44.0) of the incidents occurred amongst males; 58.1% (56.0 – 60.1) of females reported episode of illnesses.

In the surveyed population, there were a total of 2288 children U5. It was reported that 936 of the children fell sick during the last two weeks of the recall period; this accounts for 40.9% of the total population of children U5 surveyed. Table 9 below shows the incident of illnesses in the enumerated population by camp.

Table 9: Incident of illnesses in the enumerated population by camp

Camp	Morbidity incidents in the total population		Morbidity incidents in the U5 population	
	n	%	n	%
Adilang	471	20.8	181	19.3
Amyel	362	16.0	171	18.3
Geregere	294	13.0	124	13.2
Lira Kato	213	9.4	91	9.7
Lukole	384	17.0	165	17.6
Namabili	77	3.4	29	3.1
Lacekotoo	15	0.7	4	0.4
Odokomit	213	9.4	71	7.6
Ogwang Kamolo	31	1.4	13	1.4
Ongalo	50	2.2	20	2.1
Orina	151	6.7	67	7.2
Total	2261	100.0	936	100.0

Table 9 shows that more incidents of morbidity were reported in Adilang, Amyel, Geregere, Lukole and Lira Kato for both the total population and the U5 than in other camps. These figures are proportionate to the estimated population size of the camps (See Table 2).

3.5.1 Major Symptoms of the Illnesses

Households were asked to state the major symptom of illnesses suffered by affected individuals during the last two weeks of the recall period. Table 10 below presents the symptoms reported in the affected households for each of the IDP camps.

Table 10: Percentage of the major symptom of illnesses reported in each of the sampled IDP camps

Camp	Watery diarrhoea	Bloody diarrhoea	Respiratory infection	Malaria	Measles	Oral candidiasis ('Two Lango')	Violence	Others
Adilang	6.4	3.0	23.8	34.2	0.0	2.3	0.2	30.1
Amyel	8.3	6.1	24.9	43.4	0.3	1.9	0.0	15.2
Geregere	6.8	1.4	15.0	38.8	0.0	4.1	0.3	33.7
Lira Kato	7.0	5.2	18.8	39.4	0.0	3.8	0.9	24.9
Lukole	10.4	3.1	15.9	32.8	0.0	3.4	0.5	33.9
Odokomit	5.2	0.9	20.7	36.2	0.0	0.5	0.9	35.7
Namabili	2.6	2.6	18.2	24.7	0.0	2.6	0.0	49.4
Lacekotoo	0.0	0.0	13.3	60.0	0.0	0.0	6.7	20
Ogwang Kamolo	29.0	6.5	9.7	35.5	0.0	0.0	0.0	19.4
Ongalo	8.0	4.0	30.0	36.0	0.0	2.0	0.0	20.0
Orina	4.6	1.3	14.6	39.7	0.0	3.3	2.6	33.8
Average %	7.4 (CI 6.4-8.6)	3.2 (CI 2.6-4.1)	19.8 (CI 18.2-21.5)	37.0 (CI 35.0-39.0)	0.04 (CI 0.04-0.05)	2.7 (CI 2.0-3.4)	0.6 (CI 0.3-1.0)	29.3 (CI 27.5-31.3)

Table 10 shows that in all the IDP camps, symptoms associated with malaria (37%) and respiratory infections (19.8%) were the most common incidents of morbidity reported. Main symptoms categorized under 'others' were epilepsy (101 incidents), chest pain (49 incidents), tuberculosis (36 incidents), abdominal pain (15 incidents) and AIDS (10 incidents).

Episode of illnesses reported amongst children U5 for each of the sampled camps is presented in Table 11 below.

Table 11: Percentage of the major symptom of illnesses reported in the U5 population per IDP camp

Camp	Watery diarrhoea	Bloody diarrhoea	Respiratory infection	Malaria	Measles	Oral candidiasis ('Two Lango')	Others
Adilang	8.8	3.3	24.3	47.0	0.0	6.1	10.5
Amyel	12.3	4.7	17.5	51.5	0.6	4.1	9.4
Geregere	14.5	1.6	9.7	52.4	0.0	9.7	12.1
Lira Kato	8.8	6.6	12.1	57.1	0.0	7.7	7.7
Lukole	17	4.2	13.9	43.0	0.0	6.1	15.8
Odokomit	12.7	0.0	19.7	56.3	0.0	1.4	9.9
Namabili	6.9	3.4	13.8	51.7	0.0	3.4	20.7
Lacekotoo	0.0	0.0	0.0	100	0.0	0.0	0.0
Ogwang Kamolo	38.5	15.4	7.7	23.1	0.0	0.0	15.4
Ongalo	10.0	5.0	20.0	50.0	0.0	5.0	10.0
Orina	6.0	3.0	14.9	44.8	0.0	7.5	23.9
Average	12.1	3.7	16.3	49.5	0.05	5.9	12.4

Table 11 indicates that among the U5 children who suffered episode of illnesses during the last two weeks of the recall period, malaria (49.5%) and respiratory infection (16.3%) were the major symptoms reported. Also, 12.1% of children U5 suffered from watery diarrhoea.

3.5.2 Sources of Treatment

Findings reveal that most of the households in the IDP camps seek treatment from the available health centres in the community (65.2%) and local hospital (12.8%). Table 12 below summarizes the various sources of treatment for the sampled displaced population.

Table 12: Sources of treatment for the IDPs and health seeking behaviours

First Source of treatment	Frequency	Percent
0.No treatment	104	4.6%
1.Drugs kept at home	38	1.7%
2.Hospital	289	12.8%
3.Health centre	1474	65.2%
4.Private clinic/Doctor	131	5.8%
5.Outreach/Mobile clinic	50	2.2%
6.Village Health Team	100	4.4%
7.Drug shop	11	0.5%
8.Traditional healer	3	0.1%
9.Traditional herbs	56	2.5%
10. Others	5	0.2%
Total	2261	100.0%

From Table 12, it can be seen that a number of household members (22.2%) seek health care from sources other than health centres and/or hospitals. A number of reasons were given by those interviewed to account for this pattern of health seeking behaviour away from health centre/hospital. Table 13 below summarizes the reasons given.

Table 13: Reasons given (% of population) for not seeking health services from health centres or hospitals

Camp	Long distance from home	Waiting time at Health Centre too long	Drugs not available at HC	Cost of treatment too high	Treatment available through VHT	Treatment accessible through private clinic	Others
Adilang	6.1	12.8	37.2	2.4	22.6	5.5	13.4
Amyel	12.8	11.0	24.8	4.6	6.4	22.0	18.3
Geregere	1.8	5.4	69.6	7.1	1.8	1.8	12.5
Lacekotoo	12.5	0.0	37.5	0.0	37.5	0.0	12.5
Lira Kato	3.5	10.5	42.1	5.3	7.0	3.5	28.1
Lukole	5.0	9.9	41.3	3.3	8.3	7.4	24.8
Namabili	25.0	6.3	18.8	0.0	34.4	6.3	9.4
Odokomit	7.6	6.1	39.4	0.0	10.6	6.1	30.3
Ogwang Kamolo	27.3	0.0	36.4	0.0	9.1	0.0	27.3
Ongalo	20.0	11.4	34.3	5.7	2.9	5.7	20.0
Orina	17.7	6.5	21.0	0.0	37.1	9.7	8.1
Average %	9.4	9.4	36.8	3.1	14.6	8.2	18.6

Table 13 highlights those households who sought healthcare from sources other than health centres or hospitals, the reasons given for this were that drugs were not always available at the health centres (36.8%) and/or treatment was available through the Village Health Team (VHT). In the satellite camps,⁴ in addition to drugs not being available in the health centres, long distances to health centres was one of the reported reasons given as to why health treatment was not sought from the health centre/hospital. The trend would appear to indicate that VHTs now provide an alternative source of healthcare to health centres and hospitals, particularly in the satellite camps.

⁴ Satellite camps were Lacekotoo, Namabili, Ogwang Kamolo, Ongalo and Orina.

3.6 Measles Immunization Coverage

Medair's log frame objective was to achieve 80% coverage of measles immunization in the camps of intervention in the district. To achieve this target, a minimum of 4 days per month was allocated for immunization activities in all the camps of intervention.

The survey enumerated a total of 2288 children U5 years of age from the 11 camps. 2217 of the children were between 9 to 59 months old. The variables investigated under this section were vaccination status of the child against measles and evidence of vaccination. To verify the evidence of vaccination, the interviewers were asked to check whether immunization cards were available for the sampled children, and to check whether the measles immunization section of the cards confirmed their immunization status.

It was found that of the 2217 children U5 and aged from 9 to 59 months, 1311 (59.1%) were immunized against measles, while the status of immunization of 797 (35.9%) of the children was unknown. The interviewers were able to verify immunization cards for 65.2% of the 1311 immunized children.

There are however variations in the status of immunization between camps with some camps registering higher immunization coverage than others. Table 14 below presents the camp-specific status of measles immunization in the U5.

Table 14: Percentage of children U5 (9 to 59 months) measles immunization status in the sampled camps

Camp	% immunised (including card verification and/or verbal confirmation from caregiver)	% of those with card confirmation of immunisation status	% of those not immunised	% of those whose immunisation status is unknown
Adilang	58.3	21.0	1.8	40
Amyel	53.8	14.1	7.3	37.9
Geregere	65.9	11.1	0.8	33.9
Lira Kato	65.2	16.4	13.6	19.1
Lukole	61.3	14.6	2.4	35.6
Lacekotoo	50.0	0.7	3.9	45.2
Namabili	51.3	2.7	1.3	47.4
Odokomit	59.1	7.0	4.5	42.7
Ogwang Kamolo	58.8	2.1	17.6	19.5
Ongalo	69.8	3.9	20.8	8.4
Orina	57.4	6.4	1.9	40.2

Table 14 shows that percentage of measles immunization in all the camps is above 50%. Ongalo, Ogwang Kamolo and Lira Kato however, have a significant number of children U5 who are not immunized. There are also a sizeable proportion of children U5 whose status of immunization against measles is unknown. Comparison of the availability of measles immunization cards from verification also indicates that most households in the satellite camps do not have immunization cards available for verification by the interviewers compared to households in the major camps.

3.7 Bed Net Coverage and Usage

The survey assessed accessibility of the households to insecticide treated bed nets (ITNs) and appropriate utilization of bed nets to prevent mosquito bites. The intervention target according to Medair's objective was to cover 80% of households within target programme locations with ITNs. To ensure appropriate use of the bed nets, distributions were preceded by a week of sensitization within the communities.

The survey therefore intended to establish the coverage of bed nets to households, and for the households with bed nets, to establish how many within the households had slept under a bed net the previous night. The survey also intended to establish whether children U5 were sleeping under bed nets given their vulnerability to malaria.

Appropriate utilization of the bed nets was investigated by finding out how often households used their bed nets and how the bed nets were set at night. The interviewers were asked to check how bed nets were set in the sleeping room/huts. Knowledge level in the households on appropriate use of bed nets was also investigated.

3.7.1 Bed net coverage

It was found that 88.1% of the households (1623 households) had insecticide treated bed nets. The numbers of bed nets in the households however, were not evenly distributed. See Table 15 below.

Table 15: Proportion of bed nets within households

Number of bed nets	No. of Households	Percent	Cumulative Percent
One	783	48.2%	48.2%
Two	685	42.2%	90.4%
Three	117	7.2%	97.6%
Four	31	1.9%	99.5%
Five	3	0.2%	99.7%
Six	3	0.2%	99.9%
Nine	1	0.1%	100.0%
Total	1623	100.0%	100.0%

Table 15 indicates that of the households with bed nets, most of the households own either one (48.2%) or two (42.2%) bed nets. With an average of 6 persons per household,, it is however possible that not all members of the households may sleep under a bed net.

Findings indicated that when questioned about the previous night, only 32.1% (1783/5560 persons) of the household members slept under bed nets; of the household members with access to an ITN who actually slept under a bed net the night before, 67.9% were children U5. Table 16 below presents the percentage of persons who slept under bed nets, and the proportion of the U5 who slept under a bed net the previous night in the given population for each of the sampled camps.

Table 16: Percentage of overall and U5 populations in the households with bed nets who slept under a bed net the previous night

Camp	Overall No. of people who slept under bed net	Percent %	No. of U5 who slept under bed net	Percent %
Adilang	1265	22.8	411	23.1
Amyel	810	14.6	279	15.6
Geregere	521	9.4	171	9.6
Lacekotoo	62	1.1	16	0.9
Lira Kato	639	11.5	193	10.8
Lukole	836	15.0	268	15.0
Namabili	224	4.0	69	3.9
Odokomit	377	6.8	130	7.3
Ogwan	114	2.1	38	2.1
Kamolo				
Ongalo	216	3.9	59	3.3
Orina	496	8.9	149	8.4
Total	5560	100.0	1783	100.0

Table 16 highlights that in each of the camps, less than 23% of household members slept under bed nets the previous night of the survey. Comparatively fewer people slept under bed nets in the satellite camps than in the major camps.

Survey findings also established that 19% of the households do not have bed nets. The households gave a number of reasons for not having bed nets. The reasons are summarized in Table 17 below.

Table 17: Reasons for not having bed nets

Reasons	No. of Household	Percent (%)
1. Did not receive	176	46.2%
2. Sold	5	1.3%
3. Lost/stolen	28	7.3%
4. Destroyed	172	45.2%
Total	381	100.0%

Table 17 illustrates that of the 19% (381) households without bed nets, the major reasons were either that the households had not received bed nets from a distribution programme or that the bed nets had been destroyed and households had not been able to replace them.

3.7.2 Appropriate usage of bed nets

Although 32.1% of the population surveyed slept under bed nets the previous night before the survey, checking the appropriate use of the bed nets is also important in ensuring that they provide effective protection against mosquito bites. To find out how bed nets are used by the households, members of the households were asked how frequently they used their bed nets, whether they had received information on malaria and bed net use, and whether their bed net touched the floor at night when it was hung/set at night.

It was found that in the households with bed nets (88.1%), 72.8% of the households used their bed nets daily, while the remaining proportion either used their bed nets less frequently or during the rain season only. Findings also showed that 84.6% of the households were sensitized on appropriate usage of the bed nets. 77.5% of the households were also aware that when they set

their bed nets at night, they need to hang the nets up to a point where it touches the floor in order to provide effective protection against mosquito bites.

3.8 Awareness on HIV/AIDS and Availability of Services

The survey was designed to establish the level of awareness of household members on HIV/AIDS modes of transmission and prevention, and also to find out whether members of the households were aware of the availability of HIV/AIDS services in their community. The survey used a Knowledge, Attitude and Practices (KAP) approach to investigate these variables from the respondents.

3.8.1 Awareness of Modes of Transmission and Prevention

Tables 18 and 19 present the levels of awareness on the modes of HIV/AIDS transmission and preventive practices respectively.

Table 18: KAP on modes of HIV transmission[#]

Proposed Modes of Transmission	YES		NO	
	Frequency	Percent	Frequency	Percent
1. Having unprotected Sex with infected partners	1813	90.5%	191	9.5%
2. Mosquito bite*	374	18.7%	1630	81.3%
3. Transfusion of infected blood	1592	79.4%	412	20.6%
4. Sharing cups & plates*	109	5.4%	1895	94.6%
5. Mother to child transmission during pregnancy/breast Feeding	1515	75.6%	489	24.4%
6. Touching infected people*	35	1.7%	1969	98.3%
7. Contact with infected blood (<i>such as during accident</i>)	1748	87.2%	256	12.8%
8. Use of contaminated skin piercing/sharp instruments	1701	84.9%	303	15.1%

In general, the level of awareness on the modes of transmission of HIV among the households is high. This is substantiated by comparison of the respondents on the true and false modes of transmission i.e. a high correct response corresponds with a low negative response. The false modes of transmission proposed were mosquito bites, sharing cups and plates and touching infected people.

Table 19: KAP on preventive practices[#]

Proposed Preventive Practices	YES		NO	
	Frequency	Percent	Frequency	Percent
1. Abstaining from sex	1538	76.7%	466	23.3%
2. Being faithful to one partner	1754	87.5%	250	12.5%
3. Using condoms correctly	1507	75.2%	497	24.8%
4. Abandoning HIV + people*	204	10.2%	1800	89.8%
5. Not sharing any sharp instruments with anybody	1674	83.5%	330	16.5%
6. Not going to big town*	324	16.2%	1680	83.8%
7. Testing for HIV before marriage	1594	79.5%	410	20.5%
8. No sharing of cups and plates*	134	6.7%	1870	93.3%

According to Table 19, as in Table 18, the majority of the respondents recognized the preventive practices that are considered to be appropriate. The practices that were categorized as false were abandoning HIV+ people, not going to a big town, and not sharing cups and plates.

[#] Multiple responses allowed

* Proposed modes of transmission that are false

3.8.2 Availability of HIV/AIDS services

In Pader district, a number of humanitarian agencies are involved in the provision of HIV/AIDS services. In addition to establishing the level of awareness on modes of transmission and prevention, the survey also sought to find out whether members of households were aware of the availability of services in their community. It can be assumed that this may reflect the extent of availability of the services from the perspective of the IDPs population.

Key services considered were Prevention of Mother to Child Transmission (PMTCT), Voluntary Counselling and Testing (VCT), Anti-Retro Viral Therapy (ART), and Home Based Care (HBC). Table 20 below presents the perception of service availability by households per camp sampled.

Table 20: Percentage of awareness of the availability of HIV/AIDS services by camp

Camp	ART	VCT	PMTCT	HBC
Adilang	32.7	57.1	35.6	6.2
Amyel	43.5	68.0	33.5	35.3
Geregere	13.7	34.7	22.4	2.3
Lacekotoo	23.5	23.5	41.2	17.6
Lira Kato	26.4	49.4	27.5	8.3
Lukole	13.1	36.9	33.4	3.1
Namabili	16.4	24.7	20.5	6.8
Odokomit	84.7	85.8	60.5	8.4
Ogwang Kamolo	12.9	22.6	41.9	0.0
Ongalo	31.6	35.1	28.1	14.0
Orina	20.3	29.0	28.3	4.3
Aggregate %	31.5(N=631)	50.3(N=1009)	33.7(N=676)	9.8 (N=197)

Table 20 shows that there is varying proportion of awareness of HIV/AIDS services in the IDP camps. Overall, with the exception of VCT where the awareness of availability is recognized by 50.3% of the households, awareness of the availability of other services is poor; PMTCT is 33.7%, ART, 31.5% and HBC, 9.8%.

4.0 Discussions

4.1 Survey Limitations

It is essential that survey limitations be appreciated and identified in an epidemiological survey of this nature. This ensures careful interpretation of the findings and thorough presentations of subsequent conclusions and recommendations. Limitations in this survey were:

1. Due to the absence of up-to-date, accurate and reliable population data for the identified IDP camps and displaced households to provide sampling frame (as a result of the constant population movements leading to fluctuation in camp population numbers), the population/household estimates from which the samples were selected were the ones used by Medair in their ITN distribution programmes. The initial intention was to obtain the population figures from United Nations Office for Coordination of Humanitarian Affairs (UNOCHA) and triangulate with the Medair's population data. However, due to the spontaneous movement of the IDP population over the past year, the population figures for UNOCHA are in constant fluctuation. Therefore, the population data from Medairs distribution programmes was used – in this process Medair carry out registration of the number of households within the camps in cooperation with camp leaders.
2. There are variables considered in the present survey, such as HIV/AIDS awareness that were not included in the previous survey conducted in June/July 2006 and vice versa, thus making direct comparisons not possible.
3. The questionnaire was not fully translated into *Luo*, as all the interviewers were bilingual, however great consideration was given to training on word /question definitions to reduce bias. Following the pre-test, clarifications were made and where necessary the *Luo* terminologies were specified in the questionnaire tool (See Annex 1).
4. Self-reported causes of morbidity/mortality were primarily identified as 'malaria' – however this is interchangeable with the local term '*lyeto*' which essentially means 'fever'. A fever is commonly regarded and diagnosed as malaria; however, it may be likely that in some cases the use of the term 'malaria' is hiding another febrile disease. The illness concept '*two lango/gimiru*' is a complex of symptoms involving primarily oral candidiasis (with diarrhoea, fever and/or cough). When reported as a cause of death it may be suggestive of a symptom of an underlying condition such as malnutrition, AIDS etc.

4.2 Mortality

Survey findings reported overall CMR of 0.56 deaths/10,000 persons/day and U5MR of 1.07/10,000 persons/day. Comparison of these rates with findings of June/July 2006 show a 0.03 deaths/10,000 persons/day decrease in CMR and 0.45 deaths/10,000 persons/day amongst children U5.

Despite the slight decrease in the overall CMR and U5MR, some IDP camps still have CMR and U5MR above the emergency thresholds. Also comparison of satellite and major camps revealed that in general, satellite camps have higher mortality rates - the lack of health, water and hygiene services in the new sites where households are resettling may be contributing factors. However, distance to health services may also be an important reason as people delay in seeking timely medical attention.

The major causes of mortality in the population in almost all of the camps were malaria and respiratory infections. Comparison of findings with the survey of July/July 2006 still confirms malaria as the leading cause of mortality. Respiratory infections appear to have increased as a cause of mortality. Deaths resulting from violence have slightly decreased.

4.3 Morbidity

Findings have indicated that during the last two weeks of the recall period in the sampled camps, 21.2% of the household members fell sick. The main symptoms of the illnesses reported were malaria (37%) and respiratory infections (19.8%). Similarly, these are the most common symptoms reported amongst the U5 who fell sick during this period.

As classified under 'other', the main reported symptoms of illnesses included epilepsy, chest pain and tuberculosis. There were 101 reported cases of epilepsy while 49 and 36 persons were reported to have fallen sick from chest pain and tuberculosis respectively.

To date, most household members seek treatment from mainly health centres (65.2%) and hospitals (12.8%), whilst for households who do not go to health centres or hospitals, this is attributed to reports that there are no drugs available in the health centres and more positively the availability of services from VHT that appear to be more accessible to populations in the camps.

Comparison with the survey conducted in June/July 2006 indicates that malaria and respiratory infections are still the most common episodes of illnesses households reported. Sources of treatment identified in the previous survey last year were primarily health centres (82.3%), whereas hospitals accounted for only 2%. Therefore, although there is a 17.1% decrease in utilization of health centres as a source of treatment, there was increase in the utilization of hospital by 10.8%. This phenomenon is possibly due to the current trend of the population movement to satellite camps where accessibility to health centres is hampered by distance, and where the hospital may actually be closer.

It also emerged that for households in the satellite camps, in addition to drugs not being available in the health centre, the second reason for not seeking health care at a health centre/hospital was the long distance to health centres from their homes. Therefore, strengthening VHT services in these camps may provide an immediate alternative to the provision of curative health services for illnesses that can be managed from within the community. Within Agago County the VHT programme has only been implemented from the beginning of 2007, it is therefore worth noting that it is a positive reflection on VHTs that communities have begun to access their services already! Medair are currently supporting the training and supervision of VHTs in Adilang and Lapono sub-county.

4.4 Measles Immunization

Overall, 59.1% (1311 U5 children age from 9 to 59 months) of the 2217 U5 children in the camps who are aged from 9 to 59 months were found to have been immunized against measles. The interviewers were able to verify immunization cards for 65% of the immunized children. The status of immunization for 35.9% of the children was unknown. This could be either because they are not immunized or the guardian/caretaker who was present on the survey date did not know.

Last years survey carried out by Medair found that 53.2% of children aged 9-12 months were vaccinated against measles, and 85.4% of those aged 13-59 months were vaccinated.

A survey carried out by MoH/UNICEF/WFP this year (August 2007) in 30 IDP camps in Pader District found that 96% of children aged 9-59 months were vaccinated against measles, although of this number, only 50% had card verification of their immunisation status.

It appears in this survey that most households living in the satellite camps do not have immunization cards available for the U5 children. This may be attributed to the movement from major to satellite camps where in the process the cards could have been lost.

4.5 Bed Net Coverage and Usage

Findings of the survey have revealed that in terms of the intervention target (Medair's log frame objectives) of 80% coverage of ITNs in the targeted camps, this target has been reached (88.1%). This is in line with the MoH Malaria Control Strategic Plan (2005/06 – 2009/10) which states that the proportion of households with at least 1 ITN should reach 85%, and those with at least 2 ITNs should be 60%. Sensitization on appropriate use of the bed nets has also been reached at 84.6% of the households being aware of malaria and modes of prevention.

However, accessibility to bed nets in the community is still a challenge. With an average of 6 persons per household, the ratio of bed nets to the number of persons within households in the surveyed camps is low. The majority of the households have either one or two bed nets (See Table 15). For the households who reported not having bed nets, 46.2% had not received and 45.2% of the households had not been able to replace their destroyed nets. The vulnerability of the households in this context is further reflected by the high mortality and morbidity incidents for malaria in the sampled population. Interventions need to continue therefore, to ensure adequate supplies of ITNs (particularly to satellite camps), and health education regarding malaria transmission/prevention and correct bed-net use.

4.6 HIV/AIDS Awareness and Services

The survey aimed at determining the level of awareness on modes of transmission of HIV/AIDS, preventive practices and awareness of the availability of HIV/AIDS related services in the community. Overall, findings revealed that the level of awareness of the community on modes of transmission and preventive practices is high. There is however poor awareness of available services in the community by the sampled population, although this does not necessarily mean that services are not available/accessible (See section 3.8.2).

Findings have indicated that with the exception of VCT which availability was recognized by 50% of the respondents, awareness of the availability of other services is much lower (See Section 3.8.2). Spiegel (et al) in a systematic review of HIV prevalence in sub-Saharan African countries, argued that there is no evidence to show an increase in the prevalence of HIV infection during periods of conflict, irrespective of prevalence when conflict began. However, a field survey by the Uganda Aid Commission (UAC, 2006) indicates that northern Uganda is one of the regions within Uganda, with the highest prevalence rate of HIV/AIDS at 8.2%. The national average of the prevalence of HIV is approximately 6% (MoH Health Sector Strategic Plan, 2005).

5.0 Conclusions and Recommendations

5.1 Conclusions

From the findings it can be concluded that there has been a slight reduction in the CMR and U5MR when comparisons are made with the June/July 2006 survey. It must also be noted however, that there are still some camps, notably satellite camps that have mortality rates above the recognized emergency thresholds. Malaria still poses a challenge as the leading cause of mortality in the population; secondary to malaria are respiratory infections.

Comparison with the survey conducted in June/July 2006 indicates that malaria and respiratory infections are still the most common episodes of illnesses reported by households. However, given the pattern of population movement from major to satellite camps where there are limited or no curative health services, there may be a likelihood of some increase in morbidity in the resettlement sites. Also, as more people move into the satellite camps, the demand for the services of the VHT will also increase as already demonstrated by the current trend.

Confirmed immunization in the community stands at 59.1% for the U5 children in surveyed camps; there are also a high proportion of children whose status of immunization is unknown. However, it is also worth highlighting that in the U5 population, measles has not significantly contributed to morbidity and/or mortality in the camps.

Coverage of bed nets in the households has reached the intended target of intervention (80%) and the level of awareness on the correct usage of bed-nets is good.

Level of awareness on HIV/AIDS modes of transmission and prevention is impressive. However, the limited awareness of the community to HIV/AIDS services in the community may negatively weigh against the positive attitudes and practices highlighted by communities.

5.2 Recommendations

On the basis of the results, discussions, and reviewed literature, the following recommendations are suggested to guide future health interventions in the survey area:

1. Slight reductions in mortality rates were recorded, and in general mortality rates are below the emergency thresholds in most of the IDP camps. However, although health interventions should identify those camps with higher mortality rates, efforts in other camps within programmes areas should not be reduced to ensure that improvements made are not lost.
2. Findings have revealed a close association between morbidity and mortality. To reduce morbidity and consequently mortality, curative and preventive health interventions should give consideration to tackling malaria and respiratory infections. In this endeavour, the MoH Health Sector Strategic Plan (2005) targets the improvement of health worker skills in the assessment and management of malaria, respiratory infections and diarrhoeal diseases which 'contributes to 70% of overall childhood mortality'. Efforts should also be made to ensure adequate drug supplies to health centres.
3. As people move to satellite camps, the capacity of VHTs to response to health needs of the displaced populations should be strengthened. The MOH Health Sector Strategic Plan (2005) aims to increase the proportion of children U5 with fever, diarrhoea and

pneumonia seeking and receiving care within 24 hours, to 60%. In order to achieve this, the government has set up the VHT programme as its strategy for reaching households in all villages. Programme interventions should therefore seek to provide VHTs with the necessary training and supervision required to enable them to function effectively within their communities.

4. Although measles did not account for a significant proportion of morbidity and mortality, given the coverage of measles immunization (See Table 14) and the potential risks posed to child health and development, it is important to continue sensitizing parents/members of households to have children U5 immunized and ensure that immunization cards are kept for future references. This can be integrated in other health awareness campaigns that may be planned in the community. Programmes should also strengthen the capacity of the Health Centres to carry out effective static and outreach vaccination activities in their communities, for example gas/vaccine supply, maintenance of the cold chain and ensuring vaccination activities are carried out in the health centres and outreach posts.
5. Efforts to tackle HIV/AIDS in addition to sensitizing the community on modes of transmission and preventive practices, should also focus on provision of HIV/AIDS services such as VCT, PMTCT, ART and HBC and awareness of where to access these services. The MoH Health Sector Strategic Plan (2005) identifies the following target: 100% accessibility to information and services. Core interventions include health education and condom promotion/use.

6.0 References

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7.0 Annexes

Annex 1: Questionnaire

NAME OF THE INTERVIEWER..... DATE OF THE INTERVIEW..... COUNTY: **Agago**

SUB-COUNTY..... CAMP..... BLOCK No: QUESTIONAIRE No:.....

SECTION 1: HOUSEHOLD PROFILES AND MORTALITY (LUO: *Wel dano ma gutoo ocake Jan-Sept 2007*)

Q1. How many people live in this Household?	Q2. How many people living in this household are <5years old?	Q3. Month/Year of arrival in the camp..... <i>(Indicate whether they are host community & year the camp started)</i>
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ID	Q4.	Q5.		Q6.	Q7.	Q8.	Q9.	Q10.	Q11.	Q12.	Q13.	Q14.	Q15.
	Name/Position in the Household	Age		Date of Birth	Sex	Present on 01/01/2007?	Present now?	If not present on 01/01/2007, date joined/ was born	If not present now, why?	Date of event (death, departure, abduction, disappearance)	Place where event (death, departure, abduction, disappearance) occurred	Did the person die in a health centre or hospital?	What was the main cause of death? <i>(Select only one)</i>
Identification Number	Position: - Father - Mother - Uncle - Grand-Father - Niece - Etc. (For children <5yrs enter the name)	>= 5yrs: Age in years	<5yrs (0-59m.) in months	dd/ mm/yyyy	1. Male 2.Female	1. Yes 2. No	1. Yes 2. No	<u>Month (1-9)</u> 1 = January 2 = February 3 = March 4 = April 5 = May 6 = June 7 = July 8 = August 9 = September	1. Dead 2. Abducted 3. Disappeared 4. Absent 5. Moved to another Location	<u>Month (1-9)</u> 1 = January 2 = February 3 = March 4 = April 5 = May 6 = June 7 = July 8 = August 9 = September	1. In IDP Camp 2. Outside Camp 3. Not known	1. Yes 2. No	1. Watery Diarrhoea (Cado) 2. Bloody Diarrhoea (Cado Remo/ Pecpec) 3.Cough, diff. breathing (Aona, Yweyo matek) 4..Malaria (Lyeto) 5. Measles (Anyongo) 6. AIDS (Slim, Two-Jonyo) 7. Two Lango, Gimiru 8. Violence (Awanu) 9. Other (specify)..... 10. Unknown
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

SECTION 2: MORBIDITY: Have anyone in this household been sick in the last (two) week(s)? (LUO: *Kit two ma pat- pat ma omako dano I cabit aryo ma okato?*)

Serial No	Q16.	Q17.	Q18.		Q19.	Q20.	Q21.		Q22.
	ID No	Name/ Position in the Household	Age		Sex	Main Symptom (select only one)	First Source of Help/Treatment (Select only one)		What is the major reason why the person did not go to the Health Centre/Hospital? (Select one only)
	Report ID No entered in Section 1	Position: - Father - Mother - Uncle - Grand-Father - Niece - Etc. (For children <5yrs enter the name, cross-check with Name in Section 1)	>= 5yrs: Age in years	<5yrs (0-59m.) in months	1. Male 2. Female	1. Watery Diarrhoea 2. Bloody Diarrhoea 3. Cough, difficulty breathing 4. Malaria (Lyeto) 5. Measles 6. Two-Lango /Gimiru 7. Violence 8. Other (specify).....	0. No treatment 1. Drugs kept at home 2. Hospital 3. Health Centre 4. Private Clinic /Doctor 5. Outreach/Mobile Clinic 6. VHT (Village Health Team)	7. Drug shop 8. Traditional Healer 9. Traditional Herbs 10. Other (specify)	0. Go to Health Centre 1. Long distance from home 2. Waiting time too long at health centre 3. Drugs not available at health centre 4. Cost of treatment too high 5. Treatment available through VHT (<i>Lupok yat I kin paci</i>) 6. Treatment more accessible through private clinic 7. Other (specify).....
1									
2									
3									
4									
5									
6									
7									

SECTION 3: BED/MOSQUITOES NETS USAGE

(Interviewer, IF answer to Q23 is 0 (Zero/Nil, ASK Q24, Q25, and Q30)

Q23.	Q24.	Q25.	Q26.	Q27.	Q28.	Q29.	Q30.	Q31.
How many bed nets does the household have?	If NO net, what is the reason? 1. Did not receive 2. Sold 3. Lost/stolen 4. Destroyed	How many people slept in your household last night?	How many children <5 years old slept under bed net last night? (Cross-check with the number of household present)	How many persons >=5 years old slept under bed net last night?	How often do you use bed net? 1. Everyday 2. Less Frequent (<i>kicel-kicel</i>) 3. Rainy season only 4. Dry season only	When bed nets are set/hanged at night, does it? 1. Touch the floor 2. Hang above the floor	Were you sensitized on malaria & bed net use? 1. Yes 2. No	Interviewer, if sleeping/bed room is accessible and net is on, request to see if? 0. No net set/hanging 1. Net touch floor 2. Net does not touch floor

SECTION 4: MEASLES IMMUNISATION: Children <5 years (0-59 month.) vaccination against Measles (LUO: Agwera pi two Anyongo)

Serial No	Q32.	Q33.	Q34.	Q35.	
	Child ID	Child's Name	Sex	Measles	
	Report ID number entered in Section 1.	Report child's name registered in Section 1.	1. Male 2. Female	<u>Vaccinated</u> 1. Yes 2. No 3. Don't Know	<u>Card:</u> 1. Available 2. Not available
1					
2					
3					
4					
5					
6					
7					

SECTION 5: Awareness on HIV/AIDS Mode of Transmission and Prevention (Ask the respondent and CIRCLE the YES responses in the categories below)

Q36.	Q37.	Q38.	Q39.
Have you ever heard of HIV/AIDS?	Can one get HIV through the following?	Can the following practices prevent the spread of HIV/AIDS?	Are the following HIV/AIDS services available in this community? (Interviewer: Read the list and circle accordingly)
1. Yes 2. No	1. Having unprotected sex with infected partners 2. Mosquito bite 3. Transfusion of infected blood 4. Sharing cups & plates 5. Mother to child transmission during pregnancy/breast feeding 6. Touching infected people 7. Contact with infected blood when you have wounds/cuts 8. Sharing of contaminated skin piercing/sharp instruments	1. Abstaining from sex until marriage 2. Being faithful to one partner 3. Using condoms correctly 4. Abandoning HIV + people 5. Not sharing contaminated skin piercing/sharp instruments 6. Not going to big towns 7. Testing for HIV before marriage 8. No sharing of cups and plates	1. Prevention of Mother to Child Transmission 2. Voluntary Counselling and Testing (VCT) 3. Antiretroviral Therapy (LUO: Yat jino Slim) 4. Home Based Care (HBC) (LUO: Gwok/kony me yot kom ma kimiyo ki paco bot lutwo jonyo/Slim)