

Medical Report Kenya Nairobi 2019

Medical Checks for Children





Introduction

From march 24th until march 31th 2019, a new Medical Checks for Children (MCC) team visited different locations in and around Nairobi and Nyeri. Free of cost, the MCC team checked and, as needed, treated 759 children, newborns to teenagers.

The team included:

- Nadine van Dijk, emergency physician, mission leader, responsible for medical issues & organization
- Carolien Siersma, pediatrician - pediatric ICU, mission leader, responsible for medical issues & organization
- Anja Strengers, community health care doctor
- Lonneke Walraven, resident in child psychiatry
- Kristo Vermaak, dentist
- Janneke Boers, pediatric nurse
- Pam Bosman, communications advisor
- Marriette Pullen, theologist
- Carina de Bruijne, physiotherapist



- Lethisia Nzuzi, human resource officer

As in former years our host patron during this medical camp was Archbishop Makarios, Head of the Orthodox Seminary in Riruta, Nairobi. The checks were organized in close collaboration with the Sophia Foundation for Children (SFFC, www.sophia-foundation.com).

Since the first explorative checks in Nairobi in 2008, yearly successful checks have been performed.

Technical equipment, medical supplies and toothbrushes were brought in from the Netherlands by our team members. Most of the medication was ordered by SFFC and supplied by the main Kenyan pharmacy in Nairobi.

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

- Transfer of knowledge about expected problems and diseases, partly by experienced earlier work in Kenya
- Transfer of data on demographics
- Selection of primary schools and other check locations (orphanage, refugee camp)
- Accommodation arrangement around check locations
- Transportation of the MCC team
- Prior announcement of the medical camps at the different locations
- Ordering and delivery of medication
- Supporting the medical team during the medical camp
- Management of referrals and (pre)payment of in- & outpatient hospital costs (at Riruta Clinic Nyeri and Coptic Hospital Nairobi)

The MCC team was again delighted with the cooperation with Archbishop Makarios and the experienced input of the Sophia Foundation for Children. We would especially like to thank Marina Shacola, Nopi Telemachou, Marinos Constandinou, David Alimasi, Nelson Aderi, Hesbon Aderi, Gerald Mochirien, and Eric David Njenga, for their work and support during our medical camp. Further regards go to all teachers and translators at the different locations, volunteers and the local community. We are grateful to have had the opportunity to work with and learn from all these inspiring people who have helped us directly or indirectly. And last but not least of course thank you to all of the children for their happiness and smile, and their care takers for the trust they put in us.

Medical Checks for Children on location

The medical checks were performed on 6 days at different locations in Nairobi and Nyeri. Apart from the children at the schools the team checked children brought in from the community by their care takers.

The different locations during this medical camp were:

- St George School and nearby community, Nairobi
- St Clemens School and nearby community, Nairobi
- Jamii School, Nairobi
- Joyspring School, Nairobi
- Jambo Rescue Center, Nyeri
- Ndunduini School and nearby community, Nyeri
- Makarios Orphanage and School and nearby community, Nyeri

During the medical camp the children were checked according to the MCC carousel:

1. Registration
2. Anthropometric measurements (height and weight)
3. Blood testing for anemia (hemoglobin), urine testing if needed, and malaria checkup when indicated
4. Health check by one of the medical doctors

5. Providing medication at the pharmacy (including explaining to care takers their mode of use)
6. Education about nutritious food and water intake, tooth brushing (every child was given a toothbrush) and hand washing

At each station special attention is focused on drinking water and good dietary habits, especially at the doctors and pharmacy. Further more attention focused on prevalence, treatment and prevention of anemia, growth abnormalities and infectious diseases. Children, care takers and teachers were educated on good nutrition and hygiene measures.



Results medical camp

For data analysis purposes several data were pooled and subgroup analyses were performed. Statistical support for the observations in our report are not possible due to the small groups.

In total our MCC team checked 759 children (table 1).

	25-3	26-3	27-3	28-3	29-3	30-3	Total
Albino family	8						8
St Clemens	137						137
St George		183					183
Jamii			93				93
Joyspring			9				9
Jambo Rescue Center				42			42
Ndunduini School					140		140
Makarios home						52	52
Makarios school						95	95
Total	145	183	102	42	140	147	759

Table 1 Number of children checked at different locations

The St. George School in Kibera and St. Clemens school in Riruta are supported by the Greek Orthodox Church in Africa. At St. George the Sophia Foundation for Children (SFFC) started a food program in 2009. Makarios Children's Home is an orphanage founded and funded by SFFC, at which they supply full board, clothing, health care, education and recreation.

The Joyspring School at Kibera is not structurally supported by any organization, though they are involved in a deworming program funded by the World Health Organization.

The Jambo Rescue Center nearby Nyeri is a small unsupported project where street children are taken care of. It is visited by MCC since 2015.

The unsupported Ndunduini School was checked for the fourth time this year.



	Total	≤ 1 year	1-5 years	<5 years	5-10 years	>10 years
Albino family	8	1 (13)	1 (13)	2 (25)	4 (50)	2 (25)
St Clemens	137	11 (8)	15 (11)	21 (15)	114 (83)	2 (1)
St George	183	1 (1)	65 (36)	66 (36)	115 (63)	2 (1)
Jamii	93	0	30 (32)	30 (32)	65 (70)	0
Joyspring	9	0	9 (100)	9 (100)	0	0
Jambo Rescue Center	42	0	9 (21)	9 (21)	11 (26)	23 (55)
Ndunduini School	140	3 (2)	19 (14)	21 (15)	118 (84)	1 (1)
Makarios home	52	0	6 (12)	6 (12)	24 (46)	22 (42)
Makarios school	95	7 (7)	13 (14)	19 (20)	59 (62)	18 (19)
	759	23 (3)	167 (22)	183 (24)	510 (67)	70 (9)

Table 2 Age distribution per location (% of total at location)

	Total	Boy	Girl
Albino family	8	5 (63)	2 (25)
St Clemens	137	83 (61)	54 (39)
St George	183	85 (46)	98 (54)
Jamii	93	44 (47)	49 (53)
Joyspring	9	4 (44)	5 (56)
Jambo Rescue Center	42	19 (45)	23 (55)
Ndunduini School	140	70 (50)	70 (50)
Makarios home	52	27 (52)	25 (48)
Makarios school	95	51 (54)	44 (46)
	759	388 (51)	370 (49)

Table 3 Gender distribution at location

Because we visit the schools for several consecutive years, we are able to follow-up on growth and development of part of these children. This year 426 (56%) of the checked children were also checked last year. (Table 4)



	Total	Yes (%)	No (%)
Albino family	8	0	8 (100)
St Clemens	137	69 (50)	68 (50)
St George	183	98 (54)	85 (46)
Jamii	93	42 (45)	51 (55)
Joyspring	9	0	9 (100)
Jambo Rescue Center	42	28 (67)	14 (33)
Ndunduini School	140	89 (64)	51 (36)
Makarios home	52	38 (73)	14 (27)
Makarios school	95	62 (65)	33 (35)
	759	426 (56)	333 (44)

Table 4 Children checked last year

Since health education and transfer of knowledge is one of the main goals of MCC, we believe attendance of care takers is of great importance. Therefore we are pleased to see that, again this year,



almost all children were accompanied by a parent or teacher. In that way we hope this knowledge will be used and preserved. (Table 5)

	Total	Parent (%)	None (%)	Teacher (%)
Albino family	8	8 (100)	0	0
St Clemens	137	128 (93)	5 (4)	4 (3)
St George	183	62 (34)	6 (3)	115 (63)
Jamii	93	0	3 (3)	90 (97)
Joyspring	9	0	0	9 (100)
Jambo Rescue Center	42	38 (90)	0	4 (10)
Ndunduini School	140	35 (25)	2 (1)	102 (73)
Makarios home	52	51 (98)	0	1 (2)
Makarios school	95	88 (93)	0	7 (7)
	759	410 (54)	16 (2)	332 (44)

Table 5 Child accompanied by care taker at check

1. Growth abnormality and malnutrition

Growth retardation is correlated with poverty, malnutrition, poor living conditions, poor hygiene and the prevalence of chronic diseases. The major causes of malnutrition are lack of food, poor feeding habits and inadequate nutritional child care.

Malnutrition is related to poor cognitive and school performances. Also, there is strong evidence to suggest that malnutrition places children under the age of five at increased risk of mortality. It is thought to account for one third of all deaths in children under five years of age (UN Millennium Developmental Goals).



Therefore school meals are provided, and educational programs for parents and teachers, addressing nutritious food and child care, are important activities during the checks. We assessed growth abnormalities, measuring weight and height in a standardized fashion, using the following criteria.

- *underweight*: weight for age at or under third percentile for the reference population (WHO growth curves, for children up to the age of 10 years). This is an indicator of malnutrition or weight loss due to disease.
- *stunting*: height for age at or under third percentile for the reference population (WHO growth curves, for children up to 19 years of age). This is an indicator of chronic malnutrition.
- *wasting*: weight for height at or under third percentile for the reference population (WHO growth curves, for children up to 120 cm in height). This is an indicator of acute malnutrition.

It also has to be noted that reference data are only available for certain heights, weights and ages, as specified above. This leads to the general prevalence of growth abnormalities as follows;

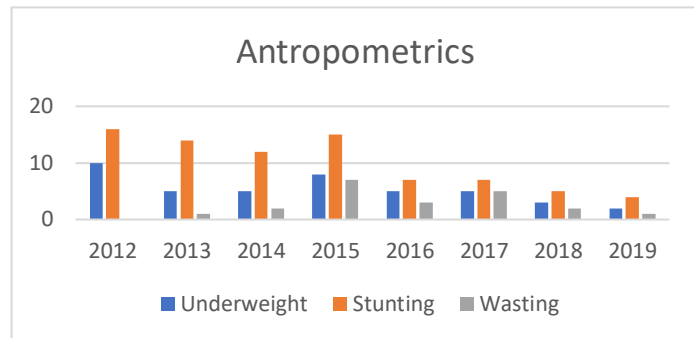
	Underweight	Stunting	Wasting
2019	2	4	1
2018	3	5	2
2017	5	7	5

2016	5	7	3
2015	8	15	7
2014	5	12	2
2013	5	14	1
2012	10	16	

Percentages per year

A gradual decrement in percentages of all antropometric measurements, underweight, stunting and wasting, can still be acknowledged over the checked years. Due to the relatively small numbers of children and low percentages at all locations decrements specified for different locations cannot be extracted.

Speculating on the possible explanation of these decrements, we hope it may at least in part be the result of our MCC efforts in educating on healthy nutritional habits and improved health of the children.



Because the numbers keep on getting lower and are small as they are this year any further conclusions on the differences will not be relevant.

The prevalence of HIV related underweight (wasting syndrome) is unknown and might be underestimated.

The abovementioned stresses the importance of adequate food intake and the impact of food programs like that provided by SFFC. We are confident that long term food programs at these locations will improve long term anthropometric data and physical wellbeing of these children.

During the medical checks we pay special attention to issues like hygiene and nutrition. We emphasize on hand washing, and fruit & vegetable and water intake in order for the children to grow up healthy and strong. We noticed the habitude of mothers to feed their babies up to the age of one year, or even beyond, solely with breast milk.

For babies, we advised exclusive breastfeeding up to the age of six months, after which additional foods should be introduced. We are aware of the financial issues and scarcity of healthy foods because of drought. This is one of the most important reasons for MCC to link up and cooperate with organizations like SFFC, to facilitate and fund school lunches.

	Total	Yes (%)	No (%)	Unknown (%*)
Albino family	8	0	8 (100)	0
St Clemens	137	3 (2)	133 (98)	1 (1)
St George	183	0	181 (100)	2 (1)
Jamii	93	2 (2)	89 (96)	1 (1)
Joyspring	9	0	9 (100)	0
Jambo Rescue Center	42	1 (2)	20 (48)	21 (50)
Ndunduini School	140	5 (4)	135 (96)	0
Makarios home	52	0	30 (58)	22 (42)
Makarios school	95	5 (5)	71 (75)	19 (20)
	759	16 (2)	676 (89)	66 (9)

Table 6 Prevalence of underweight (weight/age <P3) (* % of total)

	Total	≤ 1 year (%)*	1-5 years (%)*	<5 years (%)*	5-10 years (%)*	>10 years (%)*
Albino family	8	0	0	0	0	0
St Clemens	137	1 (10)	1 (7)	1 (5)	2 (2)	0
St George	183	0	0	0	0	0
Jamii	93	0	1 (3)	1 (3)	1 (2)	0
Joyspring	9	0	0	0	0	0
Jambo Rescue Center	42	0	0	0	1 (9)	0
Ndunduini School	140	0	0	0	5 (4)	0
Makarios home	52	0	0	0	0	0
Makarios school	95	1 (14)	1 (8)	2 (11)	3 (5)	0
	759	2 (9)	3 (2)	4 (2)	12 (2)	0

Table 7 Prevalence of underweight (weight/age <P3) by age

* Percentages presented of total children in age group at location

	Total	Yes (%)	No (%)	Unknown (%)
Albino family	8	1 (13)	7 (88)	0
St Clemens	137	9 (7)	127 (93)	1 (1)
St George	183	2 (1)	180 (99)	1 (1)
Jamii	93	4 (4)	88 (95)	1 (1)
Joyspring	9	1 (11)	8 (89)	0
Jambo Rescue Center	42	3 (7)	39 (93)	0
Ndunduini School	140	3 (2)	137 (98)	0
Makarios home	52	2 (4)	50 (96)	0
Makarios school	95	8 (8)	87 (92)	0
	759	33 (4)	723 (95)	3 (0)

Table 8 Prevalence of stunting (length/age <P3)

	Total	≤ 1 year (%)*	1-5 years (%)*	<5 years (%)*	5-10 years (%)*	>10 years (%)*
Albino family	8	0	0	0	0	1 (50)
St Clemens	137	1 (10)	1 (7)	2 (10)	6 (5)	1 (50)
St George	183	0	0	0	2(2)	0
Jamii	93	0	3 (10)	3 (10)	2 (3)	0
Joyspring	9	0	1 (11)	1 (11)	0	0
Jambo Rescue Center	42	0	1 (11)	1 (11)	0	2 (9)
Ndunduini School	140	0	0	0	3 (3)	0
Makarios home	52	0	1 (17)	1 (17)	0	1 (5)
Makarios school	95	1 (14)	1 (8)	1 (11)	5 (8)	1 (6)
	759	2 (9)	8 (5)	10 (6)	18 (4)	6 (9)

Table 9 Prevalence of stunting (length/age <P3) by age

* Percentages presented of total children in age group at location

	Total	Yes (%)	No (%)	Unknown (%)
Albino family	8	0	7 (88)	1 (13)
St Clemens	137	1 (1)	135 (99)	1 (1)
St George	183	0	152 (100)	31 (17)
Jamii	93	0	76 (82)	17 (18)
Joyspring	9	0	9 (100)	0
Jambo Rescue Center	42	2 (5)	14 (33)	26 (62)
Ndunduini School	140	4 (5)	83 (95)	53 (38)
Makarios home	52	1 (2)	15 (29)	36 (69)
Makarios school	95	1 (1)	42 (44)	52 (55)
	759	9 (1)	533 (70)	217 (29)

Table 10 Prevalence of wasting (weight/length <P3)

	Total	≤ 1 year (%)*	1-5 years (%)*	<5 years (%)*	5-10 years (%)*	>10 years (%)*
Albino family	8	0	0	0	0	0
St Clemens	137	0	0	0	1 (1)	0
St George	183	0	0	0	0	0
Jamii	93	0	0	0	0	0
Joyspring	9	0	0	0	0	0
Jambo Rescue Center	42	0	1 (11)	1 (11)	1 (13)	0
Ndunduini School	140	0	0	0	4 (6)	0
Makarios home	52	0	0	0	1 (10)	0
Makarios school	95	0	0	0	1 (4)	0
	759	0	1 (1)	1 (1)	8 (2)	0

Table 11 Prevalence of wasting (weight/length <P3) by age

* Percentages presented of total children in age group at location

2. *Anemia*

Anemia is largely caused by the most prevalent global micronutrient deficiency (iron). In Kenya no national policy has been implemented so far to provide iron supplements to pregnant women or young children. Because iron deficiency is frequently the primary factor contributing to anemia, it is important to recognize that healthy food apart from iron supplements are needed to address this health problem. In addition to iron deficiency, infectious diseases such as worm infections, malaria and other (chronic) infections, especially HIV-AIDS and tuberculosis, contribute to the prevalence of anemia. Other nutritional deficiencies can also cause this medical problem.

Ferritin measurement could help differentiate between iron deficiency and other causes of anemia, such as hemoglobinopathies (sickle cell disease, thalassemia), and lead, mercury and arsenic intoxications. As to date this is not possible in our medical camps.

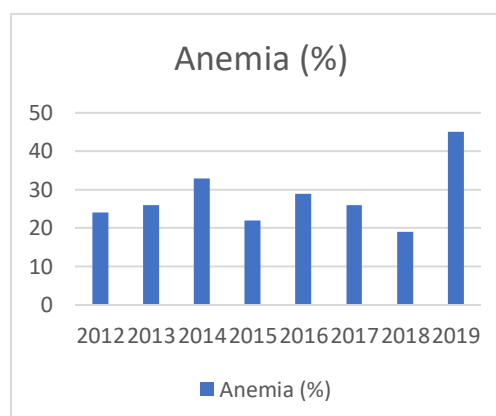
To exclude malaria as a cause of very low Hb levels, in recent years we are able to exclude this infectious disease by a simple blood test. In children suspected to have malaria as a possible cause of anemia on clinical grounds we perform this blood test to exclude malaria.

Anemia was diagnosed in 45% of all checked children this year. (see Tables 12-14). To treat anemia without or with antropometric anomalies children were prescribed iron or multivitamin treatment respectively, to be used for 3 successive months. In total 266 (35%) were treated with iron supplements and 63 (8%) with multivitamins. In the small children being solely fed through breastfeeding, mothers were treated with iron as iron is transferred to the baby through breastmilk (11 mothers (1%)).

Like in data on antropometrics also in anemia there appeared to be a decrement in the prevalence in former years, but in this years medical camp there is a surprising increase in anemic children. We can only speculate on the cause of this increase. It could be caused by an error in measurements, although we haven't got any further clue for this. It could also be explained by the very long period of extraordinary drought that preceded our medical camp. That causes crops to be destroyed causing malnutrition and infectious diseases to flourish.

Due to the small numbers of children in all age groups, especially those above the age of 10 years, percentages must be evaluated with great care.

Year	Percentage
2019	45%
2018	19%
2017	26%
2016	29%
2015	22%
2014	33%
2013	26%
2012	24%



	Total	Yes (%)	No (%)	Unknown (%)	Hb < 5 mmol/l
Albino family	8	2 (25)	6 (75)	0	0
St Clemens	137	51 (37)	86 (63)	0	2 (1)
St George	183	83 (45)	100 (55)	0	1 (1)
Jamii	93	58 (62)	34 (37)	1 (1)	1 (1)
Joyspring	9	8 (89)	1 (11)	0	0
Jambo Rescue Center	42	24 (57)	17 (40)	1 (2)	0
Ndunduini School	140	52 (37)	88 (63)	0	2 (1)
Makarios home	52	16 (31)	36 (69)	0	0
Makarios school	95	44 (46)	51 (54)	0	0
	759	338 (45)	419 (55)	2 (0)	6 (1)

Table 12 Prevalence of anemia

	Total	≤ 1 year (%)*	1-5 years (%)*	<5 years (%)*	5-10 years (%)*	>10 years (%)*
Albino family	8	0	0	0	1 (25)	1 (50)
St Clemens	137	8 (73)	8 (53)	14 (67)	37 (32)	0
St George	183	0	30 (46)	30 (45)	53 (46)	0
Jamii	93	0	16 (53)	16 (53)	43 (66)	0
Joyspring	9	0	8 (89)	8 (89)	0	0
Jambo Rescue Center	42	0	5 (56)	5 (56)	6 (55)	13 (57)
Ndunduini School	140	3 (100)	7 (37)	9 (43)	43 (36)	0
Makarios home	52	0	2 (33)	2 (33)	5 (21)	9 (41)
Makarios school	95	4 (57)	6 (46)	9 (47)	30 (51)	5 (28)
	759	15 (65)	82 (49)	93 (51)	218 (43)	28 (40)

Table 14 Anemia by age group

* Percentages presented of total children in age group at location

	Total* (%)	Ndunduini	Joyspring	Kangaroo	Makarios**	Rescue Center	St Clemens	St George
2019	338 (45)	52 (37)	8 (89)	-	60 (41)	24 (57)	51 (37)	83 (45)
2018	178 (19)	16 (13)	-	16 (21)	41 (18)	8 (28)	27 (22)	35 (20)
2017	285 (26)	37 (26)	14 (19)	20 (20)	42 (20)	4 (13)	48 (26)	69 (39)
2016	265 (29)	39 (25)	40 (21)	33 (27)	20 (27)	7 (24)	39 (27)	33 (38)
2015	254 (22)		22 (16)	36 (22)	39 (38)	20 (32)	34 (21)	27 (13)
2014	354 (33)		38 (21)	48 (61)	58 (55)		27 (18)	61 (40)
2013	275 (26)		21 (16)		24 (39)		36 (24)	48 (22)
2012	251 (24)		53 (24)		15 (23)		45 (32)	19 (15)

Table 13 Prevalence of anemia in recent years

(* total at all locations)

(** Makarios Home & School)

3. *Worm treatment*

There is a strong relationship between the presence of worm infections like ascaris (prevalence 19% in Kenya), hookworm (prevalence 8% in Kenya) and tape worm (taenia saginata) and anemia, growth disturbances and school attendance and results. Worldwide studies have shown deworming to be the far most cost-effective way to improve school participation. As a result, the gain in literacy from deworming is 2.1 years and the gain in income is estimated at 4, just by giving an anti-worm tablet twice a year. Overall, the benefits of deworming can be up to 60 times higher than the costs.

Overall 311 children (41%) were treated with preventive anti-worm treatment in the last six months before our checks. Last year this percentage was only 19%, showing good improvement which still needs more attention. This year most children at Makarios (Home and School), Jambo Rescue Center and Ndunduini School had been given this preventive treatment less than six months ago, at all other locations almost none of them had.

Because of the important gain of this preventive measure, to improve health and school attendance and improve future chances, we put extra effort in educating teachers and parents about this. SFFC will revisit these schools in 6 months to be sure this treatment will be repeated to optimize the long term effect. (Table 15)

The residual albendazole was left in Nairobi, as SFFC will revisit different locations after six months to supply new treatment.

An active worm infection was suspected and treated in only 1 child, at St.George.

	Total	Yes (%)	No (%)
Albino family	8	0	8 (100)
St Clemens	137	4 (3)	133 (97)
St George	183	3 (2)	180 (98)
Jamii	93	0	93 (100)
Joyspring	9	0	9 (100)
Jambo Rescue Center	42	41 (98)	1 (2)
Ndunduini School	140	126 (90)	14 (10)
Makarios home	52	52 (100)	0
Makarios school	95	85 (89)	10 (11)
	759	311 (41)	448 (59)

Table 15 Preventive anti-worm treatment in the last 6 months

	Total	≤ 1 year (%)*	1-5 years (%)*	<5 years (%)*	5-10 years (%)*	>10 years (%)*
Albino family	8	0	0	0	0	0
St Clemens	137	0	0	0	2 (2)	2 (100)
St George	183	0	1 (2)	1 (2)	2 (2)	0
Jamii	93	0	0	0	0	0
Joyspring	9	0	0	0	0	0
Jambo Rescue Center	42	0	8 (89)	8 (89)	10 (91)	23 (100)
Ndunduini School	140	0	12 (63)	12 (57)	113 (96)	1 (100)
Makarios home	52	0	6 (100)	6 (100)	24 (100)	22 (100)
Makarios school	95	1 (14)	11 (85)	11 (58)	57 (97)	18 (100)
	759	1 (4)	38 (23)	38 (21)	208 (41)	66 (94)

Table 16 Preventive anti-worm treatment by age group

* Percentages presented of total children in age group at location

4. Pneumonia and other pulmonary problems

Of all checked children 6 of them were on clinical grounds suspected to have pneumonia (1 at the Jamii, 2 at the St George, 2 at St Clemens and 1 at Ndunduini), for which they were all treated with antibiotics.

Two children were diagnosed with asthma for which they were treated with inhaled salbutamol. For administration purposes handmade spacers were supplied.

5. Cardiac abnormalities

Mitral regurgitation and atrioventricular septal defects are among the most common heart defects in the third world. Treatment for these defects is not available in those countries.

The MCC carousel includes a cardiac examination. If diagnosed cardiac defects can be treated, funding will be rendered from the Nieuwendijk Foundation.

Of all 759 checked children 1 of them was diagnosed with a physiological type of murmur, and 4 with a suspected pathological murmur.

At the Makarios School/Village three children were referred because of a (suspected) pathologic cardiac murmur. They will be analysed by cardiac ultrasound to diagnose a cardiac anomaly. After retrieving these results this will be overviewed for referral to a cardiologist to evaluate possible surgery.

Two children at Makarios Home already diagnosed with a cardiac anomaly were evaluated again. They were and will be regularly checked for their physical and cardiac wellbeing, and treatment will be adjusted accordingly.

A good dental situation is essential in all children but especially for them having a cardiac problem. Children with (suspected) cardiac pathology and their care takers were educated on teeth brushing and the importance was stressed. Besides this the care takers were told to give the child antibiotics when visiting a dentist for teeth extraction.

6. Skin diseases

Tinea capitis is a widespread problem amongst school children in Kenya due to transmission of the fungi by shaving many children with the same razor blades. We accept a certain degree of underscoring, we only report on the most severe cases that were needed to be treated.

In total 34 children (4%) were reported to have serious fungal infections, of which some were treated with griseofulvin . Especially at the Jambo Rescue Home dermatomycosis was more prevalent (14%), but a relevant decline was noted (compared to 23% last year).

Many other skin problems were diagnosed, like (infected) wounds, eczema and scabies. These were all treated according to our protocols.

7. Dental care

Poor dental care and a high prevalence of caries with or without pain are well recognized problems in our earlier medical camps. This year a dentist was part of our team and had his position in our carousel.

We checked many children with dental problems again, whom could thereafter be immediately checked by the dentist. He treated them as was needed, by cleaning, filling or extracting teeth. In our registration data there was no separate code for filling of teeth, reason why we don't have data on that. (see Table 17)

	Total	Caries n.o.s.	Pain n.o.s.	Fluorosis	Caries with pain
Albino family	8	0	0	0	1 (13)
St Clemens	137	21 (15)	1 (1)	9 (7)	22 (16)
St George	183	11 (6)	3 (2)	4 (2)	24 (13)
Jamii	93	4 (4)	2 (2)	1 (1)	14 (15)
Joyspring	9	1 (11)	0	0	0
Jambo Rescue Center	42	3 (7)	1 (2)	5 (12)	5 (12)
Ndunduini School	140	16 (11)	3 (2)	11 (8)	20 (14)
Makarios home	52	9 (17)	1 (2)	9 (17)	9 (17)
Makarios school	95	14 (15)	2 (2)	8 (8)	8 (8)
	759	79 (10)	13 (2)	47 (6)	103 (14)

Table 17 Dental problems at different locations

	Total	Referrals	Cleaning teeth	Extractions
Albino family	8	1 (13)	0	0
St Clemens	137	34 (25)	0	0
St George	183	32 (17)	0	0
Jamii	93	17 (18)	0	0
Joyspring	9	0	0	0
Jambo Rescue Center	42	10 (24)	0	0
Ndunduini School	140	32 (23)	0	0
Makarios home	52	16 (31)	1 (2)	1 (2)
Makarios school	95	14 (15)	0	0
	759	156 (21)	1 (0)	1 (0)

Table 18 Dentist interventions

In the medical carousel the last station is staffed by team members or local volunteers that educate children and their care takers in brushing the teeth and tooth brushes are distributed to all children. Partly because of the presence of our dentist, we stressed the need for brushing teeth to the teachers, and suggested to think about a school ritual in brushing teeth.



8. *Other*

Referrals

- During the checks this year there were 4 children with a history of (suspected or actual) physical or mental abuse. They were referred for medical problems if needed, and taken care of as was possible at the different locations. We hope to follow-up on them next year's MCC medical camp.

- At Kangaroo we checked a 6 months old girl with malnourishment and severe dehydration. She was immediately sent to the hospital because of a severely compromised physical state, where she was admitted and taken care of. We were happy to hear shortly thereafter that she made a fast and good recovery.

Education of health workers, care takers and teachers

One of the important tasks of MCC is to enhance knowledge of health, hygiene and encourage the continuation of health education of care takers, teachers and older children. We focused again on malnutrition and nutritional food, infections and transmission of them, and the importance of twice-yearly preventive anti worm treatment. One of the important issues in preventing infections is washing hands with soap before eating and after lavatory use. This will help reduce the prevalence of diarrhea, upper airway and skin infections.

Because a dentist accompanied our team this year dental care was stressed even more than in former years.

Notes

- ✓ The trees at Ndunduini school, that were planted in 2016 after our first medical camp there, as a mark of new collaboration, were again checked. They are still proudly taken care of at Ndunduini, and grow big and strong. Next year we hope to see them grow again.

Since our first check in 2016 different sustainable initiatives have been deployed to improve child health through hygiene and food & water supply, and a good school surrounding. As reported in our earlier medical reports a water supply has been created by directing from higher areas through pipes to a collecting basin. With funding support of MCC a classroom funding could be replaced to get rid of habitant vermin. And the school grounds are being improved. We will be delighted to see new initiatives next year.

- ✓ Like in earlier years, due to drought, water is scarce and crops don't grow. Children don't drink much water and they complain of headache. We educated the children, care takers and teachers about the importance of drinking water. To supply water to them, we filled empty water tanks where it was needed. They will be refilled until the rainy season starts. This year's increase in anemia prevalence might be caused by drought and lack of enough crops. We hope next year circumstances will be better and anemia number will be decreased again.
- ✓ This year a Congolese refugee albino family visited our medical camp at St George. We checked them to recognize any medical issues. We supplied them with sun protecting suits. We hope to see them again next year.
- ✓ Baby Mercy, of which we reported last year being malnourished and taken to Makarios Childrens Home to take care of her, was checked again this year. She is still being taken care of at Makarios and is growing and developing well.



- ✓ We are delighted to see the happiness of the kids living at Makarios Home, and to see the hope for a prosperous future in their eyes. The older kids, many of them living at Makarios for years, and going to college. They are chasing their big dreams, opportunities that are, in part, made possible by support of the Sophia Foundation for Children. This is an inspiring environment to get back to year after year.

Final words

Our thanks go out to all people we worked with; our MCC team, the SFFC team, teachers, volunteers, care takers and children. We have again enjoyed the medical camp, were inspired by the enthusiasm of all of them and are confident that we share the same goals to optimize future opportunities for children.

