

## **LSTM Briefing Paper**

# **An Assessment of Health Service Coverage in Refugee and Host Communities in Northern Uganda: Key Findings and Policy Implications from a Two-district Household Survey**

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October 2019

### **Key Findings and Challenges**

The West Nile Refugee Response Program displayed uneven success in the provision of services as reported in this two-district household survey:

- Antenatal care use was high yet TT2 and IPTp3 coverage during pregnancy very low.
- Postpartum care for the mother and infant was very low and well below regional averages.
- Prevalence of fever and diarrhoea were higher than regional averages; yet knowledge about ORT was very low as well as use of treated bednets for malaria prevention in children under 5 years.
- Unmet need for family planning was high.
- Compared to host communities, refugee children had inadequate meal frequency, poor minimum dietary diversity, and lacked minimum acceptable diet
- High access to water sources and improved latrines in refugee communities, yet hygiene in both refugee and host communities was very poor.

### **Recommendation**

- Urgent need to establish recurrent monitoring and evaluation unit to feedback progress to implementing organisations in the West Nile sub-Region and to support them to use data to improve programming to meet observed needs.

## **Introduction**

Since 2006, Uganda has implemented progressive policies that promote refugee self-reliance and inclusion through their settlement and integration with local host communities<sup>1</sup>. These policies were formalized through the Comprehensive Refugee Response Framework (CRRF), launched in 2017<sup>2</sup>. Uganda currently hosts over 1.4 million refugees from neighbouring countries, which is the largest number of refugees in Africa and the third largest humanitarian setting in the world<sup>3 4</sup>. The majority (over 1 million) live in settlements in northern Uganda.

West Nile sub-Region in northern Uganda has one of the highest ratios of refugee to host populations worldwide: about 33% of the population in five districts in West Nile are refugees (833,785 refugees in 23 long-term settlements)<sup>5</sup>. Despite generous donor support, this dense concentration of refugees living in protracted displacement places a strain on already stretched health and social services and on relationships between host and refugee communities. Regular monitoring and evaluation of the response effort and timely information for program managers are critically important for the successful implementation of Uganda's national roadmap for the refugee response<sup>6 7</sup>. This work contributes to that effort.

In May-June 2019, Liverpool School of Tropical Medicine (LSTM), in partnership with World Vision Uganda, carried out a cross-sectional household survey in the refugee-hosting districts of Arua and Yumbe in West Nile. The purpose of the study was to assess the coverage of key interventions across sectors of Maternal and Child Health, Food Security and Water, Sanitation and Hygiene (WASH), and to inform World Vision's West Nile Refugee Response Programme which has supported communities in the region since 2016.

## Methodology

The household survey used lot quality assurance sampling (LQAS), a rapid sampling method that provides two types of information: coverage measures for a whole project or catchment area and classification of subproject areas to identify priorities for resource allocation<sup>8,9</sup>. For this study, we had two catchment areas in each district -- refugee settlements and host communities. The refugee catchment area in Yumbe was Bidibidi Refugee settlement while in Arua, the catchment area included Imvepi Refugee settlement, Omugo-Rhino Camp and Rhino Extension Camp. The host catchment areas comprised the host communities located in the parishes contiguous to the settlement borders in both districts.

The sub-project areas included the zones or subdivisions within the refugee settlements and nearby host communities. LQAS was chosen for this assessment because it could provide information on the performance of WV interventions within the refugee settlements and also a comparison of coverage between refugee and host catchment areas. LQAS also is well known in Uganda and is used for health system monitoring in at least 72 districts.

The total random sample size for the LQAS survey was 1,520 respondents. In each district, 760 respondents were interviewed, with 380 from the refugee catchment area and 380 from the surrounding host catchment area. In each catchment area, the survey sampled four target groups (n=95 each): mothers of infants 0-5 months, mothers of children 12-23 months, mothers of children 0-59 months, and household heads.

The target groups are necessary to assess different age-dependent indicators and a separate questionnaire was developed for each group. The sample of n=95 in each target group is used to classify the performance of subproject areas across selected indicators. When all subproject data are aggregated, the full dataset is used to calculate coverage estimates for the indicators in the entire catchment area with a 95% confidence interval that does not exceed  $\pm 10\%$ .

## Key Findings

This section presents the main study results across five priority areas: maternal and newborn health; family planning; childhood illnesses; child nutrition and food security; and water, sanitation and hygiene (WASH). Indicator values are compared to West Nile sub-Regional averages from the 2016 Uganda Demographic Health Survey<sup>10</sup> as well as to coverage targets set by the UNHCR Emergency Standards for the refugee community<sup>11</sup>. Only coverage data for key indicators is presented here; performance data for sub-project areas is available elsewhere.

### Maternal and Newborn Health

Maternal and neonatal health outcomes showed mixed results with little difference between refugee and host catchment areas (Table 1). For example, care seeking for ANC and skilled delivery was similarly high across refugee and host communities, whereas use of maternal postnatal care was extremely poor in both groups. However, four indicators are considerably below standards for both communities.

**Table 1. Coverage of Maternal and Newborn Health Interventions**

INDICATOR <i>Proportion of mothers of children 0-5 months who:--</i>	ARUA		YUMBE		DHS Average for West Nile	UNHCR Target
	Weighted average (95% CI)		Weighted average (95% CI)			
	Refugee	Host	Refugee	Host		
1. Attended at least one ANC visit during last pregnancy	96.6 (92.8-100)	98.4 (95.9-100)	96.7 (92.9-100)	98.7 (96.4-100)	98.7	95%
2. Attended 1 <sup>st</sup> ANC in 1 <sup>st</sup> trimester of last pregnancy	30.8 (21.3-40.2)	26.5 (17.4-35.5)	29.8 (20.3-39.3)	29.2 (19.8-38.5)	29.1 *	90%
3. Attended 4 or more ANC visits during last pregnancy	83.9 (76.3-91.4)	71.5 (62.3-80.7)	78.4 (69.9-86.9)	83.2 (75.6-90.1)	59.9 *	90%
4. Received 2 or more doses TT during last pregnancy	33.2 (23.5-42.8)	36.5 (26.6-46.4)	51.3 (40.9-61.7)	50.6 (40.3-60.8)	65.7	95%
5. Received 3 or more doses IPT during last pregnancy	29.4 (20.0-38.7)	32.8 (23.2-42.5)	22.8 (14.1-31.4)	43.6 (33.5-53.8)	19.0	--
6. Slept under LLIN during last pregnancy	80.4 (72.2-88.5)	77.8 (69.3-86.3)	75.5 (66.6-84.4)	75.5 (66.7-84.3)	83.0	--
7. Gave birth with a skilled birth attendant	92.1 (86.5-97.6)	82.3 (74.5-90.1)	91.6 (85.9-97.4)	96.3 (92.3-100)	77.9	90%
8. Gave birth in a health facility	91.1 (85.3-97.0)	82.3 (74.5-90.1)	85.2 (77.8-92.6)	90.3 (84.2-96.3)	78.2	90%
9. Received maternal PNC within 2 days of birth	2.8 (0.0-6.1)	1.8 (0.0-4.4)	2.2 (0.0-5.2)	0.8 (0.0-2.6)	60.5	95%
10. Received neonatal PNC within 2 days of birth	29.8 (20.4-39.1)	44.0 (33.8-54.1)	36.8 (26.8-46.7)	31.7 (22.1-41.2)	68.9	95%
11. Practiced appropriate umbilical cord care	34.2 (24.5-44.0)	32.2 (22.6-41.7)	22.2 (13.6-30.8)	25.6 (16.6-34.5)	--	--

*White shading = above or reaches national or regional average and UNHCR target*

*Green shading = above or reaches national or regional average but below UNHCR target*

*Yellow shading = below regional average and below UNHCR target*

*\*National average used because regional data not available for this indicator*

- **Antenatal care:** Nearly all refugee mothers (96.6% Arua; 96.7% Yumbe) aged 15-49 years attended at least one antenatal care (ANC) visit with a skilled provider during their most recent pregnancy, and the majority (83.9% Arua; 78.4% Yumbe) completed four or more ANC visits. ANC4+ for refugee women was higher than the DHS regional average (59.5%); while the coverage does not reach the UNHCR standard for refugee communities (90%) the 95% confidence interval crosses it in Arua. However, less than one third of refugee mothers (30.8 % Arua; 29.8% Yumbe) had their first ANC visit during the first trimester. Initiation of ANC in the first trimester was comparable to national levels (29.1%) but far below the UNHCR target of 90%.
- **Protection against neonatal tetanus:** Coverage with at least two doses of tetanus toxoid during pregnancy was higher in Yumbe (51.2%) than in Arua (33.2%) among refugee mothers. Nevertheless, these levels were lower than the regional coverage of TT2 vaccination during ANC in West Nile (65.7%) and well below the UNHCR standard of 95%. Given that ANC4+ coverage is high we should expect a similarly high coverage of TT2+ as well.
- **Protection against malaria in pregnancy:** Less than one third (29.4% Arua; 22.8% Yumbe) of refugee mothers received at least three doses of IPT to prevent malaria during pregnancy. Given that ANC4+ is high we should expect high IPTp3 coverage as well. The majority of refugee mothers (80.4% Arua; 75.5% Yumbe) reported they slept under a LLIN during their most recent pregnancy. While coverage does not quite reach the regional average for West Nile (83%), the 95% confidence interval crosses it.

- **Skilled delivery:** Coverage of skilled birth attendance for refugee and host mothers in both districts was higher than regional averages and nearly met or exceeded the UNHCR standard of 90%. The majority of refugee mothers delivered in a health facility (91.1% Arua; 85.2% Yumbe) compared to the West Nile average (78.2%). Likewise, the majority delivered with skilled birth attendant (92.1% Arua; 91.6% Yumbe), again surpassing the West Nile coverage (77.9%).
- **Postnatal care:** In stark contrast to high levels of ANC and skilled delivery, coverage of maternal postnatal care (PNC) within two days of delivery was extremely low among refugee mothers (2.8% Arua; 2.2% Yumbe) while neonatal PNC only reached 29.8% in Arua and 36.8% in Yumbe. These coverage estimates are far below regional averages for both maternal PNC (60.5%) and neonatal PNC (68.9%) and likewise beneath UNHCR coverage target of 95%.
- **Umbilical care:** Coverage of proper umbilical care among refugee mothers (34.2% Arua; 22.2% Yumbe) is unacceptably low in both districts. While the DHS does not report this coverage, our data mirror an equally low coverage of neonatal PNC coverage which is when mothers learn to practice appropriate cord care.

## Family Planning

**Table 2. Family Planning Coverage**

INDICATOR	ARUA		YUMBE		DHS Average for West Nile	UNHCR Target
	Weighted average (95% CI)		Weighted average (95% CI)			
	Refugee	Host	Refugee	Host		
1. Have an unmet need for family planning	40.8 (30.7-50.9)	45.1 (34.9-55.3)	43.6 (33.3-53.9)	43.2 (33.0-53.4)	43.2*	--
2. Currently use a modern method of family planning	21.8 (13.4-30.3)	15.7 (8.3-23.2)	14.2 (6.9-21.4)	15.3 (7.9-22.7)	19.0*	30%

*White shading = above or reaches national or regional average and UNHCR target*

*Green shading = above or reaches national or regional average but below UNHCR target*

*Yellow shading = below regional average and UNHCR target*

*\*Denominator for DHS indicator: currently married women aged 15-49 years*

**Modern contraceptive use** among refugee mothers in both districts (21.8% Arua; 14.2% Yumbe) was below the national average (34.8%) yet similar to the regional estimate (19%) for West Nile (Table 2). Neither district reached the UNHCR target of 30% coverage. There was also a high **unmet need** for family planning among refugee mothers in both districts (40.8% Arua; 43.6% Yumbe) compared to the national average (28.4%); however, this indicator paralleled the regional average for unmet need (43.2%). West Nile has the highest unmet need for family planning of any region in Uganda <sup>10</sup>.

These data suggest that refugee communities in Arua and Yumbe may have maintained their reproductive health preferences and behaviours from their home country of South Sudan. We know from the 2015 LQAS national survey in South Sudan that CPR in Western Equatorial and Central Equatorial states was 17% and 10.6%, respectively <sup>12</sup>. The majority of refugees in our study came from these two states in South Sudan.

What stands out is that almost half of women report they have a need for family planning methods and are not receiving them.

## Child Health and Common Illnesses

**Table 3. Prevalence and Prevention of Childhood Illnesses**

INDICATOR	ARUA		YUMBE		DHS Average for West Nile	UNHCR Target
	Weighted average (95% CI)		Weighted average (95% CI)			
	Refugee	Host	Refugee	Host		
1. % children 12-23 months fully vaccinated <sup>1</sup>	76.9 (68.3-85.5)	79.0 (70.6-87.5)	77.3 (68.6-86.0)	81.3 (73.3-89.4)	63.1	95%
2. Prevalence of diarrhoea among children 0-59 months in the 2 weeks preceding the survey	39.9 (29.9-50.0)	51.0 (40.8-61.3)	35.7 (25.9-45.5)	41.4 (31.3-51.5)	15.8	--
3. Prevalence of fever among children 0-59 months in the 2 weeks preceding the survey	73.7 (64.7-82.7)	69.6 (60.1-79.0)	63.3 (53.5-73.2)	70.6 (61.2-79.9)	42.1	--
4. Prevalence of presumed pneumonia among children 0-59 months in the 2 weeks preceding the survey	8.4 (2.7-14.1)	5.3 (0.69-9.8)	14.9 (7.6-22.2)	8.3 (2.6-13.9)	7.8	--
5. % of mothers of children 0-59 months who correctly described preparation of ORS	5.4 (0.90-10.3)	9.6 (3.6-15.6)	11.8 (5.2-18.4)	7.6 (2.2-13.0)	--	--
6. % of mothers of children 0-59 months who correctly prepared ORS	8.3 (2.6-13.9)	14.8 (7.5-22.1)	6.1 (1.2-11.0)	11.7 (5.1-18.3)	--	--
7. % of households with children 0-59 months that own at least 1 LLIN	51.9 (41.7-62.2)	59.2 (49.2-69.3)	52.4 (42.1-62.6)	55.2 (45.0-65.4)	92.0	95%
8. % of children 0-59 months who slept under a LLIN the night preceding the survey	51.0 (40.7-61.2)	58.4 (48.3-68.4)	52.4 (42.1-62.6)	53.5 (43.3-63.7)	76.6	--

*White shading = above or reaches national or regional average and UNHCR target*

*Green shading = above national or regional average but below UNHCR target*

*Yellow shading = below regional average and UNHCR target*

*Blue shading = disease prevalence is above national and regional averages*

Childhood vaccination and prevalence of three common childhood illnesses (suspected malaria, diarrhoea and presumed acute respiratory infection [ARI]) showed a similar pattern across refugee and host communities (Table 3). Coverage of full vaccination was equally high across both communities and surpassed the regional average for West Nile (63.1%). However, this indicator failed to reach the UNHCR target of 95% for refugee children (76.9% Arua; 77.3% Yumbe).

Prevalence of fever, an indicator of possible malaria, was the highest of the three childhood illnesses for both communities and much higher than the already elevated regional (42.1%) and national (33.3%) averages. Fever is also the most commonly reported childhood illness in Uganda, according to recent national and regional data<sup>10</sup>.

Despite high prevalence of fever in refugee children in both districts (73.7% Arua; 63.3% Yumbe) only half of refugee households (51.0% Arua; 52.4% Yumbe) used a Long Lasting Insecticide-treated Net

<sup>1</sup> Full vaccination is defined as having received BCG vaccine, three doses of Diphtheria-Pertussis-Tetanus, three doses of oral polio (excluding birth dose) and one dose of measles

(LLIN) to protect their children from malaria transmission. Ownership of LLIN by refugee households (51.9% Arua; 52.4% Yumbe) was far below the regional average for West Nile (92.0%) and UNHCR target of 95%.

Both communities also showed high prevalence of diarrhoea in children under five which far surpassed regional prevalence (15.8%). (39.9% Arua; 35.7% Yumbe), Yet knowledge of ORT was very low with few mothers in either community (8.3% Arua; 6.1% Yumbe) able to correctly demonstrate preparation of ORS. In addition, most households lacked a designated handwashing location with soap and water and knowledge of handwashing practices (see next section).

In contrast, prevalence of ARI symptoms was equally low in both refugee and host communities and on par with regional prevalence data.

## Nutrition and Food Security

**Table 4. Child Nutrition and Food Security**

INDICATOR	ARUA		YUMBE		DHS Average for West Nile	UNHCR Target
	Weighted average (95% CI)		Weighted average (95% CI)			
	Refugee	Host	Refugee	Host		
1. % infants 0-5 months breast fed within 1 hour after birth	76.5 (67.8-85.2)	64.9 (55.1-74.7)	52.6 (42.2-62.9)	51.8 (41.6-62.0)	42.4	80%
2. % infants 0-5 months exclusively breastfed the day before the survey	82.6 (74.8-90.3)	80.6 (72.5-88.7)	80.7 (72.5-88.9)	77.9 (69.4-86.4)	42.6	70%
3. % children 12-23 mos who received Vit A during the 6 months before the survey	78.1 (69.6-86.6)	78.8 (70.4-87.3)	82.4 (74.5-90.3)	78.9 (70.5-87.3)	--	95%
4. % children 6-59 mos with minimum meal frequency the day before the survey	33.9 (24.1-43.7)	47.1 (36.2-58.0)	37.5 (26.8-48.2)	55.0 (44.6-65.4)	43.7	--
5. % children 6-59 mos with minimum dietary diversity the day before the survey	24.2 (15.3-33.0)	45.5 (34.6-56.4)	25.9 (16.3-35.6)	58.8 (48.6-69.1)	34.4	--
6. % children 6-59 mos with minimum acceptable diet the day before the survey	7.0 (1.7-12.3)	20.9 (12.1-29.8)	12.9 (5.5-20.3)	43.7 (33.4-54.1)	17.8	--

*White shading = above or reaches national or regional average and UNHCR target*

*Green shading = above national or regional average but below UNHCR target*

*Yellow shading = below regional average and UNHCR target*

Nutrition and food aid are priorities for humanitarian support organisations as well as the Uganda refugee response plan for 2019-2020<sup>2</sup>. Our household survey evaluated childhood nutrition and food security with indicators related to breastfeeding, young child feeding practices, and vitamin A supplementation. Anthropometric measures of nutritional status were not possible during this survey. Young child feeding practices were assessed using the following standard indicators<sup>13</sup>:

- **Minimum meal frequency:** a child received solid, semi solid or soft food the minimum number of times in the previous day (2 times per day from 6 to 8 months and 3 times per day for 8 months and older)
- **Minimum dietary diversity:** a child received foods from 4 or more of the 7 different food groups in the previous day

- Minimum acceptable diet: a child received the minimum dietary diversity and minimum meal frequency in the previous day

Coverage of exclusive breastfeeding among infants 0-5 months was equally high in refugee and host communities, far surpassing the regional average and exceeding the UNHCR target of 70% (Table 4). Likewise, early initiation of breastfeeding was similar across both communities and exceeded the regional average but failed to reach the UNHCR standard (80%). Vitamin A coverage was also similar across communities and nearing the UNHCR target of 95% coverage for a refugee setting.

In contrast, food security among children 6-59 months was unacceptably low in both districts, in particular among refugee children, with consistently poor young child feeding practices. Few refugee children received an adequate meal frequency (33.9% Arua; 37.5% Yumbe) when compared to host children (47.1% Arua; 55.0% Yumbe). Refugee children had poor minimum dietary diversity (24.2% Arua; 25.9% Yumbe) compared to host children (45.5% Arua; 58.8% Yumbe) and they lacked a minimum acceptable diet (7.0% Arua; 12.9% Yumbe) compared to hosts (20.9% Arua; 43.7% Yumbe).

## Water, Sanitation and Hygiene (WASH)

**Table 5. WASH Infrastructure and Practices**

INDICATOR	ARUA		YUMBE		DHS Average for West Nile	UNHCR Target
	Weighted average (95% CI)		Weighted average (95% CI)			
	Refugee	Host	Refugee	Host		
1. % households with access to protected, functioning water source within 1km	94.3 (89.5-99.0)**	76.1 (67.3-84.8)	96.7 (93.0-100.0)**	78.8 (70.4-87.2)	78.3*	95%
2. % households with a designated place for hand washing	14.4 (7.2-21.6)	17.0 (9.3-24.7)	12.9 (6.0-19.7)	20.6 (12.3-28.8)	61.4	80%
3. % household heads who know when to practice hand washing with soap	18.2 (10.3-26.2)	18.4 (10.5-26.3)	24.6 (15.8-33.4)	21.7 (13.3-30.1)	--	80%
4. % households using an improved sanitation facility	67.1 (57.5-76.7)**	15.7 (8.2-23.1)	68.0 (58.5-77.6)**	20.2 (12.0-28.5)	18.7*	85%

*White shading = above or reaches national or regional average and UNHCR target*

*Green shading = above national or regional average but below UNHCR target*

*Yellow shading = below regional average and UNHCR target*

*\*National average used because regional data not available for this indicator*

*\*\* significant difference ( $p < .001$ )*

Refugee communities (94.3% Arua; 96.7% Yumbe) had substantially better access to a functioning water source compared to host counterparts (76.1% Arua; 78.8% Yumbe) and their water access reached UNHCR targets of 95% coverage (Table 5). In contrast, water access in host communities resembled conditions in the rest of Uganda (78.3%).

Likewise, use of improved latrines in refugee communities (67.1% Arua; 68.0% Yumbe) was significantly higher than nearby host communities (15.7% Arua; 20.2% Yumbe) and well *above* national averages (18.7%). Yet this indicator still fell below UNHCR standards (85%). Coverage of improved latrines needs to be over 80% to minimize the risk of infectious disease transmission<sup>14</sup>.

Despite access to better WASH infrastructure, especially in refugee communities, hygiene practices were poor in both populations. There was little knowledge of when to wash hands, and only a small



proportion of households has a designated place for handwashing with soap. As noted above, the prevalence of diarrheal disease among refugee children was unacceptably high despite relatively high access to better sanitation facilities.

## Conclusions

Overall, we found similar patterns of coverage across refugee and host catchment areas in Arua and Yumbe districts. Maternal and child health conditions in refugee communities largely resembled those in the nearby host communities. The primary exceptions were food security and water and sanitation. In addition, the majority of indicator values did not reach current UNHCR Emergency standards for the refugee community, or otherwise were unacceptably low.

### **Refugee and host communities shared common weaknesses:**

- Exceptionally low coverage of maternal and neonatal postnatal care which is critical for detecting and managing complications after birth.
  - The risk of maternal and infant death is highest in the first month after birth; nearly half of postnatal maternal deaths and one third of neonatal deaths occur in the first day<sup>15</sup>.
  - Considerable progress is needed to improve coverage of this core intervention to prevent neonatal morbidity and mortality in refugee and host communities alike.
- Despite high coverage of four or more antenatal visits among refugee and host women in both districts, the majority of mothers started ANC late, after the first trimester. In addition, we detected low coverage of tetanus toxoid (TT) vaccination and intermittent preventive treatment (IPTp) for malaria prevention during pregnancy.
  - Both interventions should be routinely provided during ANC visits. Prevention of neonatal tetanus depends on the vaccination status of the mother.
  - Protection against malaria during pregnancy is highly recommended in malaria endemic areas such as West Nile; it also reduces the risk of maternal anaemia, obstetric complications, and stillbirth<sup>16</sup>.
  - Poor coverage of TT and IPT during pregnancy could indicate a lack of medicine at the health facilities providing ANC or their failure to follow ANC protocols. Late initiation of ANC is another possible factor for low coverage<sup>17 18</sup>.
  - These results suggest the need to review and strengthen ANC protocols in Arua and Yumbe to ensure mothers receive the essential interventions to prevent newborn infections and maternal complications.
- Greater attention is needed to boost coverage of health and nutrition interventions to reach the targets set by UNHCR for the integrated communities of West Nile. For example, routine childhood immunization is a basic, lifesaving intervention provided by humanitarian partners in crises affected areas. While high in refugee and host communities, immunization coverage in both districts is still below 80% and therefore well behind the UNHCR targets of 95%.
  - Response programs in West Nile require real time community monitoring of vaccination coverage levels to keep pace with the constant influx of refugees into the settlements.
- Weak interventions to prevent diarrheal disease in young children in refugee and host communities alike.

- Our data show poor capacity among mothers to understand or use ORS for treatment of diarrhoea. We also note poor hygiene knowledge and lack of household handwashing locations despite ongoing investment in WASH infrastructure as a major focus of many humanitarian partners.
- Insufficient efforts to prevent malaria in young children and pregnant mothers (as noted above) given the malaria endemicity in the region.
  - Prevalence of fever was high and bednet (LLIN) ownership and use were unacceptably low in refugee and host communities alike, despite their availability as a basic humanitarian supply provided to refugees in organized settlements.
  - Both indicators for LLIN were below the regional average and UNHCR standards. This could suggest a lack of coordination between UNHCR, district health teams and humanitarian health partners.

**Notable exceptions with high coverage levels in both refugee and host communities:**

Four interventions exceeded regional averages and were comparably high in both refugee and host communities.

- Skilled delivery (at health facility or with a skilled birth attendant)
- Exclusive breastfeeding until 6 months
- Coverage of four or more ANC visits (above the regional average yet below UNHCR target)
- Childhood immunization (above the regional average yet below the UNHCR target)

Skilled delivery and exclusive breastfeeding were the only behavioral outcomes in this study that met or surpassed UNHCR standards. Coverage of ANC4+ and childhood immunization still lagged well behind the UNHCR targets for refugee communities.

High coverage of exclusive breastfeeding is not unexpected given that reliance on breastfeeding is common in food-scarce environments and among crisis-affected communities where there are few alternatives<sup>19</sup>. Nevertheless, as noted above, initiation of breastfeeding within the first hour of birth was still inadequately low in both refugee and host communities.

While limited in scope, these particular results may reveal a degree of shared access among refugee and host populations to health promotion at community level and to primary health services at the health facility. This balance is in line with the goal of equitable service provision that is promoted through the Uganda CRRF.

**Important disparities between refugee and host communities:**

The main disparities between refugee and host communities were observed in relation to WASH and food security indicators which revealed differential access to water and sanitation infrastructure and food security in both districts.

- Refugee communities benefitted from significantly better access to improved latrines and safe water sources.
  - Access to clean water was the only WASH indicator that met or exceeded UNHCR targets. Though WASH programs carried out in refugee settlements are also intended to benefit the nearby host communities, these results have not yet materialized.

- In contrast, host communities had greater access to food supplies and dietary diversity than their refugee neighbours. Food scarcity, while common to both refugee and host communities, was particularly acute among the refugee communities in Arua and Yumbe. Our data revealed significant disparities in access to sufficient quantity and variety of food sources between refugee and host communities despite the distribution of regular food assistance (either in-kind or as cash transfers) to the refugee population.
  - The imbalance favouring host communities was unexpected given the response policy directing a 70/30 split in humanitarian funding for refugee and host communities, respectively, and the regular distribution of food aid that is intended to benefit refugees.
  - Poor dietary diversity among refugees compared to host respondents indicates a heavy reliance on food distribution and poor access to diverse foods or markets.
  - Lack of food security and limited dietary diversity increase the risk of childhood illnesses, anaemia and stunting which, in turn, lead to poor educational attainment and weak social and economic development in the long term <sup>14 20</sup>.
  - Future household surveys in West Nile should include anthropometric assessment of child nutritional status in the refugee settlements of West Nile. While anthropometric data are collected periodically by the World Food Program and UNICEF, the data may not be collected systematically and often are not available at a decentralized (zone) level within the refugee settlements <sup>21</sup>.

## Recommendations

The West Nile Refugee Response Program displayed uneven success in the provision of services as reported in a two-district household survey. While ANC attendance and safe delivery practices are high, services associated with it are low (TT2 vaccination, IPTp3). Postpartum care is not evident for either the infant or the mother. While large investments have been made into food aid both dietary diversity and variety are low. Similarly, while WASH infrastructure is prevalent, hygiene practices are poor.

The gaps and barriers to effective health care in refugee-hosting districts require identification and understanding that can lead to improvement. To this end we recommend:

1. Regular monitoring, evaluation and Information uptake is needed to support the ongoing implementation of the West Nile Refugee Response.

Decentralized monitoring and evaluation (M&E) can support better coordination and better accountability among humanitarian response partners operating in distinct areas of northern Uganda. It can help identify priorities that need addressing and support the organizations responsible for them. Response partners need accurate, timely and complete information in order to develop coordinated response strategies in a setting where incoming refugees have overwhelmed an already stretched system of social programs<sup>3</sup>. However, data on the health needs and social conditions of refugees are currently fragmented among the various sectors providing assistance in northern Uganda <sup>3 1</sup>. Coordinated M&E is needed to guide a unified response, among all partners, to improve programming in northern Uganda. Coordinated M&E is especially important given the unstable population numbers and intensified health needs of refugee and local host populations <sup>7</sup>.

2. Improve the coordination and management of health services so they may better respond to observed community needs:
  - Improved implementation of ANC protocols, in particular regarding routine provision of TT and IPT during ANC.
  - Renewed focus on promoting and providing Postnatal Care at facility and community levels in both refugee and host communities.
  - The high coverage of skilled delivery yet late initiation of breastfeeding points to the need to engage the midwife in influencing the timing of breastfeeding initiation immediately post-delivery. The increase in facility deliveries in Arua and Yumbe districts gives humanitarian partners the opportunity to promote the early initiation of breastfeeding by involving midwives as agents of change during post-partum care and counselling.
  - Strengthen the village health team network to provide improved education and follow-up at community level to reduce the risk and transmission of childhood illnesses. Specific targets we recommend are to increase the proportion of: children <5 years sleeping under a LLIN, mothers of children <5 years who prepare and use ORS correctly, and mothers of children <5 years who practice appropriate handwashing. In addition, promoting vaccination follow-up to maintain the observed high rates of immunization is also essential for preventing childhood disease.
  - For improved monitoring, coverage targets need to be developed for refugee program areas. In this study, we could only compare findings to West Nile regional averages due to lack of established coverage targets for refugee settlements.
3. Additional research in areas that are poorly understood:
  - Follow-up qualitative research to understand behaviours and preferences that are brought by refugees from their home settings and those that are newly adopted during displacement. Such research would benefit community education and behaviour change communication efforts by implementing organisations for family planning and PNC promotion. In particular, we lack an understanding of:
    - Reasons for high unmet need for modern contraception
    - Reasons for extremely low maternal and neonatal PNC despite high ANC coverage and tendency among mothers to prefer skilled birth attendance
  - Assessments of quality of care, and perceptions of quality of care, in health facilities in the refugee hosting districts of West Nile.
  - Systematic anthropometric and anaemia prevalence studies are strongly recommended in West Nile, in particular in refugee communities, to assess levels of stunting, wasting and undernutrition in children under 5 years. And anaemia prevalence studies among women of reproductive age.
  - Our findings indicate a need for closer inspection of food security and nutritional status of children under 5 years in West Nile refugee settlements. An in-depth assessment of barriers leading to low dietary variety resulting in pragmatic modification of food aid programs that can lead to improve childhood diets and nutrition.

This project, *Assessing refugee health in camps and settlements in Northern Uganda: diffusion of Lot Quality Assurance Sampling from humanitarian settings in South Sudan*, is funded and supported by Elrha's Humanitarian Innovation Fund (HIF), a grant making facility which improves outcomes for people affected by humanitarian crises by identifying, nurturing and sharing more effective, innovative and scalable solutions.

Elrha's HIF is funded by aid from the UK Department for International Development (DFID).

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