Medical Checks for Children

Medical Rapport Kenya West 2014

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Arnhem, july 2014

MCC Kenya West 2014

Introduction

From March the 21th untill March the 30th 2013, 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 1196 children aged newborn untill 13 years of age.

The team consisted of Nadine van Dijk, mission leader and medical-end-responsible, emergency physician; Frank van Tunen, organisation-end-responsible, accountant and chariman MCC;, Paul de Vries, physiotherapist; Lisette vd Broek, resident; Esther Anne Broekhuizen, family doctor; Jantine Koeleman, family doctor; Miranda Wezendonk, ER nurse; Peter van Geene, ER/ICU-nurse and Ferdie van Geene, college student.

Our host patron durning the Kenia stay was Archbishop Makarios, Head of the Orthodox Seminary in Riruta, Nairobi.

After a explorative mission in 2010, MMC visited Kenia West for the fith time.

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.

The cooperation of the Sophia Foundation for Children and the Archbishop Makarios existed out of the following (amongst others):

- Transfer of knowledge about expected diseases, through their earlier work in Kenia.
- Transfer of data on demographics.
- Selection of primary schools and orphanages.
- Arranging accomodation in Kisumu and Eldoret.
- Transportation of the MCC team from the airport, to Kenia Westan and to the check locations.
- Prior announcement of the medical camp in the locations.
- Ordering and delivery of medications.
- Giving support to the MCC team during the medical camp.
- Managing facilitating and (pre)-payment of hospital in/out patient referrals (Riruta Clinic and Coptic Hospital in Nairobi.

The MCC team was delighted by the cooperation with Archbishop Makarios and the strong input of the Sophia Foundation for Children. Our special thanks go Marina Shacola and Nopi Nicolaou Telemachou for their preparational work and to Matheos Demetriades and for their direct support during our medical camp. Special thanks to Fani Loula who came alone from Greece to help us in Keyna.
Special thanks go to the translators and teachers.
We are grateful to all the care takers and community people for bringing the children and helping to conduct the program. We are happy we got the opportunity to work with and to learn from all volunteers, translators and other supporting members who have helped directly or indirectly, despite their own obligations.
And last but not least, we would like to thank the children and their care-takers who came to the checks for their inspiring presence.

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; St. Pantelaimon Nursery & Primary Kalamai Bay Nursery, Kimerek Nursery and Kimbonze Nursery at Kimarek; Chipungundi Primary at Chipungundi and St Peter's Kapkechui at Chipita.
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)
Due to problems with acurate registron we pooled al data for kimarek and Kimarek Primary. This year we tried to combine the children from the villages for analysis. In total we did see 75 village children not going to a particular school.

Table 11: Pooling of locations for data analysis

Pool of locations:	**Kesengei**	**N**	**Kimarek**	**N**	**Kimarek Primary**	**N**	**St. Pantalaimon**	**N**
Included villages:	Kesengh Kesenghei village Kosengei		Kimarek village Kapkures Kimerek Kamalabei Kimerik	1	Kimarek school Kimerek school		St. Pantelaimon St. Patheleimon St. Paththeleimon	
Total								

Pool of locations:	**Chebugundi**	**N**	**Kapkechui**	**N**
Included villages:	Chepaundi Chepaundi village Chepungi village Chipugundi		Kapkechui Kapkechui village	
Total				

Table 1 b

Rijlabels	24-03-14	25-03-14	26-03-14	27-03-14	28-03-14	29-03-14	Total
Chebugundi	0	0	0	191	0	0	191
Chepkundi	0	0	0	15	0	0	15
Kamalaibai	0	188	0	0	0	0	188
Kapkures	26	0	0	0	0	0	26
Kesengei	0	0	202	0	0	0	202
Kimerek nursery	21	0	0	0	0	0	21
Kimerek primary	93	37	0	0	0	0	130
Nakuru Remand Home	0	0	0	0	0	43	43
Nakuru Women Prison	0	0	0	0	0	29	29
St. Pantalemon	73	0	0	0	0	0	73
St. Peters	0	0	0	0	203	0	203
Villager	0	1	24	22	28	0	75
Total	**213**	**226**	**226**	**228**	**231**	**72**	**1196**

Table 2: Number. age and gender distribution of the 1196 checked children at the different locations

	Total		Chebugundi		Chepkundi		Kamalaibai		Kapkures		Kesengei	
	1196		Total= 191		Total= 15		Total= 188		Total= 26		Total= 202	
Age	**N**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
<=1 year	61	5%	0	0%	0	0%	5	3%	0	0%	1	0%
>1 en <5 years	234	20%	78	41%	1	7%	21	11%	6	23%	42	21%
<5 years	295	25%	78	41%	1	7%	26	14%	6	23%	43	21%
>=5 en <=10 years	832	70%	113	59%	14	93%	146	78%	19	73%	153	76%
>10 years	69	6%	0	0%	0	0%	16	9%	1	4%	6	3%
Gender												
Boy	569	48%	61	32%	4	27%	94	50%	19	73%	101	50%
Girl	536	45%	66	35%	10	67%	86	46%	7	27%	99	49%

Kimerek nursery		Kimerek primary		Nakuru Remand Home		Nakuru Women Prison		St. Pantalemon		St. Peters		Villager	
Total= 21		Total= 130		Total= 43		Total= 29		Total= 73		Total= 203		Total= 75	
n	%	n	%	n	%	n	%	n	%	n	%	n	%
0	0%	0	0%	1	2%	15	52%	0	0%	0	0%	39	52%
3	14%	0	0%	1	2%	12	41%	12	16%	31	15%	27	36%
3	14%	0	0%	2	5%	27	93%	12	16%	31	15%	66	88%
18	86%	124	95%	6	14%	2	7%	61	84%	169	83%	7	9%
0	0%	6	5%	35	81%	0	0%	0	0%	3	1%	2	3%
10	48%	67	52%	33	77%	15	52%	35	48%	96	47%	34	45%
11	52%	63	48%	7	16%	14	48%	38	52%	95	47%	40	53%

1: Growth abnormality and malnutrition:
(underweight: 13% (157/1196), stunting: 11% (136/1196), wasting: 5% (42/1196)
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).

We did a subgroup analysis in Kimarek of the nursery children and primary. As expected incidence of growth abnormatlities is higher in the nursery with the younger kids. The SFFC runs a feeding program at this school and we expected that in the higher classes incidences would drop because the children received the benefits of the feeding program for a longer time than the young children in the nursery classes,We do need to mention that the groups ar to small to give statistical support to this observation.

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.

The reported incidence for underweight (Kenya Statistical Factsheet WHO) is 16,5 % and for stunting 36%.

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).

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

	Total		Chebugundi		Chepkundi		Kamalaibai		Kapkures		Kesengei	
	1196		Total= 191		Total= 15		Total= 188		Total= 26		Total= 202	
	N	%	n	%	n	%	n	%	n	%	n	%
Underweight	157	13%	35	18%	0	0%	38	20%	3	12%	34	17%
No underweight	1037	87%	156	82%	15	100%	150	80%	23	88%	168	83%
Unknown	2	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Underweight children per age												
<=1 year	8	14%	0	0%	0	)%	1	20%	0	)%	0	0%
>1 en <5 years	28	12%	10	13%	0	0%	4	19%	1	17%	6	14%
<5 years	36	12%	10	13%	0	0%	5	19%	1	17%	6	14%
>=5 en <=10 years	120	14%	25	22%	0	0%	32	22%	2	11%	28	18%
>10 years	1	1%	0	0%	0	)%	1	6%	0	0%	0	0%
Underweight children per gender												
Boy	76	13%	5	8%	0	0%	20	21%	2	11%	23	23%
Girl	58	11%	9	14%	0	0%	17	20%	1	14%	11	11%

	Kimerek nursery		Kimerek primary		Nakuru Remand Home		Nakuru Women Prison		St. Pantalemon		St. Peters	
	Total= 21		Total= 130		Total= 43		Total= 29		Total= 73		Total= 203	
	n	%	n	%	n	%	n	%	n	%	n	%
Underweight	5	24%	14	11%	0	0%	2	7%	2	3%	12	6%
No underweight	16	76%	116	89%	43	100%	27	93%	71	97%	191	94%
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Underweight children												
<=1 year	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
>1 en <5 years	1	33%	0	0%	0	0%	2	17%	1	8%	0	0%
<5 years	1	33%	0	0%	0	0%	2	7%	1	8%	0	0%
>=5 en <=10 years	4	22%	14	11%	0	0%	0	0%	1	2%	12	7%
>10 years	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Underweight children												
Boy	3	30%	8	12%	0	0%	2	13%	2	6%	4	4%
Girl	2	18%	6	10%	0	0%	0	0%	0	0%	8	8%

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

	Total		Chebugundi		Chepkundi		Kamalaibai		Kapkures		Kesengei	
	1196		Total= 191		Total= 15		Total= 188		Total= 26		Total= 202	
	N	%	n	%	n	%	n	%	n	%	n	%
Stunting	136	11%	33	17%	1	7%	28	15%	0	0%	12	6%
No stunting	1058	89%	158	83%	14	93%	160	85%	26	100%	190	94%
Unknown	2	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Stunting children per age												
<=1 year	13	22%	0	0%	0	0%	1	20%	0	0%	0	0%
>1 en <5 years	28	12%	11	14%	0	0%	2	10%	0	0%	1	2%
<5 years	41	14%	11	14%	0	0%	3	12%	0	0%	1	2%
>=5 en <=10 years	89	11%	22	19%	1	7%	24	16%	0	0%	11	7%
>10 years	6	9%	0	0%	0	0%	1	6%	0	0%	0	0%
Stunting children per gender												
Boy	68	12%	7	11%	1	25%	20	21%	0	0%	5	5%
Girl	48	9%	8	12%	0	0%	8	9%	0	0%	7	7%

	Kimerek nursery		Kimerek primary		Nakuru Remand Home		Nakuru Women Prison		St. Pantalemon		St. Peters	
	Total= 21		Total= 130		Total= 43		Total= 29		Total= 73		Total= 203	
Stunting	n	%	n	%	n	%	n	%	n	%	n	%
No stunting	4	19%	11	8%	4	9%	5	17%	2	3%	16	8%
Unknown	17	81%	119	92%	39	91%	24	83%	71	97%	187	92%
Stunting children per c	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
<=1 year												
>1 en <5 years	0	0%	0	0%	0	0%	1	7%	0	0%	0	0%
<5 years	0	0%	0	0%	0	0%	4	33%	1	8%	2	6%
>=5 en <=10 years	0	0%	0	0%	0	0%	5	19%	1	8%	2	6%
>10 years	4	22%	10	8%	0	0%	0	0%	1	2%	14	8%
Stunting children per g	0	0%	1	17%	4	11%	0	0%	0	0%	0	0%
Boy												
Girl	3	30%	5	7%	3	9%	4	27%	2	6%	6	6%
	1	9%	6	10%	0	0%	1	7%	0	0%	10	11%

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

	Total		Chebugundi		Chepkundi		Kamalaibai		Kapkures		Kesengei	
	1196		Total= 191		Total= 15		Total= 188		Total= 26		Total= 202	
	N	%	n	%	n	%	n	%	n	%	n	%
Wasting	42	5%	7	4%	0	0%	7	6%	0	0%	21	16%
No wasting	780	95%	161	96%	15	100%	102	94%	25	100%	113	84%
Unknown	374	31%	23	12%	0	0%	79	42%	1	4%	68	34%
Wasting children per age												
<=1 year	4	7%	0	0%	0	0%	1	20%	0	0%	0	0%
>1 en <5 years	10	4%	3	4%	0	0%	1	5%	0	0%	6	14%
<5 years	14	5%	3	4%	0	0%	2	8%	0	0%	6	14%
>=5 en <=10 years	28	5%	4	4%	0	0%	5	6%	0	0%	15	16%
>10 years	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Wasting children per gender												
Boy	14	4%	1	2%	0	0%	4	7%	0	0%	9	13%
Girl	24	6%	3	5%	0	0%	3	6%	0	0%	12	18%

	Kimerek nursery		Kimerek primary		Nakuru Remand Home		Nakuru Women Prison		St. Pantalemon		St. Peters	
	Total= 21		Total= 130		Total= 43		Total= 29		Total= 73		Total= 203	
	n	%	n	%	n	%	n	%	n	%	n	%
Wasting	0	0%	1	1%	0	0%	0	0%	0	0%	3	2%
No wasting	21	100%	74	99%	3	100%	28	100%	30	100%	142	98%
Unknown	0	0%	55	42%	40	93%	1	3%	43	59%	58	29%
Wasting children per c												
<=1 year	0	0%	0	0%	0	0%	0	0%	0	0%	0	)0%
>1 en <5 years	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
<5 years	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
>=5 en <=10 years	0	0%	1	1%	0	0%	0	0%	0	0%	3	3%
>10 years	0	0%	0	0%	0	0%	0	)%	0	0%	0	0%
Wasting children per g												
Boy	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Girl	0	0%	1	3%	0	0%	0	0%	0	0%	3	4%

In comparison with 2012 and 2013the reported incidence of malnutrition and growth retardation is stable and the incidence of stunting is again wel below the reported WHO incidence in Kenya. Selection bias due to the large population of school going kids may be a factor in underreporting severe malnutrition. Also Kimarek and St Peter are part of the foodprogramme of the SFFC. In the subgroupanalysis of the younger children in Kimarek we see a trend towards a positive effect of the feeding program. Due to heterogeneity in the checked population and the fact that we do not have a follow-up for all children in these locations due to no shows, drop out from the school etc it is not possible to give a statistical valid answer.

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.

We are aware of the financial problems and, because of draught, scarcity of healthy food for many families.

2:

MCC Kenya West 2014

Anaemia: (39%, 469/1196)
Anaemia is the most prevalent micronutrient disorder in the world.
In Kenia no national policy has been implemented so far to provide iron supplements to pregnant women 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.

In 469 (32%) children anemia was diagnosed (see table 7). In eleven children (1 %, 11/1196) the haemoglobin level was less than 5.0 mmol/l; these children were treated and there Hb was checked in 3 months. List of referrals and results can be found in appendix E.

This year the prevalence was in concordence with previous years.

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

	Total		Chebugundi		Chepkundi		Kamalaibai		Kapkures		Kesengei	
	1196		Total= 191		Total= 15		Total= 188		Total= 26		Total= 202	
	N	%	n	%	n	%	n	%	n	%	n	%
Anaemia	469	39%	93	49%	3	20%	65	35%	7	27%	73	36%
No anaemia	725	61%	97	51%	12	80%	123	65%	19	73%	129	64%
Unknown	1	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Hb <5,0 mmol	11	1%	2	1%	0	0%	3	2%	0	0%	2	1%
Anaemia per age												
<=1 year	35	57%	0	0%	0	0%	2	40%	0	0%	1	100%
>1 en <5 years	90	38%	37	47%	1	100%	6	29%	1	17%	13	31%
<5 years	125	42%	37	47%	1	100%	8	31%	1	17%	14	33%
>=5 en <=10 years	322	39%	56	50%	2	14%	52	36%	6	32%	56	37%
>10 years	22	32%	0	0%	0	0%	5	31%	0	0%	3	50%
Anaemia per gender												
Boy	234	41%	30	49%	1	25%	31	33%	6	32%	40	40%
Girl	195	36%	32	48%	1	10%	31	36%	1	14%	32	32%

	Kimerek nursery		Kimerek primary		Nakuru Remand Home		Nakuru Women Prison		St. Pantalemon		St. Peters	
	Total= 21		Total= 130		Total= 43		Total= 29		Total= 73		Total= 203	
	n	%	n	%	n	%	n	%	n	%	n	%
Anaemia	5	24%	39	30%	12	28%	11	38%	27	37%	86	42%
No anaemia	16	76%	91	70%	31	72%	17	59%	46	63%	117	58%
Unknown	0	0%	0	0%	0	0%	1	3%	0	0%	0	0%
Hb <5,0 mmol	0	0%	1	1%	0	0%	0	0%	0	0%	2	1%
Anaemia per age												
<=1 year	0	0%	0	0%	1	100%	4	27%	0	0%	0	0%
>1 en <5 years	0	0%	0	0%	1	100%	7	58%	4	33%	6	19%
<5 years	0	0%	0	0%	2	100%	11	41%	4	33%	6	19%
>=5 en <=10 years	5	28%	36	29%	3	50%	0	0%	23	38%	78	46%
>10 years	0	0%	3	50%	7	20%	0	0%	0	0%	2	67%
Anaemia per gender												
Boy	3	30%	22	33%	12	36%	8	53%	12	34%	46	48%
Girl	2	18%	17	27%	0	0%	3	21%	15	39%	37	39%

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

3: Worm treatment: (prophylactic 65%; active worminfection 3% 40/1196 ; suspected gardia 3% 30/1196)
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 Kenia 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 a active worminfection or anemnestic clues of a gardia infection, children where treated either with albendazol for a active worminfection or with a course of metronidazol for a suspected gardia infection.

Dysenteria was suspected in 11 children (1%) who where treated with a course of cotrimoxazol.

We see a trend towards a higher reported incidence of active worm infection and suspected guardia. This could be due to more awareness in the treating doctors due to medical information provided to the medical team during the prepartion fase and the new treatment protocol in our medical handbook.

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

	Total		Chebugundi		Chepkundi		Kamalaibai		Kapkures		Kesengei	
	1196		Total= 191		Total= 15		Total= 188		Total= 26		Total= 202	
	N	%	n	%	n	%	n	%	n	%	n	%
Anti-worm	404	34%	0	0%	0	0%	0	0%	0	0%	1	0%
No anti-worm	779	65%	191	100%	15	100%	188	100%	26	100%	201	100%
Anti-worm per age												
<=1 year	9	15%	0	0%	0	0%	0	0%	0	0%	0	0%
>1 en <5 years	48	21%	0	0%	0	0%	0	0%	0	0%	0	0%
<5 years	57	19%	0	0%	0	0%	0	0%	0	0%	0	0%
>=5 en <=10 years	341	41%	0	0%	0	0%	0	0%	0	0%	0	0%
>10 years	6	9%	0	0%	0	0%	0	0%	0	0%	1	17%

	Kimerek nursery		Kimerek primary		Nakuru Remand Home		Nakuru Women Prison		St. Pantalemon		St. Peters	
	Total= 21		Total= 130		Total= 43		Total= 29		Total= 73		Total= 203	
	n	%	n	%	n	%	n	%	n	%	n	%
Anti-worm	20	95%	93	72%	0	0%	1	3%	73	100%	201	99%
No anti-worm	0	0%	36	28%	43	100%	19	66%	0	0%	0	0%
Anti-worm per age												
<=1 year	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
>1 en <5 years	3	100%	0	0%	0	0%	1	8%	12	100%	29	94%
<5 years	3	100%	0	0%	0	0%	1	4%	12	100%	29	94%
>=5 en <=10 years	17	94%	92	74%	0	0%	0	0%	61	100%	169	100%
>10 years	0	0%	1	17%	0	0%	0	0%	0	0%	3	100%

Preventive antiworm treatment was given to 65 % of all checked children. Last year we had to give alle the children (100%) a profylactic antiworm tablet. We hope to see next year that this represents a structural improvement in the health care system. In the area we visited in Kenia West the coverage of the de-worming programm is almost non-existing. This could be due to the greograhical, remote lcoation of the villages visisted. We did provide the Nakure remand home with extra anti-worm tablets to hand out to newcomers.

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. The fact that none of the checked children received a deworming tablet in the last year is alarming. At al 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: (19/1196, 2%) (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 19 children with a severe acute respiratory infection (ARI) were treated with appropriate antimicrobials and home treatment advice.

5: Cardial problems: (8/1196, 1 %) (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 eight children of having a pathological heart murmur. The children and their care takers with this condition 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. Six 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 NIeuwendijk Foundation.

One girl we transferred wasn't checked in the carrroussel but we transferred her in previous years already so we arranged follow-up.
An other known cardiac kid did not follow-up due to financial problems. We talked with the mother and arranged transport for follow-up in Nairobi also necessary due to deterioration of the medical condition. Unfortunately he collapsed outside of the hospital and died after rescusiation attempts where unsuccesfull.

See appendix E for futher details.

6: Skin diseases: (235/1196, 20%)(see table 1of the appendix)
In respect to skin diseases we saw 130 (130/1196 11%)children with dermatomycoses including tinea capitits. Last year we saw 19 % of the kids with dermatomycoses; we hope this positive trent will continuu in the future and is due to education and the use of clean razorblades. We've treated 7 children with ivermectin for scabies (<1%). We encountered a broad range of different kind of wounds and skindisorders (43/1196, 4%).

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

7: Dental: (caries not otherwise specified: 103/1196, 9%; painful caries: 42/1196, 4%)
In general a high caries prevalence was found. Our reported incidence of 4% for painfull caries lower than last year. We assume this is due to underscoring. We still see a need for a dental camp en will try to bring our dentis with us next year.
At the last station of the medical carroussel local volunteers gave out toothbrushes and educated the children and their caretakers in teethbrushing.

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8: Other

One unemployed single mother with nine children to raise on her own was supported last year with food and will hopefully be incorparated in the foodprogramme in some way to try to give this family some basic necessities of life. The SFFC will support her this year with aids to cultivate her lands to be more self sustainable. The SFFC will monitor the progress.

Two young children were seen with severe dehydration and were treated on the spot with fluidresucitation. After 2 fluidchallenges the clinical condition in both was stable and they were transferred to the local hospital. After a short observation they were both discharged with instructions.

Appendix A Disease prevalence among all children per geographical location