Medical Checks for Children

Medical Report

Otuke, LTP

Uganda

2025

Medical Report Otuke 2025 Medical Checks For Children

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I Introduction

From the 25th of January to 2nd of February 2025 our Medical Checks for Children (MCC) team visited for the second year the Otuke region in Uganda to conduct a medical health camp. We checked and treated children aged between 0 and 8 years, free of cost at the **Amunga health center care level II.** The team stayed at the **MM hotel, the paragon of Otuke.**

This was the second year of conducting a free medical campaign of MCC, organized in mutual cooperation and collaboration of Link to Progress (LTP)

Link to Progress (LTP)

Link to Progress (LTP) is a Dutch founded development organization registered in Uganda and has been in operation since 2009 serving marginalized communities in Northern and Eastern Uganda through an integrated approach, providing services including water, sanitation and hygiene (WASH), quality education, health and nutrition, livelihood and food security and environmental protection.

Northern and Eastern Uganda, the LTP area of operation, is the poorest region with the largest depth of poverty and worst inequality.
This is attributed to the 2 decades of the Lord's Resistance Army (LRA) insurgencies that forced the largest part of the population to live in internally displaced people's (IDP) camps. The war led to the loss of lives, increased physical disability, destroyed infrastructures, and affected productivity. The high need for social services such as safe and clean water supply, basic quality education, health services, and food security among others is enormous in this region.
Although the majority of the population has returned to their villages, most of the infrastructures including water supplies, sanitation facilities, schools, and health facilities were destroyed. Reconstruction and rehabilitation of the region call for collective efforts by both government, private sector, civil society, and non-governmental organization to contribute and complement each other, this provides an open door for LTPs WASH and other integrated programming.

The MCC team of 2025 consisted of Veronique Schram (nurse and mission leader), Eline Hausel (remedial teacher and trainee mission leader), Ilse Westerbeek (pediatrician and medical mission leader), Jacqueline Wolf (pediatric nurse) Birgit Levelink (pediatrician), Irene van Riel (general practitioner), Lotte Hendrikx (pediatrician), Dominique van Hattum (gynaecologist), Remco Franssen (internal specialist), Jasper Lemel (Staff Advisor) Mariette Pullen (Theologist)

The LTP team consisted of Juliet Arecho (country manager), Isabbella Akello (program manager), Lillian Joy Kusiima (Finance and administration officer), Doreen Imalingat (project assistant), Jolly Adongo (project assistant), Everest Adongo (project assistant) and Lazarus Odongo (project assistant, pharmacist).

General overall health statistics Uganda

Data from the annual health sector perforformance report 2023/2024 from the ministry of health.

Maternal mortality ratio 44%.
Neonatal mortality 18.5%
Under-five mortality 18.5%
Infants mortality 16.3%
Malaria incidence 39%
Stunting in children under-five 26%
Wasting in children under-five 2.9%

II General background Otuke region

The children came mainly from **two communities in the Otuke region**. Families had to walk several (5-10) km to the medical camp and if they lived too far, stayed overnight at the camp in the hope to get medical care from the MCC team. The team was like last year again overruled about the extreme poverty in this neglected region. Basic conditions as access to safe water, hygiene and sanitation is limited, Education is poor and there is an underdeveloped healthcare system resulting in a child death < 5years of around 40%. The average age of people is 40-50years

Most common health problems in children are (chronic) malaria, undernutrition, road accidents, GE- problems, upper airway infections and social problems. There is a national immunization and anti-worm program, however most children do not receive all their immunizations. Supply of medication is not done on a regular basis to the level II, III and IV centers in this region, which means that medication are out of stock and no possibility to threat the children for diseases like pneumonia, gastro-enteritis and malaria. Although the medical facilities in Lira are better and free of cost, the families do have limited access, as transport to this hospital is too expensive. Two times a year there are child health plus days. Mobile teams try to reach the children in their homes and school to provide ant-worm treatment and immunizations.

There is a governmental level IV hospital which is around 40km from the Amunga health care center. This year we closely worked with Kristina hospital. This is a level III private hospital, supported by the government. This means that medical supplies and medication is supplied from the government, however as this system is failing the hospital fills the cap. Therefore the medical care in Kristina hospital is not free of costs, but compaired with other private hospitals it has a "fair" price. Unfortunately, most people still can'tt afford the costs, together with the costs for transport.

Technical equipment, toothbrushes, sunglasses and creams for the children and some of the medical supplies were brought from the Netherlands by the team members.

Support from the the local organizing committee consisted of the following (amongst others):

- Selection of the check location
- Selection of the children to be checked.
- Information transmittance to the local communities.
- Organizing all the different stations of the carousel

- Arranging plentiful and competent translators /support volunteers/ nurses
- Arranged a hotel for all MCC team members 30min drive from the check location
- Transportation of the MCC team to the check location
- Providing the drinks and food on the check location
- Giving support in ordering and delivering the medication.
- Giving support to the MCC team during the medical campaign.

II Medical Checks for Children on location, content of the medical camp

During the week, MCC checked children at Amunga health centre II in Otuke.

Table 1: Number of checked children per day

Check days	27-01-25	28-01-25	29-01-25	30-01-25	31-01-25	Total
Day 1	139	0	0	0	0	139
Day 2	0	189	0	0	0	189
Day 3	0	0	198	0	0	198
Day 4	0	0	0	246	0	246
Day 5	0	0	0	0	185	185
Total	**139**	**189**	**198**	**246**	**185**	**957**

The children were seen free of cost at the MCC carousel, which consists of the following stations:

1. Registration
2. Parent/ caretaker education on hygiene, tooth brushing and hand washing
3. Height and weight
4. Blood test (haemoglobin) and malaria
5. Physical examination
6. Distribution of medication (pharmacy)
7. On indication: referral

Since last year we had diagnosed a lot of children suffering from malaria, we included like last year an extra station with malaria testing in combination with the haemoglobin bloodtest. Malaria testing was done with an rapid antigen test for Plasmodium and Falciparum species.

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

<table>
<tr><th rowspan="3">Age</th><th colspan="2">Total</th><th colspan="2">Day 1</th><th colspan="2">Day 2</th><th colspan="2">Day 3</th><th colspan="2">Day 4</th><th colspan="2">Day 5</th></tr>
<tr><th colspan="2">957</th><th colspan="2">Total= 139</th><th colspan="2">Total= 189</th><th colspan="2">Total= 198</th><th colspan="2">Total= 246</th><th colspan="2">Total= 185</th></tr>
<tr><th>N</th><th>%</th><th>n</th><th>%</th><th>n</th><th>%</th><th>n</th><th>%</th><th>n</th><th>%</th><th>n</th><th>%</th></tr>
<tr><td><=1 year</td><td>193</td><td>20%</td><td>24</td><td>17%</td><td>37</td><td>20%</td><td>42</td><td>21%</td><td>52</td><td>21%</td><td>38</td><td>21%</td></tr>
<tr><td>>1 and <5 years</td><td>314</td><td>33%</td><td>44</td><td>32%</td><td>64</td><td>34%</td><td>61</td><td>31%</td><td>83</td><td>34%</td><td>62</td><td>34%</td></tr>
</table>

<5 years	504	53%	67	48%	101	53%	103	52%	135	55%	98	53%
>=5 and <=10 years	452	47%	72	52%	87	46%	95	48%	111	45%	87	47%
>10 years	1	0%	0	0%	1	1%	0	0%	0	0%	0	0%
Gender												
Boy	478	50%	73	53%	89	47%	88	44%	124	50%	104	56%
Girl	479	50%	66	47%	100	53%	110	56%	122	50%	81	44%

Data collection

The children receive a CRF form at registration (station 1). Anthropometric measurements were recorded (station 2), and a finger prick sample was taken to determine haemoglobin (Hb) and malaria (station 3). A clinical doctor examined each child (station 4). History of illnesses in the preceding weeks was recorded. They were also asked if their child had received prior treatment, especially deworming within the last half year and malaria treatment. We found out families do not seek medical care easily, due to poor medical health facilities, poverty and no possibilities for good transport. Furthermore, when families visit the health clinic, in many cases they did not get the best treatment or only half of the treatment was provide, as most medication was out of stock. At the end of the MCC carrousel, the data of the checked children were entered into a database, which made it possible to gain preliminary insights into the health of that day's children population every evening. Furthermore, every day the team had a short evaluation of the day to improve logistics for them next day.

III General diagnoses and categories of ailments/treatment and referrals

In general, the children in the Otuke region live in extreme poverty. An extreme amount of children suffered from malaria (74%) and complications of malaria. Last year we found a prevalence of 85% of malaria. Active Malaria could be treated on the spot. However, we also saw the immense impact this has on the population. The people told us that sometimes malaria medication is not in stock and therefore none or half of the malaria treatment was given. Besides not treating the malaria with the risk of complications and even death, this can cause resistance to malaria treatment.

Table 10: Prevalence of malaria per day by age and gender

	Total		Day 1		Day 2		Day 3		Day 4		Day 5	
	957		Total= 139		Total= 189		Total= 198		Total= 246		Total= 185	
	N	%	n	%	n	%	n	%	n	%	n	%
Malaria	707	74%	112	81%	142	75%	142	72%	169	69%	142	77%
No malaria	221	23%	27	19%	45	24%	30	15%	76	31%	43	23%
Unknown	3	0%	0	0%	2	1%	0	0%	1	0%	0	0%
Malaria per age												
<=1 year	116	60%	14	58%	22	59%	27	64%	28	54%	25	66%
>1 and <5 years	244	78%	39	89%	51	80%	45	74%	60	72%	49	79%
<5 years	357	71%	52	78%	73	72%	72	70%	88	65%	72	73%
>=5 and <=10 years	349	77%	60	83%	68	78%	70	74%	81	73%	70	80%
>10 years	1	100%	0	0%	1	100%	0	0%	0	0%	0	0%
Malaria per gender												

Boy	8	40%	2	33%	0	0%	2	67%	1	33%	3	50%
Girl	12	60%	4	67%	2	100%	1	33%	2	67%	3	50%

Healthcare is failing in this aera, and we see an enormous need for prevention of malaria. The Government just enrolled the campaign under the net and gave some mosquito nets to the families. However, more awareness and support is needed for implementation of malaria prevention.

Background Malaria (WHO)

Malaria is a life-threatening disease spread to humans by some types of mosquitoes. It is mostly found in tropical countries. It is preventable and curable. The infection is caused by a parasite and does not spread from person to person. Symptoms can be mild or life-threatening. Mild symptoms are fever, chills and headache. Severe symptoms include fatigue, confusion, seizures, and difficulty breathing. Infants, children under 5 years, pregnant women, travellers and people with HIV or AIDS are at higher risk of severe infection. Malaria can be prevented by avoiding mosquito bites and with medicines. Treatments can stop mild cases from getting worse. Malaria mostly spreads to people through the bites of some infected female *Anopheles* mosquitoes. The first symptoms may be mild, similar to many febrile illnesses, and difficulty to recognize as malaria. Left untreated, *P. falciparum* malaria can progress to severe illness and death within 24 hours.There are 5 *Plasmodium* parasite species that cause malaria in humans and 2 of these species – *P. falciparum* and *P. vivax* – pose the greatest threat. *P. falciparum* is the deadliest malaria parasite and the most prevalent on the African continent. *P. vivax* is the dominant malaria parasite in most countries outside of sub-Saharan Africa. The other malaria species which can infect humans are *P. malariae, P. ovale* and *P. knowlesi*.

The most common early symptoms of malaria are fever, headache and chills. Symptoms usually start within 10–15 days of getting bitten by an infected mosquito.

Symptoms may be mild for some people, especially for those who have had a malaria infection before. Because some malaria symptoms are not specific, getting tested early is important.

Some types of malaria can cause severe illness and death. Infants, children under 5 years, pregnant women, travellers and people with HIV or AIDS are at higher risk. Severe symptoms include:

- extreme tiredness and fatigue
- impaired consciousness
- multiple convulsions
- difficulty breathing
- dark or bloody urine
- jaundice (yellowing of the eyes and skin)

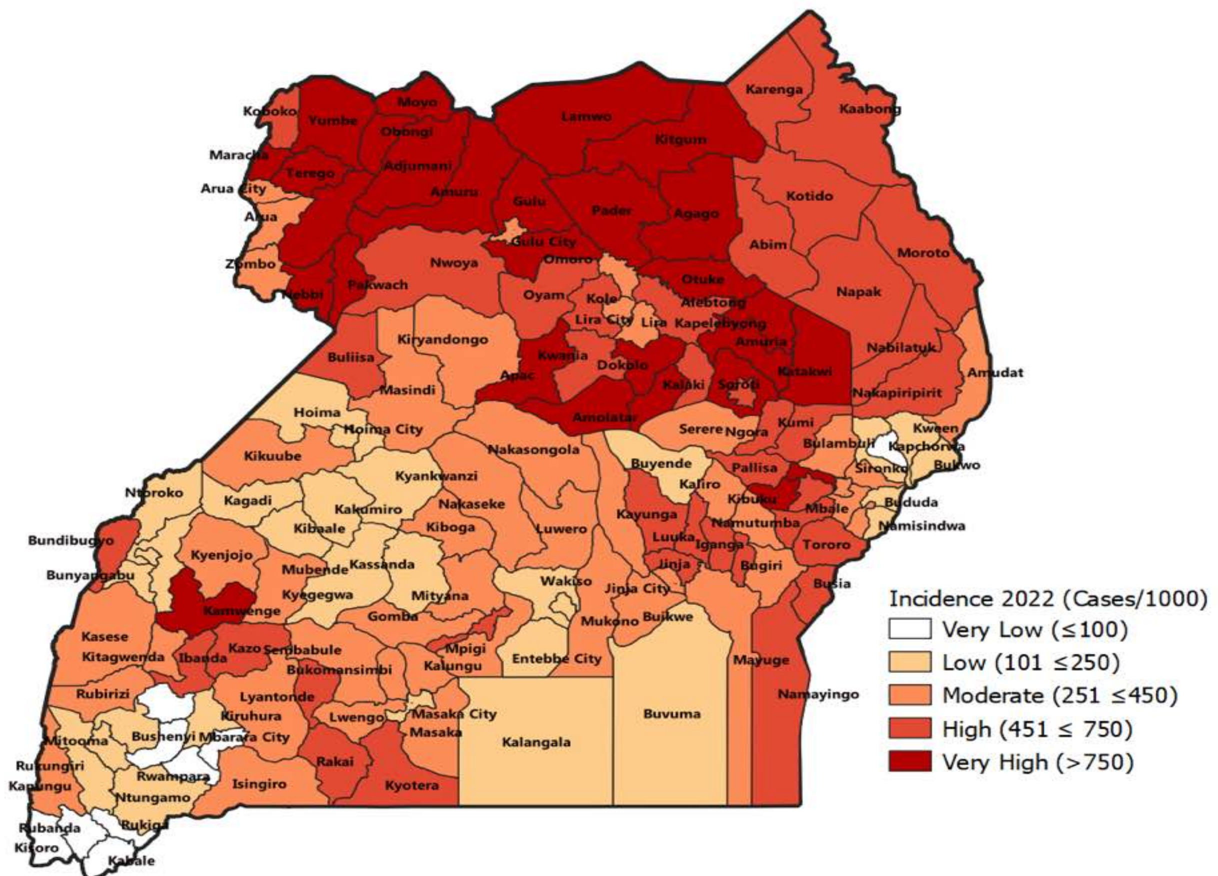
- abnormal bleeding.

People with severe symptoms should get emergency care right away. Getting treatment early for mild malaria can stop the infection from becoming severe.

Disease burden

According to the latest [World malaria report](), there were 249 million cases of malaria in 2022 compared to 244 million cases in 2021. The estimated number of malaria deaths stood at 608 000 in 2022 compared to 610 000 in 2021.

The WHO African Region continues to carry a disproportionately high share of the global malaria burden. In 2022 the Region was home to about 94% of all malaria cases and 95% of deaths. Four countries in the African Region – Nigeria (26.8%), the Democratic Republic of the Congo (12.3%), **Uganda (5.1%)** and Mozambique (4.2%) – accounted for nearly half of all malaria cases globally Children under 5 years of age accounted for about 78% of all malaria deaths in the Region.



Prevention

Malaria can be prevented by avoiding mosquito bites and by taking medicines. Lower the risk of getting malaria by avoiding mosquito bites:

- Use mosquito nets when sleeping in places where malaria is present
- Use mosquito repellents (containing DEET, IR3535 or Icaridin) after dusk
- Use coils and vaporizers.
- Wear protective clothing.
- Use window screens.

Vector control is a vital component of malaria control and elimination strategies as it is highly effective in preventing infection and reducing disease transmission. The 2 core interventions are insecticide-treated nets (ITNs) and indoor residual spraying (IRS).

Progress in global malaria control is threatened by emerging resistance to insecticides among *Anopheles* mosquitoes. As described in the latest *World malaria report*, other threats to ITNs include insufficient access, loss of nets due to the stresses of day-to-day life outpacing replacement, and changing behaviour of mosquitoes, which appear to be biting early before people go to bed and resting outdoors, thereby evading exposure to insecticides.

In Uganda a number of interventions was carried out to address the malaria epidemic in the country.

- Providing long lasting insecticide treated net (Under the net)
- Training and mentorships in malaria mortality audits
- Seasonal malaria chemoprevention: this is a strategy that involves administering monthy doses of anti-malarial drugs to children up tom the age of 5 years ahead of malaria peak transimission

Malaria vaccine

Since October 2021, WHO has recommended broad use of the RTS,S/AS01 malaria vaccine among children living in regions with moderate to high *P. falciparum* malaria transmission. The vaccine has been shown to significantly reduce malaria, and deadly severe malaria, among young children. In October 2023, WHO recommended a second safe and effective malaria vaccine, R21/Matrix-M. The availability of the malaria vaccines is expected to make broad-scale deployment across Africa possible and Uganda will

In the annual health sector performance report 2023/2024 from the ministry of health it is stated that districts from regions with high malaria burden will be prioritized for trainings and mentorships in malaria mortality audits and integrated management of malaria. Last year the health district officer visited the MCC medical camp and together with other data which shows a very high incidence of malaria (60-70%) in Otuke, Otuke is now also one of the targeted regions by the ministry of health and from April 2025, as one of the first regions, where the Ministry of health will start with the vaccination program for children aged 6 to 11 months.

Region	Number of Districts	Districts
West Nile	**13**	Arua,AruaCity,Adjumani,Koboko,Madiokolo,Maracha,Moyo,Nebbi,Obongi,Pakwach Terego, Yumbe and Zombo
Acholi	**09**	Pader,Omoro ,Nwoya.Lamwo,Kitgum,Gulu,Gulu City,Amuru and Agago
Lango	**08**	**Oyam,Otuke, Lira City, Lira, Kwania,Kole,Amolatar and Alebtong**
Karamoja	**09**	Moroto , Amudat, Napak, Nakapiripiriti, Nabilatuk, Abim, Kotido,Karenga and Kaboongo
Teso	**10**	Soroti,Kumi,Bukedea,Ngora,Serere,Amuria,Kalaki, Katakwi,Kaberamaido and Kaperebyongo
Bugisu,Sebei and Bukedi	**11**	Tororo,Kibuku,Busia,Paliisa,Butebo, Butaleja, Budaka, Sironko, Mbale, Mbale-City,Manafwa ,
Busoga	**11**	Jinja, Iganga,Kaliro Luuka,Mayuge, Bugiri,Bugweri,Namutumba,Kamuli, Buyende.
North central	**06**	Buikwe,Kayunga,Kiboga,Luwero, Mityana,Mukono and Nakasongola
South Central	**10**	Bukomansimbi,Butambala,Gomba,Kalungu,Lwengo,Lyantonde,Masaka,MasakaCity,Rakaiand Ssembabule
Bunyoro	**03**	Kiryandongo,Kikuube and Buliisa
Rwenzori	**05**	Kyegegwa,Kitagwenda, kasese, Kamwenge and ,Bundibugyo
Ankole-Kigezi	**06**	Ibanda ,Isingiro,Kazo, Kiruhura,Rubirizi and Kanungu

THE REPUBLIC OF UGANDA
MINISTRY OF HEALTH

Malaria Vaccination

for children
aged **6 to 11 months**
begins this April.

*The vaccine is a step forward in **the journey towards a Malaria Free Uganda by 2030***

For more information, call Ministry of Health Toll-free line on: **0800-100-066**

DRAFT

ROUTINE IMMUNIZATION VACCINES AND ROUTE OF ADMINISTRATION

UGANDA ROUTINE IMMUNIZATION SCHEDULE FOR CHILDREN UNDER TWO YEARS, 10 YEAR OLD GIRLS AND WOMEN OF CHILD BEARING AGE

NUMBER OF VISITS/ CONTACTS	WHEN IT IS GIVEN (AGE)	VACCINE GIVEN & DOSE	DISEASE PREVENTED	HOW IT IS GIVEN
1st	AT BIRTH	Oral Polio Vaccine 0	Polio	2 Drops in the mouth
		BCG	Tuberculosis	Injection on right upper arm
		Hepatitis B	Hepatitis B	Injection on left upper thigh
2nd	AT 6 WEEKS (One and half months)	Oral Polio Vaccine 1	Polio	2 Drops in the mouth
		Injectable polio vaccine (IPV1)	Polio	Injection on right upper thigh
		DPT-Hep B-Hib 1	• Diphtheria • Whooping cough • Tetanus • Hepatitis B • Haemophilus influenza type B	Injection on left upper thigh
		Pneumococcal Conjugate vaccine 10 (PCV1)	Meningitis and Pneumonia	Injection on right upper thigh
		Rotavirus vaccine 1	Diarrhoea caused by Rotavirus	Slow release into the mouth
3rd	AT 10 WEEKS (Two and half months)	Oral Polio Vaccine 2	Polio	2 Drops in the mouth
		DPT-Hep B-Hib 2	• Diphtheria • Whooping cough • Tetanus • Hepatitis B • Haemophilus influenza type B	Injection on left upper thigh
		Pneumococcal Conjugate vaccine 10 (PCV2)	Meningitis and pnuemonia	Injection on right upper thigh
		Rotavirus vaccine 2	Diarrhoea caused by Rotavirus	Slow release into the mouth
4th	AT 14 WEEKS (Three and half months)	Oral Polio Vaccine 3	Polio	2 Drops in the mouth
		Injectable polio vaccine (IPV2)	Polio	Injection on right upper thigh
		DPT-Hep B-Hib 3	• Diphtheria • Whooping cough • Tetanus • Hepatitis B • Haemophilus influenza type B	Injection on left upper thigh
		Pneumococcal Conjugate vaccine 10 (PCV3)	Meningitis and pnuemonia	Injection on right upper thigh
		Rotavirus vaccine 3	Diarrhoea caused by Rotavirus	Slow release into the mouth
5th	At 6 months	Malaria Vaccine 1	Malaria	Injection on right upper arm
6th	At 7 months	Malaria vaccine 2	Malaria	Injection on right upper arm
7th	At 8 months	Malaria Vaccine 3	Malaria	Injection on right upper arm
8th	At 9 MONTHS	Measles - Rubella vaccine 1	• Measles • Rubella	Injection on left upper arm
		Yellow Fever vaccine	Yellow Fever	Injection on right upper arm
9th	At 18 MONTHS	Measles - Rubella vaccine 2	• Measles • Rubella	Injection on left upper arm
		Malaria Vaccine 4	• Malaria	Injection on right upper arm
Single dose	10 Year old girls	Human Papilloma Virus Vaccine	• Cancer of the cervix	Injection on upper arm
1st Dose	Women of child bearing age (15 to 49 years)	Tetanus Diphtheria (Td1) Vaccine	• Tetanus Diphtheria	Injection on the upper arm
2nd Dose	1 Month after 1st dose	Tetanus Diphtheria (Td2) Vaccine	• Tetanus Diphtheria	Injection on the upper arm
3rd Dose	6 Months after 2nd dose	Tetanus Diphtheria (Td3) Vaccine	• Tetanus Diphtheria	Injection on the upper arm
4th Dose	12 Months (1 year) after 3rd dose	Tetanus Diphtheria (Td4) Vaccine	• Tetanus Diphtheria	Injection on the upper arm
5th Dose	12 Months (1 year) after 4th dose	Tetanus Diphtheria (Td5) Vaccine	• Tetanus Diphtheria	Injection on the upper arm

Parents take your children for immunisation 9 times before their second(2nd) birthday. All vaccines are SAFE, EFFECTIVE and FREE. For more information please contact: Health Promotion, Education and Communication Department - Ministry of Health toll free line on: 0800 100066 or send a free SMS to U-Report on 8500

Sickle cell disease

In the past 10 year there is a rising burden of sickle cell disease. Uganda national statistics found 34.729 sickle cell positive cases in 500.000 tests done (7%) in children in the last 10 years. 20.000-25.000 babies are born with sickle cell disease in Uganda yearly. Uganda has 150 laboratories for sickle cell screening. Sickle cell disease contributes 15% of the under five mortality.

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NEWS P.6
Proposed five new cities to come with a hefty price tag

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Crisis: New figures from the government show a growing burden of sickle cell disease (SCD), with laboratories identifying 34,729 positive cases (representing seven percent) out of 500,000 tests done in children in the last 10 years. ...P.4-5

The rising burden of sickle cell disease

25,000
Babies. 20,000 to 25,000 babies born with sickle cell disease in Uganda yearly.

34,729
National statistics. 34,729 sickle cell positive cases found in 500,000 tests done in children in the last 10 years.

LABORATORIES
150. Uganda has 150 laboratories for sickle cell screening.

CAPSULES
Medicine. Shs1,500 to Shs600 per capsule now increasing affordability access.

Sickling - Test

15%
Mortality. SCD contributes 15 percent of the under five mortality.

ELECTION
Lord Mayor demands audit of city programme
Kampala City Lord Mayor Erias Lukwago has called for a budgetary audit of Shs 2.2 trillion Greater Kampala Metropolitan-Urban Development Programme (GKMA-UDP) to ensure effective allocation of the funds. P.2

POLITICS
FDC Katonga faction insists on new party name
The breakaway faction of the Forum for Democratic Change party yesterday said they will not change the proposed name and colour of their new People's Front for Freedom party as guided by the Electoral Commission. P.2

THE LIZARD
MAYBE BLUE IS THE LUCKY COLOUR!

NEWS MUSEVENI WANTS COMPULSORY ELECTRONIC VOTING ...P.3 | MINISTER SARAH MATEKE LAID TO REST ...P.3

During the checks we saw a couple of children already diagnosed with Sicklecell disease and were included in the sickle cell program of the hospital in Lira. During our checks, we

referred all children with a Hb level <5 for Sickle cell disease or children with a positive family history and complaints suspected for Sickle cell disease.

Children who have sickle cell disease have a high risk to develop severe complications like cerebral complications, severe anemia and even mortality. Furthermore if they also suffer from malaria this complications can increase morbidity and mortality even more. Children with Hb levels under 4 were directly sent to Lira referral hospital for screening sicklecell disease and to receive a red bloodcell transfusion.
This year we referred all children with anemia below 5 mmol/l for analyses of sicklecell disease, because first this will provide us more information of the global health of the children living in the Otuke region. Second, diagnosed children will be a able to join the sickle cell program in Lira. The children with sickle cell disease will receive preventive medication (like Folicacid) and parents are informed how to handle in case of a sickle cell crise. However, the hard reality was that Folicacid is not always available and that if children need an acute bloodtransfusion, facilities in the nearby level III/ IV hospitals are not always available and the transport to the referral hospital in Lira is too expensive.

*At time of writing this report (we are still waiting for more results), 12% of the of the children referred with an Hb level <5 were diagnosed with sickle cell disease. This might indicate that the prevalence of sickle cell disease in the Otuke is higher than known until so far.

Epilepsy/ Psychomotoric reatardation

We saw many children with epilepsy/seizures, psychomotor retardation and contractions. Epilepsy, a chronic disease of the central nervous system, is characterized by abnormal brain electrical activity leading to seizures, stereotyped behavioural alterations and occasionally loss of awareness. Seizures and other status epilepticus are common neurological manifestations in children with malaria, especially those with cerebral malaria. However, a significant proportion of these manifestations may be simple febrile seizures. Epilepsy is a highly prevalent neurological disorder in LMIC, especially in malaria-endemic areas; however, a definitive causative relationship is yet to be established. The results of this systematic review and meta-analysis are consistent with a previous study (Christensen and Eslick, 2015), indicating a significant positive association between malaria infection and epilepsy, particularly for patients who survived CM.

We would recommend further treatment of the chronic epilepsy with chronic medication and treatment and pain relief with support of physiotherapists for the children with cerebral palsy and contractions.

LTP already has a community program for families with children with psychomotor retardation. LTP will follow up this families, also the families who did not join the social program yet.

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Malnutrition

Malnutrition is thought to account for one third of all deaths of children under five (UN Millennium Development Goals). Malnutrition has been related to poor cognitive and school performance. There is strong evidence to suggest that malnutrition places children under the age of 5 at increased risk of death. The main factors contributing to malnutrition are rural poverty, lack of sanitation, poor living conditions and a lack of energy, protein intake, iron and multivitamins.

This week we saw a couple a extreme underweight children. Parents tell us that

We think that the poor nutrition state of the children checked is due to poverty with low variety in diet mainly consisting of carbohydrates and even more during the dry season when fruits and vegetables are less likely to be available, like mango, pineapple and watermelon.

Table 6: Prevalence of weight/age at or under P3 (underweight) per day by age and gender

	Total		Day 1		Day 2		Day 3		Day 4		Day 5	
	957		Total= 139		Total= 189		Total= 198		Total= 246		Total= 185	
	N	%	n	%	n	%	n	%	n	%	n	%
Underweight	70	7%	11	8%	16	8%	10	5%	14	6%	19	10%
No underweight	886	93%	128	92%	172	91%	188	95%	232	94%	166	90%
Unknown	1	0%	0	0%	1	1%	0	0%	0	0%	0	0%
Underweight children per age												
<=1 year	15	8%	2	8%	2	5%	4	10%	3	6%	4	11%
>1 and <5 years	24	8%	6	14%	5	8%	5	8%	3	4%	5	8%
<5 years	38	8%	7	10%	7	7%	9	9%	6	4%	9	9%
>=5 and <=10 years	32	7%	4	6%	9	10%	1	1%	8	7%	10	11%
>10 years	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Underweight children per gender												
Boy	39	56%	4	36%	9	56%	7	70%	4	29%	15	79%
Girl	31	44%	7	64%	7	44%	3	30%	10	71%	4	21%

Table 7: Prevalence of length/age at or under P3 (stunting) per day by age and gender

	Total		Day 1		Day 2		Day 3		Day 4		Day 5	
	957		Total= 139		Total= 189		Total= 198		Total= 246		Total = 185	
	N	%	n	%	n	%	n	%	n	%	n	%
Stunting	108	11%	16	12%	23	12%	24	12%	20	8%	25	14%
No stunting	849	89%	123	88%	166	88%	174	88%	226	92%	160	86%
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Stunting children per age												
<=1 year	16	8%	3	13%	1	3%	3	7%	3	6%	6	16%
>1 and <5 years	58	18%	9	20%	11	17%	14	23%	12	14%	12	19%
<5 years	72	14%	11	16%	12	12%	17	17%	15	11%	17	17%
>=5 and <=10 years	36	8%	5	7%	11	13%	7	7%	5	5%	8	9%
>10 years	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Stunting children per gender												
Boy	63	58%	9	56%	15	65%	12	50%	10	50%	17	68%
Girl	45	42%	7	44%	8	35%	12	50%	10	50%	8	32%

Table 8: Prevalence of weight/length at or under P3 (wasting) per day by age and gender

	Total		Day 1		Day 2		Day 3		Day 4		Day 5	
	957		Total= 139		Total= 189		Total= 198		Total= 246		Total= 185	
	N	%	n	%	n	%	n	%	n	%	n	%

Wasting	20	2%	6	4%	2	1%	3	2%	3	1%	6	3%
No wasting	840	88%	113	81%	170	90%	159	80%	228	93%	170	92%
Unknown	97	10%	20	14%	17	9%	36	18%	15	6%	9	5%
Wasting children per age												
<=1 year	7	4%	3	13%	1	3%	2	5%	1	2%	0	0%
>1 and <5 years	4	1%	1	2%	0	0%	1	2%	0	0%	2	3%
<5 years	11	2%	4	6%	1	1%	3	3%	1	1%	2	2%
>=5 and <=10 years	9	2%	2	4%	1	1%	0	0%	2	2%	4	5%
>10 years	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Wasting children per gender												
Boy	8	40%	2	33%	0	0%	2	67%	1	33%	3	50%
Girl	12	60%	4	67%	2	100%	1	33%	2	67%	3	50%

Anaemia

54% of the checked children was suffering from anaemia with 6% of the children who had severe anaemia.

It is estimated that globally 60,2% of children in the African Region are anaemic (WHO 2019). 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, though deficiencies in folate, vitamins B12, haemoglobinopathies; and infectious diseases, such as malaria, tuberculosis, HIV and parasitic infections. The checked children with severe anemia may suffer from a combination of the above mentioned causes, however as sicklecell disease was reported in this aera and homozygote sicklecell disease may have treatment implications. Moreover children with homozygote sicklecell who are infected with malaria may suffer from more complications

Anaemia is an indicator of both poor nutrition and poor health. It is problematic on its own, but it can also impact other global nutritional concerns such as malnutrition, low birth weight due to lack of energy to exercise. School performance in children and reduced work productivity in adults due to anaemia can have further social and economic impacts for the individual and family.

Table 9: Prevalence of anemia per day by age and gender

	Total		Day 1		Day 2		Day 3		Day 4		Day 5	
	957		Total= 139		Total= 189		Total= 198		Total= 246		Total= 185	
	N	%	n	%	n	%	n	%	n	%	n	%
Anemia	521	54%	71	51%	112	59%	107	54%	140	57%	91	49%
No anemia	435	45%	68	49%	77	41%	91	46%	106	43%	93	50%
Unknown	1	0%	0	0%	0	0%	0	0%	0	0%	1	1%
Hb <5,0 mmol	59	6%	10	7%	14	7%	11	6%	12	5%	12	7%
Anemia per age												
<=1 year	115	60%	11	46%	25	68%	29	69%	29	56%	21	55%
>1 and <5 years	159	51%	28	64%	33	52%	26	43%	46	55%	26	42%
<5 years	273	54%	38	57%	58	57%	55	53%	75	56%	47	48%

>=5 and <=10 years	247	55%	33	46%	53	61%	52	55%	65	59%	44	51%
>10 years	1	100%	0	0%	1	100%	0	0%	0	0%	0	0%
Anemia per gender												
Boy	269	52%	40	56%	54	48%	51	48%	77	55%	47	52%
Girl	252	48%	31	44%	58	52%	56	52%	63	45%	44	48%

Referrals

In total 170 children needed follow-up.

- 17 children were referred to a dentist.
- 57 children will be followed by the social team of LTP
- 11 children needed urgent referral because of severe illness (acute malaria, need for blood transfusion, severe malnutrition)
- 100 children were referred to the hospital for different problems: mostly for screening for sickle cell anemia, urogenital problems, psychomotor retardation and Epilepsia.

Social problems

We noticed an extreme poverty together with social problems due to this poverty but probably also due to the history of violence in the region. Children are left alone by their parents and some young children suffer alcoholism. LTP are already identyfied these problems and social programs are enrolled to support the families.

IV Education and prevention

One of the most important tasks of MCC is to encourage the continuation of health education of the village children. Nutritious foods, deworming, as well as hygiene, should be key components of structural health promotion in the community. Based on WHO estimates, 25% of the global burden of disease is due to preventable environmental exposures, with the greatest burden to children in lowincome and developing countries. For this reason, it was MCC's task to help create sustainable health knowledge in the communities visited.

Ways of improving personal hygiene and sanitation through hand washing, nail trimming, wearing of shoes/boots and use of a latrine and clean water supplies were encouraged, with bearing the deplorable housing conditions of many families and the environmental hazards in mind.

Dental problems

We identified 49% of the children with dental problems. This underlies the need for good dental programs.

Words of thank

The whole team during the checks consisted of the LTP team and the Dutch team members accompanied by a daily of support of volunteers/translators and drivers. The MCC team was very happy and greatfull with the cooperation with the local organizer LTP, and the active, direct support and enthusiasm of the local volunteers, doctors, pharmacist and nurses who gave MCC the opportunity to work in the Otuke region and to facilitate all aspects of the medical campaign. A special thanks to Juliette, Isabella and Lazerus who prepared and arranged the medical mission. They've helped to make this mission an utmost success and we could not have performed our work without their presence and hard work

SUMMARY

From. 27th of January till the 1st of February 2025 we had our second medical camp in the Otuke region in collaboration with LTP. We saw that LTP is a very well-organized organization who acknowledged the poverty of this neglected area. In total we checked almost 1000 children aged 0-8 year. Please find enclosed a short summary of our findings and recommendations.

During the MCC medical camp we were able to identify the main health and social problems of the children. MCC can give treatment on the spot of basic health problems such as helminth infections (worms), pneumonia, skin infections, malnutrition and anemia. Because of the extreme high numbers of malaria we found last year, this year we tested all children attending the medical camp for malaria. Unfortunately, we found the same high numbers of Malaria again. The MCC team was overwhelmed by the medical problems we saw in this region most likely because of poverty, severe complications of malaria/ general infections and maternal health care in combination with an insufficient healthcare system. Moreover it seems like the prevalence of sickle cell disease is underestimated in the Otuke region.
For the second year we noticed that general healthcare is failing in this aera, and we see an enormous need for prevention of infectious diseases such as malaria and (helminth) worm infections. The Government enrolled the campaign under the net and gave some mosquito nets to the families. However, more awareness and support is needed for implementation of malaria prevention and we hope that this year the first vaccination against malaria will be given. The enrolment of the malaria campaign is planned for April 2025 for children aged between 6-11 months, however we are still precautious and still have to see it will really start

As a consequence of extreme poverty and a failed healthcare system we saw an enormous amount of children suffering from epilepsy, psychomotoric retardation, anemia, worm infections and malnutrition. The social problems are probably due to this poverty but also due to the history of violence in this region. Half of the children we have seen are left alone by their parents and have to live with their grandma or aunt or even only with their older siblings (with some of them only 11-12years). Many children do not attend school. Although school fees are paid for by the government, families can not afford to pay for school books or school uniforms, or children have to stay at home to take care of their younger siblings. LTP already identified these problems and we are very happy that LTP has enrolled a social program to support these families, with a fantastic team of health care workers.

Together MCC and LTP have highlighted and discussed the problems mentioned above and within our circle of influence, we have a couple of recommendations. Although it is still a long way to go to decrease poverty in the Otuke region, especially in a world where world leaders refuse to take care of people who need it the hardest, we see that LTP is able to make a difference. We think that improving attendance at school will provide a save environment for children growing up, especially for those living without their parents/ caretakers. We definitely would recommend a deworming program at the schools. Recurrent helminth (worm) infections cause gastro-intestinal problems, decreased growth and anemia and is easy to threat with preventive deworming campaigns. Furthermore, at school LTP will be able to implant

school lunch programs to provide a healthy lunch containing the supplements needed for a healthy growth and development.

RECOMMENDATIONS

- We advise that (local) authorities, medical clinics, doctors and nurses draw a plan in how to decrease the amount of malaria cases and support the implementation of the malaria vaccine campaign.
- We recommend improving school facilities and support families so that children are able to go to school
- We recommend deworming of all the children at least twice a year.
- We recommend continuing the social program and support families with children who have epilepsy and/or neuromuscular diseases and families/ children who grow up without the care of adult parents/caretakers
- We recommend providing school lunches

CONCLUSION

Although it is still a long way to go to decrease poverty in the Otuke region, especially in a world were world leaders refuse to take care of people who need it the most, we see that LTP is able to make a difference. We think that improving attendance at school will provide a save environment for children growing up without the care of their parents. Furthermore, at school LTP will be able to implant deworming programs and provide school lunch programs to improve a healthy growth and to increase Hb levels.

Kind regards,

Veronique Schram, organizational mission leader MCC
Ilse Westerbeek, Medical mission leader MCC

*WHO recommendation: Preventive chemotherapy to control soil-transmitted helminth infections in at-risk population and Helminth control in school-age children: a guidance for managers of control programmes.