Medical Checks for Children

Medical Report
Uganda Oyam 2025

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25 October 2025

Introduction

From 7 to 12 July 2025 Medical Checks for Children (MCC) performed a medical camp in the Oyam District for the fourth time. The MCC team checked and treated free of cost 939 children in 6 days.

The medical checks were organized in close cooperation with Link to Progress (LTP). LTP is a non-governmental organization which aims to serve vulnerable communities in Northern and Eastern Uganda through provision of safe water, sanitation, and hygiene as well as other community developmental services, such as education, school lunches and environmental protection.

The cooperation of LTP existed out of the following (amongst others):

- Announcement of the medical camp in the different villages.
- All contacts with districts/governmental officers, the Health Center (HC), the Mission hospital and other hospitals if needed.
- Selection of translators/local helpers.
- Ordering medication listed by MCC.
- Arrangements for food, drinks and lodging of the MCC team.
- Transportation of the MCC team from lodge to the villages.
- Follow-up on the referred children: arranging hospital visits.

The MCC team consisted of ten members from The Netherlands: Iris Jansen (medical-end-responsible and mission leader, general practitioner), Iris van de Gevel (organization-end-responsible, toxicologist), Annemarie Sliedrecht (huisarts), Amy Gunning (surgeon), Jasmijn Hubers (Musculoskeletal physician), Marieke Merelle (pediatrician), Hedwig Gosselink (educational advisor), Sjoerd Mesker (Marketing / Strategy consultant), Wietske Boer (general practitioner) and Yvette van Bekkum (Consultant Pharmaceutical R&D).

The medical checks were performed in collaboration with the two health centres in the region, Loro and Agulurude, both being very an important partner in referring children to hospitals in the area and follow-up for some of the children referred to the Health Centre. Technical equipment, medical supplies and toothbrushes were brought from the Netherlands by MCC team members. Medication was ordered by LTP in Lira.
The majority of the children in need for further treatment, were referred to the Mission hospital (acute referrals, surgical referrals and cardiologist); others were referred to Lira referral hospital (sickle cell diagnosis and enrolment in sickle cell program), Mbale hospital (hydrocephalus cases), and to LTP for the disabled children project and social referrals. A few were referred to the Mulago Hospital in Kampala (severe heart disease, Klippel-Feil syndrome).

The aim of the mission is to make an inventory of the health situation of the children in Oyam District, treat the children if necessary and to advise LTP on the future steps to take. In addition, we also focussed on the malaria situation (vaccination, education, amount of bed nets, knowledge about the disease etc.), to learn more and to see if further actions or advise is required. Furthermore, another aim from the last missions is to identity children who are in need of further support through the disabled children project or children or families who need social support.

An additional addition this year was the presence of the Marie Stopes Foundation, providing counselling and treatment for family planning.

Medical Checks for Children on location:

During the free of costs medical checks, the children were checked following the MCC carrousel:

1. Registration of the child. All children received a registration form.
2. Education on malaria, hygiene, nutritious food and tooth brushing (a toothbrush and a piece of soap were given to each child).
3. Measuring height and weight.
4. Blood test (haemoglobin) and malaria test (and urine test when indicated).
5. Physical examination by a medical doctor.
6. Giving medication (pharmacy).
7. Enter children's files in data base.

Based on the experience of last year, and in order to have an overall indication of the malaria prevalence in this area, the malaria test was added as a standard test for all children. Blood was only taken from the children once, and it was possible to test for haemoglobin and malaria at the same time. Malaria testing was done with a rapid antigen test for *Plasmodium falciparum*. This time, the CRF form also allowed for the indication of whether children had received the malaria vaccination or not, as the government began administering this vaccination in the Oyam district last April.

Special attention was given to the transfer of knowledge on hygiene, nutritious food and dental care to the children and parents by use of the information provided by Aisha and Friends (www.aishaandfriends.com).

Results Medical Camp in Oyam District

During the fourth medical camp in Oyam district MCC saw in total 939 children in 3 locations, Agulurude, Loro HC and Amido. Most important findings are described below, and detailed tables of the findings are given in Annex A.

Table 1: Number of checked children per day and geographical location

	07-07-25	08-07-25	09-07-25	10-07-25	11-07-25	12-07-25	Total
Agulurude	193	183	1	0	0	0	377
Loro HC	0	0	167	156	0	0	323
Amido	0	0	0	0	133	106	239
Total	**193**	**183**	**168**	**156**	**133**	**106**	**939**

Children and caretakers of multiple villages around the check locations visited the medical camp, which were grouped into the 3 locations we visited.
Due to the high number of children at the registration, we could not examine all presented children every day. In addition, due to the high number of children with disability or specific pathology, we had to lower the number of children to be seen each day.

Table 2: Summary of checked children per geographical location, age and gender

	Total		Agulurude		Loro HC		Amido	
	939		Total=377		Total=323		Total=239	
Age	**N**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
<=1 year	240	26%	92	24%	88	27%	60	25%
>1 and <5 years	280	30%	119	32%	89	28%	72	30%
<5 years	517	55%	209	55%	176	54%	132	55%
>=5 and <=10 years	394	42%	166	44%	128	40%	100	42%
>10 years	28	3%	2	1%	19	6%	7	3%
Gender								
Boy	446	47%	183	49%	153	47%	110	46%
Girl	488	52%	193	51%	168	52%	127	53%

In the announcement of the medical camp, children of age below 9 years were invited to come with their caretakers. Of the 939 children, 55% was below the age of 5 years and 42% of the children was between 5 and 10 years of age. Children below 5 years of age are considered to benefit most from a medical camp, so we were happy to see these young children and their parents visit the MCC medical camp.

Special attention was paid to the presence of caretakers during the medical camp, at the announcement of the medical camp and at registration. All children (100%) brought a caretaker (parent, grandmother/father, sister/brother). We are very pleased with this high attendance of caretakers, as an important part of the medical camp is the transfer and exchange of medical and healthcare information, from the parents to the doctors and vice versa. We learned from previous medical camps that the presence of caretakers will make the medical camp more sustainable.

The following findings can be highlighted (see table 3):

- High prevalence of anaemia (36% for the total group and 38% for children <5 years), compared to 51.7% in Uganda (< 5 years) and 15.5% in the Netherlands (< 5 years) (WHO, 2019), and 38% in 2024.
- High prevalence of stunting (22% in total and 29% for < 5 years), compared to 28% in Uganda (for < 5 years), and 1.6% in the Netherlands (WHO, 2020). Stunting (height for age)

is an indicator of chronic malnutrition. Prevalence was higher than the findings of 2024 and 2023 (both 14%).

- High prevalence of wasting (5% in total and 7% for < 5 years), compared to 3,5% in Uganda (for < 5 years) and < 0.3% in the Netherlands (< 5 years) (WHO 2020). Wasting (weight for height) is an indicator of acute malnutrition. Equivalent findings were noted in 2023.
- High prevalence of malaria (total 56%, all confirmed). A lot of children suffered from malaria and complications of malaria. Active malaria could be treated on the spot, however, several children in severe condition were referred to the hospital immediately. The prevalence is equivalent to the test positivity rate in Oyam district (61%)[1].
- High prevalence of acute worm infection (38%) and few children having access to a deworming program (19% of children were given a deworming tablet in the past 6 months, which is lower compared to last year, when 31% of the children received preventive deworming treatment). This year's prevalence of acute worm infection is significantly higher than the prevalence in 2024 (27%).
- Other frequent diagnoses: pneumonia (19), asthma (19), cariës (235), cariës with pain (54) and various skin diseases (tinea capitis (95), eczema (33), dermatomycosis (61), scabies (53), infected wounds (19)), epilepsy/convulsions (10), eye problems (28), and a lot of children with skeletal muscular disorders (26).
- Several children with potential heart problems were identified, 4 children with a suspected pathological murmur, which were send to the cardiologist for further diagnosis and treatment.
- A total of 16 children were suspected of having sickle cell disease and were send to hospital for diagnosis and treatment if needed. In addition, ~~18~~ 19 children with known sickle cell disease will be sent to hospital as well, to be enrolled in the Governmental sickle cell program.
- Many mothers with children with disabilities came to the medical camp. In total 46 children with their parent(s) were identified to benefit from further follow-up. Together with the children identified in 2022, 2023 and 2024, there is a large group of children and parents who will benefit from activities of LTPs in this area.
- In addition, 41 children were identified with social problems: neglected children, children raised by grandparents in very poor conditions, orphans, no money to go to school or malnutrition.

[1] Weekly Malaria report, week 30, July 2025. Ministry of Health Uganda.

Most frequent treatment given to the children was deworming (56%, both for preventive and curative), iron (15% of the children and 3% of the mothers), multivitamin (27%), malaria treatment (56%), antibiotics (5%), various cremes for skin diseases (20%).
In Agulurude, the prevalence of malnutrition was significantly lower than in Loro HC and Amido. However, the prevalence malaria was highest in Agulurude compared to the 2 other locations. Prevalence of anemia was equivalent in all 3 locations. In Amido the highest prevalence of active worm infections was noted, 45%, compared to 36% and 27% in Agulurude and Loro HC, respectively.

Table 3: Most frequent or severe disease prevalence among all children per geographical location

	Total		**Agulurude**		**Loro HC**		**Amido**	
	939		**Total= 377**		**Total= 323**		**Total= 239**	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Underweight	105	11%	22	6%	52	16%	31	13%
Stunting	204	22%	58	15%	86	27%	60	25%
Wasting	45	5%	10	3%	26	8%	9	4%
Anaemia	339	36%	130	34%	120	37%	89	37%
HIV pos.	1	0%	1	0%	0	0%	0	0%
AIDS	2	0%	0	0%	2	1%	0	0%
Malaria (confirmed)	526	56%	226	60%	174	54%	126	53%
syndrome n.o.s.	15	2%	0	0%	8	2%	7	3%
pneumonia (clinical)	17	2%	8	2%	3	1%	6	3%
pneumonia (X-ray confirmed)	2	0%	1	0%	1	0%	0	0%
tuberculosis (clinical/X-ray confirmed)	2	0%	0	0%	1	0%	1	0%
BHR/asthma	19	2%	5	1%	7	2%	7	3%
Respir. Other	7	1%	5	1%	2	1%	0	0%
gardia (suspected)	5	1%	2	1%	0	0%	3	1%
dysenteria	10	1%	3	1%	5	2%	2	1%
diarrhoea without dehydration	5	1%	3	1%	2	1%	0	0%
constipation	7	1%	2	1%	2	1%	3	1%
active worm infection	361	38%	135	36%	119	37%	107	45%
GI other	7	1%	4	1%	2	1%	1	0%
otitis media acuta	10	1%	5	1%	3	1%	2	1%
otitis media with effusion	12	1%	5	1%	4	1%	3	1%
otitis externa	8	1%	7	2%	1	0%	0	0%
candida stomatitis	8	1%	2	1%	3	1%	3	1%
cariës n.o.s.	235	25%	95	25%	84	26%	56	23%
caries with pain	54	6%	29	8%	15	5%	10	4%
wounds n.o.s.	6	1%	1	0%	2	1%	3	1%
eczema n.o.s.	33	4%	19	5%	5	2%	9	4%
dermatomycosis	61	6%	22	6%	17	5%	22	9%
Impetigo/furunculosis	14	1%	6	2%	4	1%	4	2%
scabies	53	6%	19	5%	16	5%	18	8%
Tinea Capitis	95	10%	31	8%	31	10%	33	14%
wounds infected,	19	2%	9	2%	9	3%	1	0%
Skin other (psoriasis etc)	47	5%	24	6%	15	5%	8	3%
psychomotoric retardation	10	1%	0	0%	9	3%	1	0%
hypotonia	4	0%	1	0%	2	1%	1	0%
epilepsy / convulsions	10	1%	3	1%	6	2%	1	0%
Neuromusc other	10	1%	1	0%	7	2%	2	1%
physiological murmer	13	1%	5	1%	2	1%	6	3%
pathological murmur (suspected)	4	0%	1	0%	3	1%	0	0%
Cardio other	2	0%	0	0%	0	0%	2	1%
refractory problem	3	0%	0	0%	2	1%	1	0%
strabismus	2	0%	1	0%	0	0%	1	0%
keratoconjunctivitis	14	1%	10	3%	4	1%	0	0%
eye other	9	1%	1	0%	7	2%	1	0%
Sickle Cell	15	2%	1	0%	6	2%	8	3%

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 323		Total= 239	
	N	%	n	%	n	%	n	%
Obesitas	5	1%	1	0%	0	0%	4	2%
cryptorchism	2	0%	1	0%	0	0%	1	0%
inguinal hernia	3	0%	3	1%	0	0%	0	0%
urinary infection	2	0%	0	0%	0	0%	2	1%
urogen other	12	1%	5	1%	3	1%	4	2%
old fracture	2	0%	0	0%	0	0%	2	1%
skeletal other	26	3%	8	2%	10	3%	8	3%
hernia(umbilical etc)	6	1%	3	1%	3	1%	0	0%

Further explanation of some of the results

Anaemia

38% of the checked children was suffering from anaemia, and 6% (55 children) had severe anaemia (Hb < 5 mmol/L).

In the villages in Oyam, the high prevalence of anaemia might be due several factors, such as the high incidence of malaria (56%), the high incidence of acute worm infection (38%) (and low coverage by a deworming program), and the lack of important vitamins and minerals from fruit and vegetables in the diet. The prevalence of sickle cell disease could also be a contributing factor.

Anaemia is a condition in which the number of red blood cells or the haemoglobin concentration within them is lower than normal. Haemoglobin is needed to carry oxygen and if you have too few or abnormal red blood cells, or not enough haemoglobin, there will be a decreased capacity of the blood to carry oxygen to the body's tissues. This results in symptoms such as fatigue, weakness, dizziness and shortness of breath, among others. The most common causes of anaemia include nutritional deficiencies, particularly iron deficiency, but also deficiencies in folate, vitamins B12 and A are also important causes. Furthermore, infectious diseases as malaria, tuberculosis, HIV and parasitic infections are common causes.

School performance of children (and work productivity in adults) might be affected due to anaemia, which can have a future impact on social and economic development of the individual and family.

To reduce anaemia in the population, a multifactorial approach is necessary. This includes improving the nutritional status (more nutritious food), reducing the number of malaria infections, detect and treat children with sickle cell disease, and also encouraging deworming programs. Deworming in particular, see paragraph below, is the easiest and cheapest intervention that should be tackled first.

Deworming

Of all children seen during the medical camp, only 19% received deworming treatment in the last 6 months. In addition, an acute worm infection was seen in 38% of the children. The preventive treatment with albendazole or mebendazole was significantly less than last year (31% of the children in 2024), and the prevalence of acute worm infections increased compared to 2024 (27%).

The presence of intestinal parasites in a population is indicative of lack of proper sanitation, low economic standards and poor educational background. The parasite consumes the nutrients from the children they infect and worsens malnutrition and retards the physical development. There is a strong relationship between a parasitic worm infection and anaemia. The parasitic infection can also cause abdominal pain, diarrhea, intestinal obstruction and various other health problems. Prolonged infection affects growth, development and educational achievements.

During the medical camp MCC provided deworming treatment to all children above 2 years of age, and who did not receive deworming treatment in the last 6 month. In total deworming treatment was provided to 622 children, of these children 361 suffered from an acute worm infection. Furthermore, during the medical camp special attention was given to provide education on hand hygiene to prevent worm infections using the information developed in cooperation with Aisha & Friends.

LTP might consider taking further action to increase the general deworming status of the children in this area. All children above 2 years of age should be treated every 6 months. Several actions can be considered, such as connecting with health authorities to emphasize the needs to provide deworming treatment in this area every 6 months. If government is not providing deworming treatment, a project might be started to provide deworming treatment at the LTP schools, together with sharing information on hygiene and sanitation.

Malaria

During the medical camp, all children were tested for malaria to have further information on the malaria prevalence in this area. A high prevalence of malaria was seen during the medical camp (56%, compared to 50% in 2024). Most of the children were diagnosed with malaria based on a malaria test for plasmodium falciparum, and all children (with suspected and confirmed malaria) were treated.

According to WHO[2], although the numbers in malaria cases globally are decreasing, Uganda has still a high number of malaria case. Based on data from the Ministry of Health, Uganda, in the Lira area (close to Oyam) a 61.2% test positivity rate is recorded (based on data of week 30, 2025[3]). UNICEF[4] reports for 2017-2018, also a total of 12 million cases, with a prevalence of 45% for children under 5, and a total of estimated malaria deaths of 13200, with a prevalence of 63% for children under 5. An increase in malaria cases and deaths is reported due to malaria service disruptions (e.g. distribution of mosquito net campaigns, limited availability of drugs and tests).

During this medical camp we saw 5 children with malaria in very bad condition, and they were sent to hospital immediately.

In Uganda, in April 2025 a malaria vaccination program is started for children aged 18 months. During the medical camp, it was recorded that 111 children already received vaccination (all

[2] https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2022 (page 213)
[3] Weekly Malaria report, week 30, July 2025. Ministry of Health Uganda.
[4] Unicef, WMD Covid 2020_DataSnapshot_UGA. Uganda Malaria: Status update on children – data snapshot, 2020.

children below 2 years of age). Let's hope the malaria vaccination will continue over the coming year, to decrease the severe malaria cases in future.

Irrespective of the presence of a vaccination program, malaria can be prevented by avoiding mosquito bites:

- Use mosquito nets when sleeping.
- Use mosquito repellents (containing DEET, IR3535 or Icaridin) after dusk.
- Use coils and vaporizers.
- Wear long sleeves and long trousers/skirts.
- Use window screens.

Although there are governmental programs in place, there is limited knowledge on alarm symptoms and when to go to a local health centre for treatment. In addition, we learned that in a lot of cases treatment is not available at the health centre, or people receive only part of the necessary tablets. Early diagnosis and treatment of malaria reduces the severity of the disease and prevents deaths.

During the medical camp education was given with regard to preventing mosquito bites and the importance of early diagnosis and treatment.

Sickle cell

During the medical camp 16 children were identified with or suspected of sickle cell disease. These children will be brought to the hospital in Lira for further diagnosis. If diagnosed with sickle cell disease, these children can be enrolled in the governmental Sickle cell program for further follow-up and treatment for free.

In addition, 19 children, known to have sickle cell disease, will also be brought to the hospital in Lira, to get them enrolled in the governmental free sickle cell disease program. Although it is expensive for families to go to Lira for further treatment, it is less expensive than buying medication themselves, or costs involved in hospital care due to a sickle cell crisis.

Sickle cell anaemia (also known as sickle cell disorder or sickle cell disease) is a common genetic condition leading to disorders that affect haemoglobin, the major protein that carries oxygen in the red blood cells. A child who is homozygote - who inherits two of the same mutated ('sickle cell') genes, one from each parent - will be born with the disease. If the child only inherits one mutated gene of one of it's parents, the child will be called a 'carrier'. In Uganda, 13% of the children are carrier of the sickle cell gene, which is approximately 20% in Oyam[5]. The overall number of children with sickle cell disease in Uganda is 0.7%, and approximately 1.5% in Oyam. Sickle cell disease is a chronic disease, patients can be supported with pain medication, high fluid intake, antibiotics and folic acid supplementation. Seeing the higher risk of severe malaria in homozygote children, it's also very important to prevent malaria or at least detect and treat malaria in a very early stage.

Malnutrition

Of the children seen in the medical camp 11% showed underweight (7% in 2024), 22% stunting (14% in 2024) and 5% wasting (4% in 2024). Especially the prevalence of stunting and wasting is high. In addition, we saw several severely malnourished children; one of them was referred immediately, another one was referred for the 'refeeding program' in the Mission Hospital. Observations are in line with general data for children in Uganda, the WHO reports between 2016 and 2022, stunting decreased from 29 to 26%, wasting decreased from 4% to 2.9% for children (age not given)[6].

Within MCC, growth abnormalities were assessed by measuring and weighing all children in a standardized fashion, using the following criteria:

- Underweight = weight for age at or under the third percentile of the reference population (WHO growth curves), only children up to 10 years old. This is an indicator of malnutrition or weight loss because of disease.
- Wasting = weight for height at or under the third percentile of the reference population (WHO growth curves), only children up to 120 cm in height. This is an indicator of acute malnutrition.
- Stunting = height for age at or under the third percentile of the reference population, (WHO growth curves), only children up to 19 years of age. This is an indicator of chronic malnutrition.

Malnutrition has been related to poor cognitive and school performance. The main factors contributing to malnutrition are rural poverty, lack of sanitation, poor living conditions and a lack of intake of energy, proteins, iron and multivitamins.

Dental problems

We identified a lot of dental problems for the children in Oyam, 25% children with caries and 6% children with caries with pain. As we did not have a dentist in the team we consider this an underestimation of the prevalence of dental problems. Professional dental care is limited in this area and is aimed at treating pain. This underlies the need for good dental programs to educate children and parents on the importance of dental care.

During the medical camp we provided education on dental care, and all children were given a toothbrush.

[5] https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(15)00288-0/fulltext#:~:text=Overall%2C%20the%20prevalence%20of%20sickle,sickle%20cell%20disease%20in%20Uganda.

[6] https://www.afro.who.int/countries/uganda/news/ugandas-efforts-save-life-children-malnutrition

Referrals to hospital and special needs children

During the medical camp 12 children were immediately brought to the hospital,with severe malaria and/or sickle cell crisis, wounds or severe malnutrition.

24 children were referred to the Mission hospital for further diagnosis and care, for cardiologist, urologist, orthopedic surgeon, etc. (see table 4 below). In addition, 1 child with hydrocephalus was referred to a specialized hospital in Mbale for diagnosis and treatment.

16 Children were referred to Lira hospital for sickle cell diagnosis and 19 children with confirmed sickle cell disease for enrolment in the Governmental Sickle cell program.

All the children referred to hospital (Mission hospital, Lira Referral hospital and other facilities) were given follow-up by LTP. Costs are covered by MCC, sponsors through Annemarie Sliedrecht and the FEMI foundation. LTP has done a tremendous amount of work to make appointments at the hospitals, connecting with parents, making transport arrangements, and reporting back to MCC.

For the 46 disabled children, further follow-up is considered necessary, as there is lack of care for this specific group of children, and in addition support and training of the parents. During the medical camps 2024 28 children were identified with disability, in 2023 26 and in 2022 15 children were identified. MCC endorses the importance of a program for disabled children and their families in this region, and MCC hopes that LTP can further build this program with financial and knowledge support from third parties.

We believe that a lot can be done to improve the lives of these children and to support the parents. We are very happy to learn that LTP started, with the support of sponsors, a project to structure care and support for these children in Oyam district. MCC shared the lists of names and contact details of the caretakers to facilitate this project. Some of the parents with disabled children are included in the 100weeks program run by LTP. Several parents with disabled children in a village or group of villages, will be trained and financially support to set up a business.

In total 41 children were identified for the social program. These are children who might benefit from a home visit by LTP, to further understand the family situation and to make follow-up plans if possible or required. This relates to for instance, orphans raised by their grandparents, children for which there is no money to go school, neglect or malnutrition.

Table 4: Overview of referrals

Type of referral	**Total**	
	939	
	N	**%**
Immediate referrals	12	1.3
Cardiologist	5	0.5
Urologist/surgeon	5	0.5
Ultrasound diagnostics	2	0.2
Surgeon	4	0.4
Orthopedic surgeon	6	0.6
Eye doctor	1	0.1
Refeeding program	1	0.1
Mbale for hydocephalus	1	0.1
Sickle cell diagnostics	16	1.7
Enrollment in sickle cell program	19	2.0
Disability program	46	4.9
Social program	41	4.4
Total	**159**	**16.9**

Conclusions and recommendations

Based on the large crowds during the medical camp and the observations made, it seems that there is certainly a need for accessible and high-quality healthcare for children in Oyam district. A lot of children directly benefit from the medical camp, either by treatment or by referral to a hospital. Besides the support to these children, we can also make some recommendations can for the future.

1. Deworming

Also this year we saw a lot of children with an acute worm infection, in total 361 children (38%). At the same time we recorded a low percentage of children receiving the 6 months preventive deworming treatment (19%).

Considering the high incidence of acute worm infections, and in addition the high incidences in anaemia and malnutrition, a good intervention might be to work on further enrolment of a deworming program, as 56% of the children did not receive the half-year preventive deworming treatment.

In Uganda, deworming programs are in place, however, not all children are reached. It should be investigated what the reasons are for not receiving deworming treatment, and to consider connecting with governmental deworming programs, or otherwise implement a low-cost deworming program.

We would like to ask LTP to investigate in specific areas, e.g. in the schools with an LTP connection, to set up a deworming program[7], investigate what is done by the government (for which groups is deworming planned, and when and where is this executed), and to make plans to increase awareness, or to enrol 6-months deworming program, with the overall aim to increase the total number of treated children of an age above 2 years.

2. Malaria

A high prevalence of malaria was seen during the medical camp (56%). During the medical camp we can focus on diagnosis and treatment of malaria, however, the best improvement for the health of these children can be made in prevention. For coming years, we will have to investigate together with LTP what the best methods in malaria prevention are in this area. Education, distribution of mosquito nets, indoor residual spraying, etc[8]. In addition, LTP might consider discussing this topic with the district health authorities in order learn and discuss how the best measures in malaria prevention can be taken in close collaboration with the health authorities. We were happy to learn that the malaria vaccination is included in the Uganda vaccination program, and that already a lot of children received it. However, it will take a decade before we can see the real benefit in figures for the people in Oyqm district. Thererore, irrespective of the vaccination program, prevention education will remain an important topic for the coming years.

Apart from prevention, it is very important for caretakers to be informed about the (alarm)symptoms of malaria and when to contact a doctor, to prevent severe malaria. MCC and LTP are trying to create awareness concerning this during the camps.

3. Nutrition and Hygiene

LTP has currently programs running related to WASH and nutrition (with the Green Food Foundation (GFF). MCC emphasises the importance of these programs, to improve the health condition of the children in Oyam, especially related to certain diseases like worm infections, stunting, wasting, anaemia and skin infections. The prevalence of caries and skin diseases can be prevented by providing information about dental care and hygiene (clean blades when

[7] https://www.globalpartnership.org/sites/default/files/2018-07-gpe-guidelines-for-school-based-deworming-programs.pdf

[8] Bhatt et al. (2015) – The effect of malaria control on Plasmodium falciparum in Africa between 2000 and 2015. Nature 526, 207–211 (08 October 2015) doi:10.1038/nature15535

shaving the heads of the children amongst others). These topics will be addressed in future medical camps.

The high prevalence of stunting, wasting and anaemia is considered largely due to the limited availability (qualitative and quantitative) of nutritious food. LTP provides school lunches in several schools. During the medical camp we gave nutritional advice to all children and caretakers, with emphasis on eating a colourful plate, emphasizing the importance of eating from the 5 different food groups: vegetables, fruits, grains, dairy and meat. MCC recognizes the importance of LTP working together with GFF, to bring more knowledge on nutritious food and improve the school lunch given, in schools in Oyam. Learning at school on nutritious food and providing a school lunch containing vegetables and fruits, is endorsed by MCC.

Next medical camp

MCC concludes that there is a need to continue with the medical camps in Oyam district. We would like to continue with the focus on the 3 locations, where also the recommendations such as deworming, dental programs at school, school lunch improvement, and education on nutritious food, hygiene and malaria can be implemented.

During the year, we have discussed with LTP what they want to achieve in the future with the medical camps that we are currently conducting together In Oyam district. It is indicated by LTP that they would like to continue these medical camps independently in the region in the future. In the coming period we will have to discuss together which steps they need to take and what support LTP needs from MCC to realize this goal.

Words of appreciation

During the medical camp in Oyam (but also in Otuke), we identified a lot of children which need further care. Either through referral for further diagnosis or treatment in the hospital, by enrolment in the Sickle cell disease program or for further consultation within the disability program (in cooperation with Katalemwa and 100weeks). The total number of children, as well as the specific care they need, the struggles the parents face, deeply impressed the MCC team. We have great appreciation for the whole LTP team, for organizign the medical camp, always involved in difficult conversations with the parents, and working to get the children referred to the right hospital or to take next steps towards the 100weeks program or to arrange wheelchairs. We realize this is not an easy task.

We are very grateful for all work performed by Juliet, Isabbella, Lazarus, Morice and Lillian of LTP, Dr. Richard of the Agulurude Health Centre, Dr. Francis of the Loro Health Center, Nancy, Fred, Caroline (District Health Officer), Betty, the group of translators and helpers during the medical camp in Oyam district. We could not have performed our work without their presence and hard work. We are also very grateful for all the effort made by LTP to support the children which were referred to hospital.

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Annex A- Detailed results

Table A-1: Prevalence of weight/age at or under P3 (underweight) per geographical location by age and gender

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 323		Total= 239	
	N	%	n	%	n	%	n	%
Underweight	105	11%	22	6%	52	16%	31	13%
No underweight	804	86%	354	94%	250	77%	200	84%
Unknown	29	3%	1	0%	21	7%	7	3%
Underweight children per age								
<=1 year	42	18%	8	9%	18	21%	16	27%
>1 and <5 years	31	11%	6	5%	19	21%	6	8%
<5 years	71	14%	13	6%	36	21%	22	17%
>=5 and <=10 years	33	8%	8	5%	16	13%	9	9%
>10 years	1	100%	1	100%	0	0%	0	0%
Underweight children per gender								
Boy	51	49%	12	55%	29	56%	10	32%
Girl	53	50%	10	45%	22	42%	21	68%

Table A-2: Prevalence of length/age at or under P3 (stunting) per geographical location by age and gender

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 939		Total= 377	
	N	%	n	%	n	%	n	%
Stunting	204	22%	58	15%	86	27%	60	25%
No stunting	723	77%	316	84%	231	72%	176	74%
Unknown	11	1%	3	1%	6	2%	2	1%
Stunting children per age								
<=1 year	86	36%	27	29%	30	34%	29	48%
>1 and <5 years	68	24%	23	19%	27	31%	18	25%
<5 years	151	29%	48	23%	56	32%	47	36%
>=5 and <=10 years	43	11%	9	5%	22	18%	12	12%
>10 years	9	36%	1	50%	8	47%	0	0%
Stunting children per gender								
Boy	102	50%	35	60%	42	49%	25	42%
Girl	101	50%	23	40%	43	50%	35	58%

Table A-3: Prevalence of weight/length at or under P3 (wasting) per geographical location by age and gender

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 939		Total= 377	
	N	%	n	%	n	%	n	%
Wasting	45	5%	10	3%	26	8%	9	4%
No wasting	667	71%	277	73%	212	66%	178	74%
Unknown	226	24%	90	24%	85	26%	51	21%
Wasting children per age								
<=1 year	22	9%	4	4%	13	15%	5	8%
>1 and <5 years	14	5%	3	3%	10	11%	1	1%
<5 years	36	7%	7	3%	23	13%	6	5%
>=5 and <=10 years	8	4%	2	3%	3	5%	3	5%
>10 years	1	20%	1	100%	0	0%	0	0%
Wasting children per gender								
Boy	23	51%	5	50%	15	58%	3	33%
Girl	22	49%	5	50%	11	42%	6	67%

Table A-4: Prevalence of anemia per geographical location by age and gender

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 939		Total= 377	
	N	%	n	%	n	%	n	%
Anemia	339	36%	130	34%	120	37%	89	37%
No anemia	599	64%	247	66%	203	63%	149	62%
Unknown	0	0%	0	0%	0	0%	0	0%
Hb <5,0 mmol	55	6%	19	5%	20	6%	16	7%
Anemia per age								
<=1 year	100	42%	42	46%	33	38%	25	42%
>1 and <5 years	95	34%	37	31%	32	36%	26	36%
<5 years	194	38%	78	37%	65	37%	51	39%
>=5 and <=10 years	130	33%	50	30%	47	37%	33	33%
>10 years	15	54%	2	100%	8	42%	5	71%
Anemia per gender								
Boy	160	47%	63	48%	58	48%	39	44%
Girl	178	53%	67	52%	61	51%	50	56%

Table A-5: Prevalence of malaria per geographical location by age and gender

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 939		Total= 377	
	N	%	n	%	n	%	n	%
Malaria	526	56%	224	59%	175	54%	127	53%
No malaria	409	44%	152	40%	148	46%	109	46%
Unknown	1	0%	1	0%	0	0%	0	0%
Malaria per age								
<=1 year	110	46%	41	45%	43	49%	26	43%
>1 and <5 years	161	58%	69	58%	49	55%	43	60%
<5 years	270	52%	109	52%	92	52%	69	52%
>=5 and <=10 years	238	60%	113	68%	70	55%	55	55%
>10 years	18	64%	2	100%	13	68%	3	43%
Malaria per gender								
Boy	262	50%	108	48%	88	50%	66	52%
Girl	261	50%	115	51%	85	49%	61	48%

Table A-6: Prevalence preventive anti-worm treatment in the last half-year per geographical location by age and gender

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 939		Total= 377	
	N	%	n	%	n	%	n	%
Anti-worm	175	19%	52	14%	41	13%	82	34%
No anti-worm	525	56%	234	62%	194	60%	97	41%
Below 2 years	239	25%	91	24%	88	27%	60	25%
Anti-worm per age								
>1 and <5 years	82	29%	27	23%	18	20%	37	51%
<5 years	161	31%	46	22%	41	23%	74	56%
>=5 and <=10 years	84	21%	26	16%	18	14%	40	40%
>1 and <5 years	10	36%	0	0%	5	26%	5	71%
>10 years	82	29%	27	23%	18	20%	37	51%

Table A-7: Children checked last year?

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 939		Total= 377	
	N	%	n	%	n	%	n	%
No	728	78%	269	71%	275	85%	184	77%
Yes	209	22%	107	28%	48	15%	54	23%

Table A-8: Disease prevalence among all children per geographical location

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 323		Total= 239	
	N	%	n	%	n	%	n	%
Underweight	105	11%	22	6%	52	16%	31	13%
Stunting	204	22%	58	15%	86	27%	60	25%
Wasting	45	5%	10	3%	26	8%	9	4%
Anaemia	339	36%	130	34%	120	37%	89	37%
HIV pos.	1	0%	1	0%	0	0%	0	0%
AIDS	2	0%	0	0%	2	1%	0	0%
Malaria (confirmed)	526	56%	226	60%	174	54%	126	53%
syndrome n.o.s.	15	2%	0	0%	8	2%	7	3%
pneumonia (clinical)	17	2%	8	2%	3	1%	6	3%
pneumonia (X-ray confirmed)	1	0%	1	0%	0	0%	0	0%
tuberculosis (clinical)	1	0%	0	0%	1	0%	0	0%
tuberculosis (X-ray confirmed)	1	0%	0	0%	0	0%	1	0%
bronchitis	1	0%	0	0%	0	0%	1	0%
BHR/asthma	19	2%	5	1%	7	2%	7	3%
Respir. Other	7	1%	5	1%	2	1%	0	0%
gardia (suspected)	5	1%	2	1%	0	0%	3	1%
dysenteria	10	1%	3	1%	5	2%	2	1%
dehydration : acute diarrhoea	1	0%	0	0%	1	0%	0	0%
diarrhoea without dehydration	5	1%	3	1%	2	1%	0	0%
constipation	7	1%	2	1%	2	1%	3	1%
active worm infection	361	38%	135	36%	119	37%	107	45%
active lintworm	2	0%	1	0%	1	0%	0	0%
GI other	7	1%	4	1%	2	1%	1	0%
otitis media acuta	10	1%	5	1%	3	1%	2	1%
otitis media with effusion	12	1%	5	1%	4	1%	3	1%
otitis externa	8	1%	7	2%	1	0%	0	0%
(adeno)tonsillitis	3	0%	1	0%	0	0%	2	1%
candida stomatitis	8	1%	2	1%	3	1%	3	1%
hearing impairment	3	0%	1	0%	1	0%	1	0%
other	3	0%	2	1%	1	0%	0	0%
cariës n.o.s.	235	25%	95	25%	84	26%	56	23%
pain n.o.s	2	0%	1	0%	1	0%	0	0%

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 323		Total= 239	
	N	%	n	%	n	%	n	%
fluorosis	3	0%	0	0%	1	0%	2	1%
caries with pain	54	6%	29	8%	15	5%	10	4%
wounds n.o.s.	6	1%	1	0%	2	1%	3	1%
eczema n.o.s.	33	4%	19	5%	5	2%	9	4%
dermatomycosis	61	6%	22	6%	17	5%	22	9%
Impetigo/furunculosis	14	1%	6	2%	4	1%	4	2%
scabies	53	6%	19	5%	16	5%	18	8%
Tinea Capitis	95	10%	31	8%	31	10%	33	14%
wounds infected,	19	2%	9	2%	9	3%	1	0%
Burn wound fresh	1	0%	0	0%	0	0%	1	0%
Skin other (psoriasis etc)	47	5%	24	6%	15	5%	8	3%
psychomotoric retardation	10	1%	0	0%	9	3%	1	0%
hypertonia	1	0%	0	0%	1	0%	0	0%
hypotonia	4	0%	1	0%	2	1%	1	0%
epilepsy / convulsions	10	1%	3	1%	6	2%	1	0%
spina bifida	1	0%	0	0%	1	0%	0	0%
migraine/headache	1	0%	0	0%	0	0%	1	0%
Neuromusc other	10	1%	1	0%	7	2%	2	1%
physiological murmer	13	1%	5	1%	2	1%	6	3%
pathological murmur (suspected)	4	0%	1	0%	3	1%	0	0%
Cardio other	2	0%	0	0%	0	0%	2	1%
refractory problem	3	0%	0	0%	2	1%	1	0%
strabismus	2	0%	1	0%	0	0%	1	0%
keratoconjunctivitis	14	1%	10	3%	4	1%	0	0%
eye other	9	1%	1	0%	7	2%	1	0%
Sickle Cell	15	2%	1	0%	6	2%	8	3%
Obesitas	5	1%	1	0%	0	0%	4	2%
amenorrhoea	1	0%	0	0%	0	0%	1	0%
cryptorchism	2	0%	1	0%	0	0%	1	0%
inguinal hernia	3	0%	3	1%	0	0%	0	0%
urinary infection	2	0%	0	0%	0	0%	2	1%
urogen other	12	1%	5	1%	3	1%	4	2%
artralgia n.o.s.	1	0%	0	0%	1	0%	0	0%
old fracture	2	0%	0	0%	0	0%	2	1%
skeletal other	26	3%	8	2%	10	3%	8	3%
hernia(umbilical etc)	6	1%	3	1%	3	1%	0	0%
abdomen other	6	1%	2	1%	2	1%	2	1%

Table A-8: Treatment among all children per geographical location

	Total		Agulurude		Loro HC		Amido	
	939		Total= 377		Total= 323		Total= 239	
	N	%	n	%	n	%	n	%
ferro	137	15%	61	16%	46	14%	30	13%
mother iron	27	3%	11	3%	9	3%	7	3%
multivitamins	254	27%	82	22%	107	33%	65	27%
anti-worm	270	29%	129	34%	107	33%	34	14%
acute worm	352	37%	131	35%	118	37%	103	43%
anti-scabies	23	2%	5	1%	6	2%	12	5%
niclosamide	1	0%	0	0%	1	0%	0	0%
scabies soap	21	2%	10	3%	7	2%	4	2%
amoxicillin	29	3%	12	3%	9	3%	8	3%
augmentin	7	1%	3	1%	3	1%	1	0%
malaria treatment	530	56%	225	60%	176	54%	129	54%
ivermectine for lice	1	0%	0	0%	1	0%	0	0%
paracetamol	22	2%	8	2%	6	2%	8	3%
inhaler	17	2%	4	1%	5	2%	8	3%
metranidazol	3	0%	0	0%	0	0%	3	1%
co-trimoxazol	10	1%	3	1%	4	1%	3	1%
ORS	12	1%	4	1%	6	2%	2	1%
eardrops	16	2%	9	2%	5	2%	2	1%
nystatine	7	1%	2	1%	2	1%	3	1%
mupirocine=Bactroban	14	1%	4	1%	7	2%	3	1%
hydrocortisone cream	18	2%	12	3%	3	1%	3	1%
dactarin cream	80	9%	28	7%	25	8%	27	11%
dactacort cream	14	1%	4	1%	4	1%	6	3%
iodine	6	1%	1	0%	4	1%	1	0%
fusidin cream	19	2%	9	2%	4	1%	6	3%
neutral cream	48	5%	26	7%	12	4%	10	4%
griseofulvine	75	8%	21	6%	25	8%	29	12%
eyedrops	15	2%	9	2%	6	2%	0	0%