Medical Checks for Children

Medical Rapport Kenya West 2023

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MCC Kenya West 2023

Introduction

From March the 4 th untill March the 11th 2023 a Medical Checks for Children (MCC) team visited locations near Kisumu and Eldoret in western Kenya. Free of cost, the MCC team checked and treated 1010 children aged newborn untill 13 years of age.

After a explorative mission in 2010, MCC is visitint Kenya yearly for medical camps on different locations. Again, the medical checks were organized in close cooperation with the Sophia Foundation for Children (SFFC) (www.sophia-foundation.com).

Technical equipment and some of the supplies were brought from Europe by the MCC team members. Most of the medication was ordered through SFFC in Kenia. Additional local medication was purchased from the main pharmacy in Nairobi and taken with us to Kenia West.

Our special thanks go to Nopi and Tazos for their direct support during our medical camp and their help in all the necessary preparations during the year. Special thanks go to the translators and teachers.

The aim of the mission is to provide basic healthcare on locations of underprivileged children in difficult circumstances with diagnosis and treatment and acute care on the spot and referral with hospital diagnostics and treatments if necessary for the future health of the children. We monitor the hospitals referrals and the treatment in close cooperation with the Sophia Foundation in the year ahead.

Medical Checks for Children on location:
During the medical checks, the children were checked following the MCC carrousel:
1. Registration of the child
2. Measuring height and weight
3. Blood test for haemoglobin
4. Physical examination
5. Giving medication and education about the correct use of it (pharmacy)
6. Education on hyginics and tooth brushing (a tooth brush was given to each child)

Anthropometric measurements were recorded, and a finger prick sample was taken for determination of the haemoglobin (Hb) concentration. Each child was examined by a Medical Doctor. History of illnesses in the preceding four weeks was recorded. Specifically, caretakers were asked if the child had diarrhoea, an upper respiratory infection, vomiting, eating soil (pica), decreased appetite and weight loss.
They were also asked if their child received treatment for any of these, and if so, from where. The data of the children were analysed through the MCC data base.

The medical checks were performed on six days at different locations in Kenia West near the cities of Kisumi at Lake Victoria and near Eldoret. The team visited Kesengei Nusery & Primeray at Kesengei; Kalamai Bay Nursery, Kimerek Nursery at Kimarek; St Peter's Kapkechui at Chipita , Nakuru childrens and reprimand home and The new life home. We visited the nuns at the new life home for the second time and added Holy Mary as a new location.
At the different locations we checked beside the schoolchildren some young non-schoolgoing children from the villages.
We analysed the data to make a comparison as a group but we did not make a computer analysis on individual basis (table 1)

During the years the ratio between girls and boys is stable.

Table 1: Total children per location

Grouped locations	**03-07-22**	**04-07-22**	**05-07-22**	**06-07-22**	**07-07-22**	**08-07-22**	**Total**
Kimerek	174	0	0	0	0	0	174
Kalambei	0	191	0	0	0	0	191
Kesengei	0	0	161	0	0	0	161
St Peter	0	0	0	217	0	0	217
Holy Family Home	0	0	0	0	52	0	52
Nakuru Remand	0	0	0	0	36	0	36
New Life	0	0	0	0	0	179	179
Total	**174**	**191**	**162**	**216**	**88**	**179**	**1010**

Table 2: Number. age and gender distribution of the 1010 checked children at the different locations

	Total		***Kimerek***		***Kalambei***		***Kesengei***	
	1010		***Total= 174***		***Total= 191***		***Total= 161***	
Age	***N***	***%***	***n***	***%***	***n***	***%***	***n***	***%***
<=1 year	*33*	*3%*	*7*	*4%*	*5*	*3%*	*7*	*4%*
>1 and <5 years	*216*	*21%*	*39*	*22%*	*47*	*25%*	*42*	*26%*
<5 years	*249*	*25%*	*48*	*28%*	*51*	*27%*	*52*	*32%*
>=5 and <=10 years	*708*	*70%*	*121*	*70%*	*140*	*73%*	*108*	*67%*
>10 years	*54*	*5%*	*5*	*3%*	*0*	*0%*	*1*	*1%*
Gender								

Boy	*550*	*54%*	*99*	*57%*	*102*	*53%*	*87*	*54%*
Girl	*458*	*45%*	*74*	*43%*	*88*	*46%*	*74*	*46%*

	St Peter		**Holy Family**		**Nakuru Remand**		**New Life**	
	Total=	**217**	**Total=**	**52**	**Total=**	**36**	**Total=**	**179**
Age	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
<=1 year	9	4%	5	10%	0	0%	0	0%
>1 and <5 years	49	23%	22	42%	0	0%	17	9%
<5 years	52	24%	29	56%	0	0%	17	9%
>=5 and <=10 years	159	73%	23	44%	0	0%	157	88%
>10 years	7	3%	0	0%	36	100%	5	3%
Gender								
Boy	121	56%	13	25%	33	92%	95	53%
Girl	96	44%	39	75%	3	8%	84	47%

This year we did try to we tried again to locate the old files of all the children which should have been seen earlier according to the school or according to the caretakers. Due to a two year Corona stop children did move away and change schools. Unfortunately we also lost some files in our storage. We only managed to find files in 38% of the kids from previous years although more presumably we're seen.

1: Growth abnormality and malnutrition:

Overall data of growth abnormalities in the last years.

All locations	2015	2016	2017	2018	2019	2020	2022	2023
underweight	17%	10%	9%	9%	8%	10%	9%	16%
stunting	20 %	11%	8%	6%	5%	13%	11%	13%
wasting	6%	5%	5%	13%	7%	8%	6%	7 %

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 for mortality. Malnutrition is thought to account for one third of all deaths of children under five years of age (UN Millennium Developmental Goals).

Percentages of growth retardation is correlated with poverty, malnutrition, living conditions, hygiene and the prevalence of chronic diseases.
The major causes of malnutrition are poor feeding practices and or lack of food inadequate childcare. Adequate food intake and education programs addressing nutrious food need to be provided.
Therefore, we assessed growth abnormalities, 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.
- 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.
- 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.

Based on available data from Unicef (2017), prevalence of 11% for underweight, < 20% for stunting and < 5% for wasting in the Kisumu region were reported.

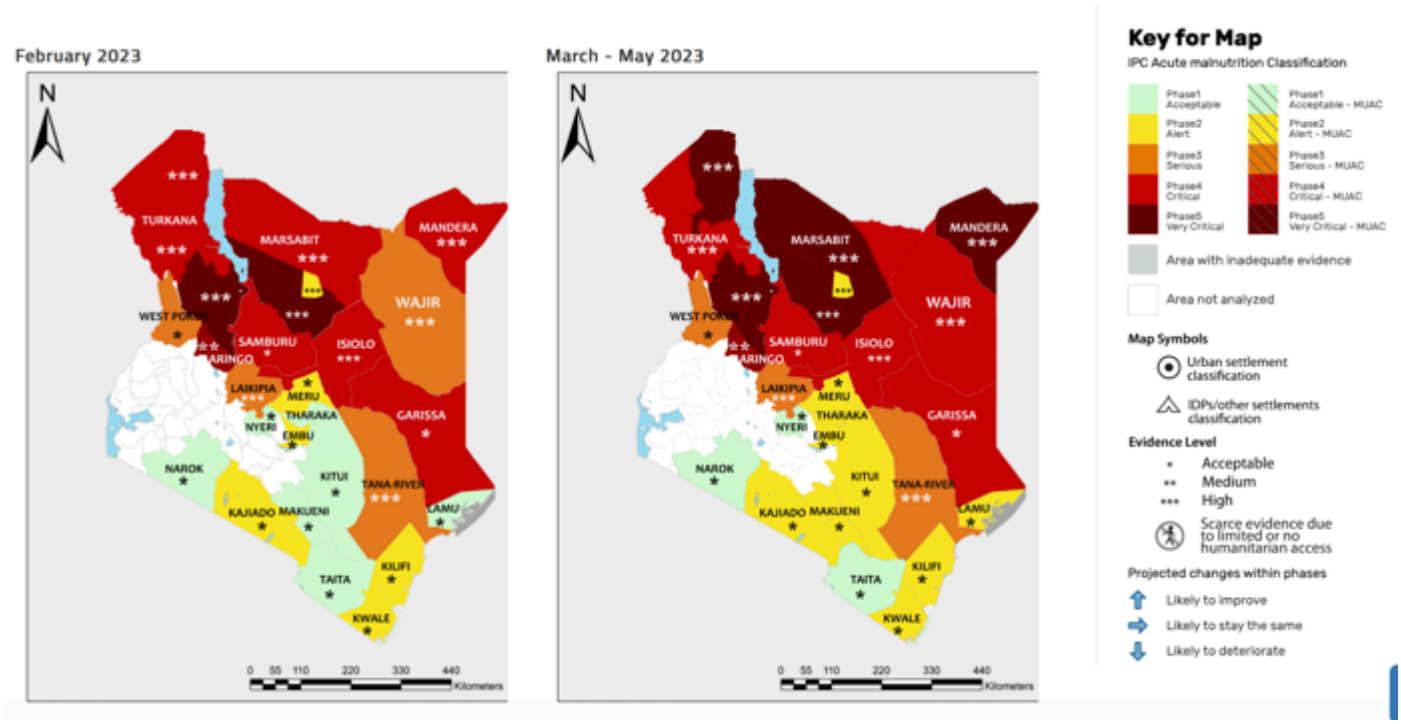
Analysis of the nutritional status shows significant differences among the locations visited (see table 4, 5 and six) Within the children assessed, it is unknown how many children have HIV related weight loss (wasting syndrome).

Corona has had a defestating effect on children and girls especially in low income countries. A whole generation has been lost for future eduction as they had to stay at home for corona, got pregnant or needed to find jobs to support themselves and their familiy. In Kenya not only corona has been a challenge but the enviroment proved maybe a even more challenging factor as the rains did not come and kenya as well as other regions in Eastern Africa are experiencing the worst drought in centuries.
In some areas, over 90 per cent of water sources have dried up and, as crops fail, and families lose their livestock – which, for many, is their only source of income – more than four million people are grappling with acute hunger. An estimated 134,000 women are currently pregnant or breastfeeding in drought-affected regions of Kenya; many are now malnourished and anaemic, conditions which can be life-threatening.

It is usually women and girls who are sent to fetch water; because of the drought, they have to walk even further, and wait for hours at boreholes.
This puts them at greater risk of violence, at a time when hostilities among communities desperate to secure scarce resources, are mounting.
With hundreds of thousands of Kenyans forced to move in search of survival, vulnerable women and girls have little to no access to critical health facilities or protection and support services – at the very time they need them the most.
There is evidence that gender-based violence, female genital mutilation, and child marriage have risen since the drought, as families marry off their girls to pay for food or cattle.

Even in july 2022 we could already see the need in children for food and water and we expect to are more needed the next years than ever before and returning within 1 year showed misery getting worse with rains that are always expected but never coming. Our data on malnutritiion this year and last year is to good to believe.

The analysis by the Integrated Food Security Phase Classification predicted an increase in the 4.4 million Kenyans currently facing high levels of food insecurity in a country with a population of about 47.5 million. The current figure represents a 43% increase compared to the same period last year.



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This diagramms show how malnutrition spreads. We only can assume that because we do not visit the desert areas in the north, our children are still lucky and even without rain there was some food in combination with the foodprogramme to help them. But we fear for 2024 as the rains still did not come and meteo kenya expects the country to remain dry.

The slight upward trent we see in the incidences for malnutrition unfortunaltey seem to confirm this dark mood. It might be the worst is yet to come to Kenya again.

Table 4 *Prevalence of Weight/age (Underweight) on or below P3 per GEOGRAPHICAL LOCATION by AGE and GENDER*

	Total		**Kimerek**		**Kalambei**		**Kesengei**	
	1010		**Total= 1174**		**Total= 1191**		**Total= 1161**	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Underweight	160	16%	12	7%	48	25%	29	18%
No underweight	811	83%	161	93%	142	74%	131	82%
Unknown	35		0		0		1	
Underweight children per age								
<=1 year	3	9%	0	0%	0	0%	2	29%
>1 and <5 years	42	19%	5	13%	10	21%	8	19%
<5 years	45	18%	5	10%	10	20%	10	19%
>=5 and <=10 years	113	16%	7	6%	38	27%	19	18%
>10 years	2	11%	0	0%	0	0%	0	0%
Underweight children per gender								
Boy	78	49%	5	42%	26	54%	13	45%
Girl	82	51%	7	58%	22	46%	16	55%

	St Peter		**Holy Family**		**Nakuru Remand**		**New Life**	
	Total= 217		**Total= 52**		**Total= 36**		**Total= 179**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Underweight	24	11%	14	27%	0	0%	33	18%
No underweight	193	89%	38	73%	2	100%	144	80%
Unknown	0		0		34		0	0%
Underweight children per age								
<=1 year	0	0%	1	20%	0	0%	0	0%
>1 and <5 years	6	12%	9	41%	0	0%	4	24%
<5 years	6	12%	10	34%	0	0%	4	24%
>=5 and <=10 years	17	11%	4	17%	0	0%	28	18%
>10 years	1	14%	0	0%	0	0%	1	20%
Underweight children per gender								
Boy	12	50%	1	7%	0	0%	21	22%
Girl	12	50%	13	93%	0	0%	12	14%

Table 5 Prevalence of Height/age (Stunting) on or below P3 per GEOGRAPHICAL LOCATION by AGE and GENDER

	Total	**Kimerek**	**Kalambei**	**Kesengei**
	1010	**Total= 1174**	**Total= 9191**	**Total= 1161**

	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Stunting	132	13%	15	9%	30	16%	15	9%
No stunting	854	86%	158	91%	161	84%	146	91%
Unknown	20		0		0		0	
Stunting children per age								
<=1 year	7	21%	0	0%	1	20%	1	14%
>1 and <5 years	48	22%	8	21%	7	15%	6	14%
<5 years	52	21%	9	19%	8	16%	7	13%
>=5 and <=10 years	70	10%	6	5%	22	16%	7	6%
>10 years	11	31%	0	0%	0	0%	1	100%
Stunting children per gender								
Boy	70	53%	9	60%	17	57%	8	53%
Girl	62	47%	6	40%	13	43%	7	47%

	St Peter		**Holy Family**		**Nakuru Remand**		**New Life**	
	Total= 217		**Total= 52**		**Total= 36**		**Total= 179**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Stunting	27	13%	16	31%	5	29%	24	13%
No stunting	189	88%	36	69%	12	71%	152	85%
Unknown	1		0		19		0	0%
Stunting children per age								
<=1 year	5	56%	0	0%	0	0%	0	0%
>1 and <5 years	13	27%	12	55%	0	0%	2	12%
<5 years	14	27%	12	41%	0	0%	2	12%
>=5 and <=10 years	13	8%	4	17%	0	0%	18	11%
>10 years	1	14%	0	0%	5	29%	4	80%
Stunting children per gender								
Boy	14	52%	3	19%	5	100%	14	15%
Girl	13	48%	13	81%	0	0%	10	12%

Table 6 Prevalence of Weight/height (Wasting) on or below P3 per GEOGRAPHICAL LOCATION by AGE and GENDER

	Total		**Kimerek**		**Kalambei**		**Kesengei**	
	1010		**Total= 1174**		**Total= 9191**		**Total= 1161**	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Wasting	66	7%	4	2%	23	12%	23	16%
No wasting	826	88%	169	97%	142	77%	123	84%
Unknown	73		0		6		15	
Wasting children per age								
<=1 year	0	0%	0	0%	0	0%	0	0%
>1 and <5 years	18	8%	1	3%	7	15%	7	17%
<5 years	18	7%	1	2%	7	14%	7	13%
>=5 and <=10 years	48	7%	3	2%	16	12%	16	17%
>10 years	0	0%	0	0%	0	0%	0	0%
Wasting children per gender								
Boy	24	36%	1	25%	11	48%	6	26%
Girl	42	64%	3	75%	12	52%	17	74%

	St Peter		**Holy Family**		**Nakuru Remand**		**New Life**	
	Total= 217		**Total= 52**		**Total= 36**		**Total= 179**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Wasting	10	5%	3	6%	0	0%	3	2%
No wasting	168	84%	49	94%	1	100%	174	98%
Unknown	16		0		35		1	1%

Wasting children per age								
<=1 year	0	0%	0	0%	0	0%	0	0%
>1 and <5 years	1	2%	1	5%	0	0%	1	6%
<5 years	1	2%	1	3%	0	0%	1	6%
>=5 and <=10 years	9	6%	2	9%	0	0%	2	1%
>10 years	0	0%	0	0%	0	0%	0	0%
Wasting children per gender								
Boy	4	40%	0	0%	0	0%	2	2%
Girl	6	60%	3	100%	0	0%	1	1%

Over the years there seems to be a positive trend towards less growth disorders. As always these conclusions must be made with the greatest of care as the population we see differs each year and only half of all children were seen in the previous year.

Of the all the small kids seen in the Holy Mary more than half had severe mulnutrition (40% stunting, 30% stunting in the last year). The reality of growing up in these conditions is harse and we do realize that interventions are problematic due to strict regulations and control. We hope that the SFFC will be able to reach out into the secluded community and provide these vulnarable babies with a bit of extra nutrition to help them grow.

During the medical check-ups of this year, we paid again attention to issues of hygiene and nutritional advise. For babies, we advised exclusive breastfeeding up to six months and then start with the introduction of additional foods.

On the schools that are in the feeding programm of the SFFC, each month dry foods are given. Fruit and vegetables are locally purchased and depend on the availablity and the season. Also we know that if the schools accept more children as was the case in St.Peters the amount of food is divided between more children. Most of the children get their first meal of the day at school, 11 am porridge and somewhere around noon lunch. The amount of food the children receive at home for dinner could vary widely.

It is evident from these data that the children in the prison and the remand home are the vulnerable ones; often orphans with an unknow future or now still with mama in prison untill they are around 2 years old and have to leave prison to go to relatives with un further unknow future.

2: Anaemia:

Overall data of anaemia in the last years.

Overall	2015	2016	2017	2018	2019	2020	2022	2023
Anaemia yes	37%	39%	45%	27%	29%	44%	29%	25%
Hb < 5		2%	1%	1%	1%	1%	1%	1%

Anemia is the most prevalent micronutrient disorder in the world. In Kenya, no national policy has been implemented so far to provide iron supplements to pregnant woman or young children.
While iron deficiency is frequently the primary factor contributing to anaemia, it is important to recognise that the control of anaemia requires a multi-faceted approach.
In addition to iron deficiency, infectious diseases such as worm infections, other chronic infections, particularly HIV-AIDS and tuberculosis, as well as other nutritional deficiencies, and as side effects of ART medication in HIV positive children.
It is unknown how many children with abdominal problems have iron deficiency anaemia and a coexisting H. pylori infection. From literature it is known that one should suspect an infection with H. pylori when the iron deficiency anaemia is refractory to iron administration.

This year the prevalence was stable compared to previous years. This is certainly biased due to the fact that we see a selected population whom is cared for.

Table 7: Prevalence of anaemia per geographical location by age and gender

	Total		**Kimerek**		**Kalambei**		**Kesengei**	
	1010		**Total= 1174**		**Total= 1191**		**Total= 1161**	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Anaemia	251	25%	38	22%	47	25%	37	23%
No anaemia	746	75%	135	78%	141	75%	122	77%
Unknown	13		1		3		2	

Hb <5,0 mmol	3	0%	1	1%	0	0%	1	1%
Anaemia per age								
<=1 year	20	61%	3	43%	2	40%	6	86%
>1 and <5 years	52	24%	10	26%	6	13%	11	26%
<5 years	69	28%	13	27%	8	16%	19	37%
>=5 and <=10 years	173	24%	25	21%	39	28%	17	16%
>10 years	9	17%	0	0%	0	0%	1	100%
Anaemia per gender								
Boy	132	53%	22	58%	29	62%	18	49%
Girl	119	47%	16	42%	18	38%	19	51%

	St Peter		**Holy Family**		**Nakuru Remand**		**New Life**	
	Total=	**217**	**Total=**	**52**	**Total=**	**36**	**Total=**	**179**
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Anaemia	64	30%	12	23%	3	8%	50	28%
No anaemia	148	70%	40	77%	33	92%	127	71%
Unknown	5		0		0		2	1%
Hb <5,0 mmol	1	0%	0	0%	0	0%	0	0%
Anaemia per age								
<=1 year	6	67%	3	60%	0	0%	0	0%
>1 and <5 years	13	27%	5	23%	0	0%	7	41%
<5 years	14	27%	8	28%	0	0%	7	41%
>=5 and <=10 years	48	30%	4	17%	0	0%	40	25%
>10 years	2	29%	0	0%	3	8%	3	60%
Anaemia per gender								
Boy	32	50%	0	0%	3	100%	28	29%
Girl	32	50%	12	100%	0	0%	22	26%

We treated the children with anaemia (and their mothers if they were breast fed) with supplements for three months. If we suspected a vitamin deficiet and/or a infection we gave multivitamins instead of iron supplements.

3: Worm treatment:

Overall data of profylactic antiwormtreatment for all locations in the last 3 years.

All lacations profylaxis	2015	2016	2017	2018	2019	2020	2022	2023
Worm treatment: yes	81%	72%	67%	0%	15%	2%	65%	3%
Worm treatment: no	19%	28 %	37%	100%	85%	98%	35%	97%

A strong relationship exists between a Helminth, an Ascaris Lumbricoides, a Hookworm, a Taenia Trichiura or Saginata (tapeworm) infection and anaemia. In studies Ascaris prevalence percentage is 19.3% and hookworm 7.6%. The incidence/prevalence of Taenia Saginata (tape worm) is not known.
In the last years a de-worming program was established in Kenya where there is a high prevalence of these infections in (school-aged) children yet. Official data show a coverage of this de-worming program of 80%.

If there was a clinical supsicion of an active worm infection or anemnestic clues of a gardia infection, children where treated either with albendazol for na active worm infection or with a course of metronidazol for a suspected gardia infection. We did not treat children below 2 years with profylactic antiwormtreatment following the international guidelines on the subject.

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The clinical diagnosis of worm related ilnesses remains a clinical challenge as most children do their need in lantrine pits that are dark and parents usually do not check the stool.

This year the distribution of antiworm pills by the government was non existent. As most areas in western Kenya are of the beaten track most govermental healtcare supplies and workers retreat to the bigger towns when there are problems. After corona and the devastating economic effects on especially the poor and the low income jobs, distribution of health is even more inequal than befor.

On teacher when askes why the didn't go to the officials and demand pills for their children, just looked at me in unbelieve at my queston. They would be suspected of corruption and might even be arrested.

After talks on location with SFFC they will start to distribute the pills in 2023 through the foodprogramm. We will monitro in 2024.

Table 8: Prevalence preventive anti-worm treatment in the last half-year per geographical location by age and gender

	Total		**St Peters**		**Kimerek**		**Kalambei**	
	1010		**Total= 1174**		**Total= 9191**		**Total= 1161**	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Anti-worm	30	3%	5	3%	2	1%	0	0%
No anti-worm	978	97%	169	97%	189	99%	160	99%
Unknown	2		1		0		0	
Anti-worm per age								
<=1 year	0	0%	0	0%	0	0%	0	0%
>1 and <5 years	2	1%	2	5%	0	0%	0	0%
<5 years	2	1%	2	4%	0	0%	0	0%
>=5 and <=10 years	28	4%	3	2%	2	1%	0	0%
>10 years	0	0%	0	0%	0	0%	0	0%

	St Peter		**Holy Family**		**Nakuru Remand**		**New Life**	
	Total= 217		**Total= 52**		**Total= 36**		**Total= 179**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Anti-worm	23	11%	0	0%	0	0%	0	0%
No anti-worm	194	89%	51	98%	36	100%	179	100%
Unknown	23	11%	0	0%	0	0%	0	0%
Anti-worm per age								
<=1 year	0	0%	0	0%	0	0%	0	0%
>1 and <5 years	0	0%	0	0%	0	0%	0	0%
<5 years	0	0%	0	0%	0	0%	0	0%
>=5 and <=10 years	23	14%	0	0%	0	0%	0	0%
>10 years	0	0%	0	0%	0	0%	0	0%

Health education on the spot was aimed at increasing awareness of worm transmission, the divers problems caused by intestinal helminth and the importance of bi-annual de-worming every six months. At all the visited schools we tried to explain to the teachers and people in charge why this deworming is so important for the children.

4: Pneumonia: (22/101 2% vs, 3% the year before) (see table appendix)
"Pneumonia", "coughing", "fast/difficult breathing", "chest indrawing" and "inability to suck milk" are the key words used by care-takers indicating a (severe) ARI (fever with tachypnoe).
The 22 children with a severe acute respiratory infection (ARI) were treated with appropriate antimicrobials and home treatment advice. We saw only 1 child with astma/bronchitis. If needed these children were treated with ventolin on the spot and were given instructions about the use of inhalers. In case of babies the mothers were instructed how to use the babyhaler. The SFFC will provide follow up visitis.

5: Cardial problems: (22/1010, 2%) (see table appendix)
Mitral regurgitation or ventricular atrial septal defects being the most common heart problems in the third world. For this condition no treatment is available although a good dental situation is essential for a healthy live.
The MCC carrousel includes a cardial examination. We suspected 22 children of having a new pathological heart murmur. All the new and old cardiac kids together with their caretakers received extra information about their conditions. The children and their care takers were stressed on teeth brushing procedures. Besides this, they were told to give their child antibiotics when going to a dentist for a teeth extraction. These children were transferred to the Coptic Hospital in Nairobi with a clinical suspicion of severe congenital defect. If necessary we will provide costs for treatment with the Nleuwendijk Foundation. We did a follow up for all the cardiac children from previous years and provided medication and treatment as needed. For the kids that were referred to the hospital this year results are still coming in and we will monitor the follow up closely.

6: Skin diseases: (233/910 25%, 7% before)(see table 1of the appendix)
This year we saw 94 (94/1010 9%) children with dermatomycoses including tinea capititis. And still this could be underscored as we only treat tinea capitis with systemic treatment in case of severe disease (> 50% of head affected, or severe syperinfections or growth disorders). We saw only 1 children with scabies. This

seems to good to be true. As we only treat active scabies or infections/irritations caused bij scabies, we expect we underscored.

We accept a certain degree of underscoring. As tinea capitis is widespread in the schools due to transmission of the fungus bij razorblade and other factors, we only reported and treated the serious cases.

Antifungal cream (eventually in combination with hydrocortison) was given for fungal infections (dermatomycosis) and hydrocortison crème was given for different forms of skin disorders. We did treat the children with severe or infected forms of tinea capitis with griseofulvin.

The reported incidence of skin related problems is on the rise. Ofcourse skindisorders are multifactorial and it's difficult to give a general conclusion but poor hygiene in the reality of drought and hunger should be considered a factor.

7: Dental: (caries not otherwise specified: 51 /910, 43%; painful caries: 1/910, 1%)

	Total		**St Peters**		**Kimerek**		**Kalambei**	
	1010		**Total= 174**		**Total= 191**		**Total= 161**	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
cariës n.o.s.	158	16%	27	16%	36	19%	19	12%
pain n.o.s	23	2%	3	2%	3	2%	2	1%
fluorosis	90	9%	4	2%	18	9%	14	9%
filling temporary teeth	73	7%	14	8%	9	5%	17	11%
Teeth inspection	40	4%	10	6%	6	3%	3	2%
caries with pain	103	10%	20	11%	13	7%	15	9%
Cleaning teeth	1	0%	0	0%	0	0%	0	0%

	St Peter	**Holy Family**	**Nakuru Remand**	**New Life**

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	Total=	**217**	**Total=**	**52**	**Total=**	**36**	**Total=**	**179**
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
cariës n.o.s.	32	15%	9	17%	7	19%	28	16%
pain n.o.s	6	3%	2	4%	2	6%	5	3%
fluorosis	15	7%	4	8%	6	17%	29	16%
filling temporary teeth	17	8%	2	4%	0	0%	14	8%
Teeth inspection	8	4%	1	2%	5	14%	7	4%
caries with pain	27	12%	2	4%	8	22%	18	10%
Cleaning teeth	0	0%	0	0%	1	3%	0	0%

In general a moderate caries prevalence was found. Our reported incidence for painfull caries is 10% and relatively low. As the doctors knew we did have a denstist in this medical camp during on some locations all children visitied the dentist. And we would only score a treatment if applicable. Dental care in these areas is difficult and focusses on painrelief, infections prevention and treatment to avoid future harm.

At the last station of the medical carroussel local volunteers gave out toothbrushes and educated the children and their caretakers in teethbrushing.

We as MCC provided education, instruction folders, brush posters and tooth brushes for the schools. The folders and posters were based on the program developed by NOSH.

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Further recommendations

Deworming
This year most children of the SSFC schools did receive the antiworm tablet.. Unfortunately, the outreach from the govermental programm still appears to differ greatly between locations and in time. After our visit in 2022 we were positive in seeing a upward trend in distribution of antiworm tablet. These feelings were shattered this year as we learned that in almost all areas we visitied (even the prison) nothing was provide.

We need to establish a structure were at least in the SFFC schools the coverage of this profylactic antiworm programme is 100%!

As we learned after talking to headmasters and prison workers that relying on the local goverments is futile, the SFFC will distribute the tablets through the foodprogramm. In the locations that are not included, we left tablet for after 6 months and will provide more in 2024.

We should workout a scheme in which tablets for all locations are bought in centrally at Meds for retail prices and distributed every 6 months. Ofcourse there could be a health benefit if it could be distributed to all the children in the schools not only the young ones.

Nutrition
The incidence of growth disorders seems to be on the rise due to factors discussed earlier when we compare the results to the results of the last years. Like discussed during the medical camp the young newcommers in the nursery and baby classes seem to have a poor nutrutional state when entering the school. During the years they will benefit the most from the feeding programm.
We would encourange SFFC to proceed with the food programmes at the schools and nurseries. The new locations we visited (Holy Mary and New life) have the hightest incidence of malnutrion. As the caretakers there also told us during our visit there is a constant need for funds and foods. Ofcourse we do understand the Sophia Foundation can not start foodprogrammes easily but if these locations are a stable partner also next year and we do want to help them to make a change for their vulnarable children their needs are bigger than a medical camp.

There is a need for further education about nutrition and healthy living for teachers and health workers.

Cardiac problems

Every year we see children with suspected pathological heartproblems. In Kenya there is not any govermental programm for these needy children and the cost of medication and operations fall to their parents.

Heart operations are expensive (KS 100.000) and need extensive follow-up and chronic medication.

This year we did see an uprise in expected pathological murmurs. We should explore the possibilities for pocus ultrasound on locations as a trial in future years.

Skin disorders
Fungal infections of the head are still common. In general we see a lot of children with dirty skin due to poor hygenic conditions. This poses a risk for getting skin infections. We do know that water is a problem but should stress that children should clean dirty wounds with water to prevent more serious infections.

Is there a rol a town nurse or dedicated teacher can play in hygiene and wound matters?
Are there local believes about skin and wounds we are not aware? In the years before we were able to talk with the local chiefs about custom of shaving the childrens head. Unfortunatley throughout the years the effect of these talks has minimized. Can the schools or the Sophia play a role in this education and maybe even take care in providing clean razorblades?

Teeth

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During the years we've seen a lot of children with dental problems. The last dental camp in Western Kenya has been some years ago. The addition of a dentist this year was very positive. In children checked the last time by our dentis, we could observe that the material we use is sustainable and still visible.

Health and Hygiene
In general we notice that knowledge about what is good health and hygiene among children, caretakes and sometimes even teachers is little.

To change the first step is education.

Last words:
Thanks to the amazing support from the Sophia Foundation we were able to give a lot of children their share of medical care and personal attention. We all felt to be part of one big team and all teammembers expressed the wish to come back again next year.

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Appendix A Disease prevalence among all children per geographical location

	Total		St Peters		Kimerek		Kalambei	
	1010		Total= 174		Total= 191		Total= 161	
	N	%	n	%	n	%	n	%
Underweight	160	16%	12	7%	48	25%	29	18%
Stunting	132	13%	15	9%	30	16%	15	9%
Wasting	66	7%	4	2%	23	12%	23	14%
Anaemia	251	25%	38	22%	47	25%	37	23%
HIV pos.	1	0%	0	0%	0	0%	0	0%
Malaria (suspected)	2	0%	0	0%	0	0%	0	0%
Malaria (confirmed)	1	0%	1	1%	0	0%	0	0%
pneumonia (clinical)	22	2%	2	1%	1	1%	8	5%
BHR/asthma	1	0%	0	0%	0	0%	1	1%
Respir. Other	2	0%	0	0%	1	1%	1	1%
dehydration : acute diarrhoea	1	0%	0	0%	0	0%	0	0%
active worm infection	2	0%	0	0%	0	0%	0	0%
GI other	1	0%	0	0%	0	0%	0	0%
otitis media acuta	2	0%	0	0%	0	0%	1	1%
otitis media with effusion	2	0%	0	0%	1	1%	0	0%
otitis externa	5	0%	0	0%	2	1%	1	1%
(adeno)tonsillitis	1	0%	0	0%	0	0%	1	1%
other	5	0%	0	0%	1	1%	1	1%
wounds n.o.s.	4	0%	0	0%	0	0%	0	0%
eczema n.o.s.	9	1%	3	2%	0	0%	2	1%
dermatomycosis	15	1%	3	2%	6	3%	3	2%
Impetigo/furunculosis	7	1%	3	2%	1	1%	2	1%
lice	1	0%	0	0%	0	0%	0	0%
scabies	1	0%	1	1%	0	0%	0	0%
Tinea Capitis	79	8%	12	7%	31	16%	8	5%
wounds infected,	7	1%	2	1%	1	1%	1	1%
Burn wound fresh	2	0%	1	1%	0	0%	1	1%
Skin other (psoriasis etc)	10	1%	1	1%	3	2%	2	1%
psychomotoric retardation	6	1%	1	1%	2	1%	0	0%
epilepsy	1	0%	0	0%	0	0%	0	0%
spina bifida	1	0%	0	0%	0	0%	1	1%
migraine/headache	2	0%	2	1%	0	0%	0	0%
physiological murmer	4	0%	1	1%	0	0%	1	1%
pathological murmur (suspected)	22	2%	0	0%	5	3%	6	4%
Cardio other	2	0%	0	0%	1	1%	0	0%
refractory problem	4	0%	3	2%	0	0%	0	0%
strabismus	1	0%	0	0%	0	0%	0	0%
keratoconjunctivitis	9	1%	0	0%	1	1%	6	4%
amblyopia	1	0%	0	0%	1	1%	0	0%
eye other	6	1%	0	0%	2	1%	0	0%
gyn other	2	0%	0	0%	0	0%	1	1%
urogen other	1	0%	0	0%	0	0%	1	1%
chronic kidney path.	1	0%	1	1%	0	0%	0	0%
artralgia n.o.s.	1	0%	0	0%	0	0%	1	1%
skeletal other	1	0%	0	0%	1	1%	0	0%
hernia(umbilical etc)	11	1%	1	1%	1	1%	4	2%

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	St Peter		Holy Family		Nakuru Remand		New Life	
	Total=	217	Total=	52	Total=	36	Total=	179
	n	%	n	%	n	%	n	%
Underweight	24	11%	14	27%	0	0%	33	18%
Stunting	27	12%	16	31%	5	14%	24	13%
Wasting	10	5%	3	6%	0	0%	3	2%
Anaemia	64	29%	12	23%	3	8%	50	28%
HIV pos.	1	0%	0	0%	0	0%	0	0%
Malaria (suspected)	1	0%	0	0%	1	3%	0	0%
Malaria (confirmed)	0	0%	0	0%	0	0%	0	0%
pneumonia (clinical)	2	1%	1	2%	0	0%	8	4%
BHR/asthma	0	0%	0	0%	0	0%	0	0%
Respir. Other	0	0%	0	0%	0	0%	0	0%
dehydration : acute diarrhoea	1	0%	0	0%	0	0%	0	0%
active worm infection	1	0%	0	0%	0	0%	1	1%
GI other	1	0%	0	0%	0	0%	0	0%
otitis media acuta	1	0%	0	0%	0	0%	0	0%
otitis media with effusion	1	0%	0	0%	0	0%	0	0%
otitis externa	1	0%	0	0%	0	0%	1	1%
(adeno)tonsillitis	0	0%	0	0%	0	0%	0	0%
other	3	1%	0	0%	0	0%	0	0%
wounds n.o.s.	2	1%	0	0%	0	0%	2	1%
eczema n.o.s.	4	2%	0	0%	0	0%	0	0%
dermatomycosis	1	0%	2	4%	0	0%	0	0%
Impetigo/furunculosis	1	0%	0	0%	0	0%	0	0%
lice	1	0%	0	0%	0	0%	0	0%
scabies	0	0%	0	0%	0	0%	0	0%
Tinea Capitis	20	9%	5	10%	0	0%	3	2%
wounds infected,	1	0%	0	0%	1	3%	1	1%
Burn wound fresh	0	0%	0	0%	0	0%	0	0%
Skin other (psoriasis etc)	2	1%	0	0%	2	6%	0	0%
psychomotoric retardation	1	0%	2	4%	0	0%	0	0%
epilepsy	0	0%	0	0%	1	3%	0	0%
spina bifida	0	0%	0	0%	0	0%	0	0%
migraine/headache	0	0%	0	0%	0	0%	0	0%
physiological murmer	1	0%	0	0%	0	0%	1	1%
pathological murmur (suspected)	7	3%	2	4%	0	0%	2	1%
Cardio other	0	0%	0	0%	0	0%	1	1%
refractory problem	1	0%	0	0%	0	0%	0	0%
strabismus	1	0%	0	0%	0	0%	0	0%
keratoconjunctivitis	1	0%	0	0%	1	3%	0	0%
amblyopia	0	0%	0	0%	0	0%	0	0%
eye other	1	0%	1	2%	2	6%	0	0%
gyn other	0	0%	0	0%	1	3%	0	0%
urogen other	0	0%	0	0%	0	0%	0	0%
chronic kidney path.	0	0%	0	0%	0	0%	0	0%
artralgia n.o.s.	0	0%	0	0%	0	0%	0	0%
skeletal other	0	0%	0	0%	0	0%	0	0%
hernia(umbilical etc)	2	1%	1	2%	0	0%	2	1%

Appendix C: Treatment among all children per geographical location

	Total		**St Peters**		**Kimerek**		**Kalambei**	
	1010		**Total=**	**174**	**Total=**	**191**	**Total=**	**161**
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
ferro	175	17%	32	18%	30	16%	20	12%
mother iron	9	1%	1	1%	0	0%	6	4%
multivitamins	218	22%	18	10%	65	34%	41	25%
anti-worm	915	91%	150	86%	178	93%	141	88%
acute worm	28	3%	4	2%	4	2%	5	3%
anti-scabies	1	0%	1	1%	0	0%	0	0%
praziquantel	1	0%	0	0%	0	0%	0	0%
amoxicillin	20	2%	2	1%	2	1%	7	4%
augmentin	8	1%	0	0%	1	1%	2	1%
2e lijns antibiotica	4	0%	1	1%	0	0%	3	2%
malaria treatment	1	0%	0	0%	1	1%	0	0%
paracetamol	3	0%	0	0%	0	0%	0	0%
inhaler	2	0%	0	0%	0	0%	1	1%
AB urine infection	1	0%	0	0%	0	0%	0	0%
ORS	2	0%	0	0%	0	0%	0	0%
eardrops	4	0%	0	0%	2	1%	1	1%
hydrocortisone cream	11	1%	3	2%	0	0%	1	1%
dactarin cream	11	1%	4	2%	3	2%	2	1%
dactacort cream	6	1%	0	0%	1	1%	4	2%
iodine	3	0%	0	0%	1	1%	1	1%
fusidin cream	7	1%	4	2%	0	0%	0	0%
griseofulvine	24	2%	3	2%	11	6%	3	2%
eyedrops	10	1%	0	0%	2	1%	6	4%

	St Peter		Holy Family		Nakuru Remand		New Life	
	Total=	217	Total=	52	Total=	36	Total=	179
	n	%	n	%	n	%	n	%
ferro	44	20%	7	13%	8	22%	34	19%
mother iron	2	1%	0	0%	0	0%	0	0%
multivitamins	37	17%	21	40%	4	11%	32	18%
anti-worm	198	91%	44	85%	34	94%	170	95%
acute worm	9	4%	0	0%	0	0%	6	3%
anti-scabies	0	0%	0	0%	0	0%	0	0%
praziquantel	0	0%	0	0%	0	0%	1	1%
amoxicillin	3	1%	1	2%	0	0%	5	3%
augmentin	3	1%	0	0%	0	0%	2	1%
2e lijns antibiotica	0	0%	0	0%	0	0%	0	0%
malaria treatment	0	0%	0	0%	0	0%	0	0%
paracetamol	1	0%	0	0%	2	6%	0	0%
inhaler	0	0%	0	0%	0	0%	1	1%
AB urine infection	0	0%	0	0%	1	3%	0	0%
ORS	2	1%	0	0%	0	0%	0	0%
eardrops	1	0%	0	0%	0	0%	0	0%
hydrocortisone cream	5	2%	1	2%	1	3%	0	0%
dactarin cream	1	0%	1	2%	0	0%	0	0%
dactacort cream	1	0%	0	0%	0	0%	0	0%
iodine	1	0%	0	0%	0	0%	0	0%
fusidin cream	1	0%	0	0%	0	0%	2	1%
griseofulvine	4	2%	2	4%	0	0%	1	1%
eyedrops	0	0%	0	0%	0	0%	0	0%

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Appendix D Follow up

	Total		**St Peters**		**Kimerek**		**Kalambei**	
	910		**Total= 191**		**Total= 188**		**Total= 188**	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Dentist	35	4%	5	3%	7	4%	13	7%
Specialist in hospital	10	1%	2	1%	2	1%	3	2%
Revisit	20	2%	13	7%	1	1%	1	1%
Social program	16	2%	8	4%	0	0%	3	2%
Diagnostics	14	2%	6	3%	3	2%	1	1%
Bloodtest after 3 months	9	1%	8	4%	0	0%	0	0%
International organisation	2	0%	0	0%	1	1%	0	0%
Other…	3	0%	1	1%	2	1%	0	0%

	Kesengei		**New Life**		**Nakuru Remand**		**Holy Mary**	
	Total= 148		**Total= 108**		**Total= 44**		**Total= 43**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Dentist	1	1%	4	4%	5	11%	0	0%
Specialist in hospital	1	1%	1	1%	0	0%	1	2%
Revisit	4	3%	0	0%	1	2%	0	0%
Social program	1	1%	4	4%	0	0%	0	0%
Diagnostics	3	2%	1	1%	0	0%	0	0%
Bloodtest after 3 months	1	1%	0	0%	0	0%	0	0%
International organisation	0	0%	0	0%	1	2%	0	0%
Other…	0	0%	0	0%	0	0%	0	0%