

Introduction

From the 8th to the 14th seventh of December 2010, a team of the Dutch organisation Bongers Unlimited Children's Health (BUNCH) performed a medical check of 1216 children in Chitwan in the south of Nepal. BUNCH is part of the Dutch company Bongers Unlimited Health (care) Improvement. All costs of the BUNCH project NeCh10 were paid by the Dutch organisation FEMI.

The BUNCH NeCh10 project team was headed by Karlien Bongers, surgeon and tropical doctor and owner of Bongers Unlimited Health (care) Improvement. Since 2005 she is a regular visitor of the region and she headed the former five medical missions of the independent foundation Medical Checks for Children (MCC) which was established by the paediatrician Inès von Rosenstiel and Karlien Bongers. Since the organisation Medical Checks for Children only performs her activities for five years in a row, BUNCH was established to find a way to continue health improving activities in the Chitwan region.

Anne Vlietstra, in daily life general physician and also experienced in medical missions with MCC, was the heading assistant of the BUNCH project team.

The other team members with a medical background were Hemmie Kruse (medical doctor in the army), Alice Konijnenberg (general physician), Leanne de Vetten (paediatrician in training) and Joël Israëls (last year medical student). The team was completed by Elsa Geilman (teacher and coach), Marian Kok (consultant in communication & PR), Marie-Jose van der Sandt (teacher/manager), Gwen Rodenburg (project manager), Nen Hoving (broker) en Carla Smit (doctors assistant).

The free of costs medical checks in Chitwan by BUNCH were organised in close cooperation with the Dutch organisation Medical Checks for Children (www.medicalchecksforchildren.org) and the local organisation named Sapana Village Development Centre Nepal (SVDCN, www.sapanavillage.com) which is supported by the Dutch development organisations NCDO (Nationale Commissie voor Internationale Samenwerking en Duurzame Ontwikkeling) and FEMI (www.femi.org).

Aim of the Sapana Village, which is Nepali for "Dream village", is to support the local Tharu community and preserve their cultural heritage. Education and culture awareness are the main issues. This target is reached trough local programs. The lodge of Sapana Village is aimed to support the financial cost and manage the organization here for.

The cooperation of BUNCH with Medical Checks for Children existed out of the following (amongst others):

- Transfer of knowledge about expected diseases.
- Transfer of data on demographics.
- Support in ordering and delivery the supplies needed for the medical checks.
- Support in selection, formation and training of the BUNCH team.

The cooperation of BUNCH with Sapana Village (mainly in the person of the director Dhurba Giri) existed out of the following (amongst others):

- Selection and informing of the locations for the medical checks.
- Support in transportation of the BUNCH team and the supplies to the check locations.
- Support in ordering and delivery of the medication.
- Selection of the volunteers and local helpers of the BUNCH project.
- Arranging lodging of all BUNCH team members.
- Giving all kinds of support to the BUNCH team during the medical camp.

Most of the medication was ordered with help of the pharmacist at Aagaman Medicine Distributors, Sadidchwok, Narayangarh. Since Ivermectine (treatment for scabies) is not available in Nepal it was bought in the Netherlands and brought to Nepal by the BUNCH team members together with the other supplies for the check. Most of the toothbrushes were donated by Ricoh Nederland BV.

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Additional toothbrushes, toothpaste and soap for every child were purchased from local shops Chitwan and sponsored by Joke Zwaan (www.nepalbenefiet.webs.com).

An overview of all purchased medicine can be found in the Appendix A.

General background information and health issues of Nepal/Chitwan region:

Nepal is among the poorest and least developed countries in the world, with almost one-quarter of its population living below the poverty line.

Agriculture is the mainstay of the economy, providing a livelihood for three-fourths of the population and accounting for about one-third of GDP. Industrial activity mainly involves the processing of agricultural products, including pulses, jute, sugarcane, tobacco, and grain. Nepal has considerable scope for exploiting its potential in hydropower, but political instability hampers foreign investment. Additional challenges to Nepal's growth include its landlocked geographic location, civil strife, labour unrest and its susceptibility to natural disasters.

Total population	28.2 million
Population growth	2.1% annual
Surface area:	147.181 sq. km
Population density	175 persons per sq km
GDP per capita	1.596 PPP US\$
GDP growth	1.9% annual
Inflation, GDP deflator	8.6% annual
Unemployment	46%
Proportion of population below poverty line	24.7%
Life expectancy at birth	61.3 years
Median age of total population	20.1 years
Population under 15 years	39.3%
Population 60 years and above	6.5%
Sex ratio at birth	105 males per 100 females
Sex ratio (males per 100 females)	100 males per 100 females
Crude birth rate	28.4 per 1000 population
Crude death rate	9.9 per 1000 population
Natural (population) growth rate	2.25%
Total fertility rate	3.1
Urban population	14.2%
Adult literacy rate	53.7%

Table 1: General Statistics of Nepal (source: www.mdgmonitor.org)

The south of Nepal nearby the Royal Chitwan National Park is called Chitwan. In the Rapti Valley is the Sauraha region situated, in which on estimation 33.000 people live. The park is to the south of the Thulo Rapti river, the people live to the north of the river. Annually, the river gives a lot of problems during the monsoon. The Sauraha region used to be primeval forest where the Nepali ethnic group of Tharu people lived depending upon animals and jungle products. Originally they were moved or chased away from the Thar desert in India. Nowadays young Tharu people doesn't like to known as Tharu, because they feel like people are underestimating them by calling them "Jungle people" and like to known as Chaudhary and Mahato which means "the landlord of Chitwa.". The Tharu people where the first who started the settlement in Chitwan after fighting against malaria before its eradication. Fifty years ago the jungle was transformed into agricultural land.

Nowadays most of the Tharu people or Chitwaniya (because they are the native people from Chitwan district) are living in poverty and around 40 % can't read and write properly.

In the region are several public schools with grade 1 to 10. The quality of education is low with lack of proper class rooms and a deficit off teachers. Around 90 % of the children go to school and the drop-out rate is

high because they are needed "at home". Only 70 % of the children finish primary education. In the hills to the north east of Sauraha the situation is even worse.

Infrastructure is mainly formed by sand roads. The nearest hospital is situated in Bharatpur, 16 kilometres away from the Sauraha region. The hospital has 140 beds, 17.000 admissions a year and 6000 deliveries. It has a children ward with 35 beds, supervised by four dedicated paediatricians. Because of a lack of (qualified) nurses there are no high/medium care units for children. Around 150 children a day are seen in the outdoor clinics.

In Bachhauli, a condensation of houses in the Sauraha region is a medical post in which a doctor from the hospital of Bharatpur has some working hours. Daily health care is delivered by Raj Kharel, who followed an education a medical officer and has his medical shop in Sauraha itself. In the hills to the north east of Sauraha, daily health care is delivered by the medical officers of the Sub Health Post in Shaktikhor and Siddhi.

Underweight	39% children under five years of age
Stunting	49% children under five years of age
Wasting	13% children under five years of age
Proportion of population below minimum level of energy consumption	47%
Pregnant women attended by trained personnel during pregnancy	44%
Women immunised with tetanus toxoid during pregnancy	30%
Deliveries attended by trained personnel	20%
Maternal mortality rate	281 maternal deaths per 100,000 live births
Neonatal mortality rate	32 neonatal deaths per 1000 live births
Infant (under one) mortality rate	41 deaths per 1,000 live births in same year
Under-five mortality rate	51 per 100 000 live births
Under-5 mortality rank	60
Total population	28810.000
Annual births	732.000
Annual number of under five deaths	37.000
Infants reaching first birthday fully immunized against poliomyelitis	78%
Infants reaching first birthday fully immunised against measles	74%
Infants reaching first birthday fully immunised against tuberculosis	87%
Vitamin A supplementation coverage rate (6-59 months)	93%
under-fives with suspected pneumonia taken to an appropriate health-care provider	43%
under-fives with suspected pneumonia receiving antibiotics	25%
Population with safe drinking water in the home or reasonable access	81%
Proportion rural population with sustainable improved water source	71%
Population with adequate excreta disposal facilities available	39%
Male Adult literacy rate	65.1%
Female Adult literacy rate	42.5%
Hospital beds per 10,000 population	4.26
Number of PHCCs/Health centres	193
Physicians	2 per 10,000 population
Professional Nurses	2 per 10,000 population
Total Expenditure on Health	5.3% of Gross Domestic Product
Public Expenditure on Health	28% of Total Expenditure on Health
Private Expenditure on Health	72% of Total Expenditure on Health
Out-of-Pocket Spending on Health	92% of Private Expenditure on Health
Infants with low birth weight	21%
Children exclusively breastfed (<6 months)	53%
Children breastfed with complementary food (6-9 months)	75%
Children who are still breastfeeding (20-23 months)	95%
households consuming iodized salt	unknown

Table 2: General Statistics (Children's) Health of Nepal (source: www.mdgmonitor.org & World Health Statistics)

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The general statistics of (children's) health in Nepal (see table 2) and the Millenium goals for Nepal (see table 3) give a picture of the bad living and health situation of Nepal.

Due to the man power problem in Nepal there are no real options for fast improvement of the (local) health care system. The overall hygienic situation is poor with small houses, lack of lavatory systems and safe water supplies. Because of the world wide economic recession and after a long period of political instability in Nepal, 2010 was again a hard year for the Nepali people with increasing oil prices and lack of electricity.

Goal 1: Eradicate Extreme Poverty and Hunger:	
GDP per capita	1.596 PPP US\$
Annual GDP growth	1.9 %
Population below PPP \$1 per day	
Proportion of population below minimum level of energy consumption	47 %
Goal 2: Achieve universal primary education	
Net enrolment ratio in primary education (both sexes)	80.1 %
Percentage of pupils starting Grade 1 and reach Grade 5 (both sexes)	78.5 %
Goal 3: Promote gender equality and empower women	
Gender parity Index in primary level enrolment (ratio of girls to boys)	1.0
Literacy rates of 15-24 years old (both sexes)	79.3 %
Seats held by women in national parliament	17.3 %
Goal 4: Reduce child mortality	
Mortality rate of children under 5 years old (per 1.000 live births)	59
1-year-old children immunized against measles	85 %
Goal 5: Improve maternal health	
Maternal mortality ratio (per 100,000 births)	830
Goal 6: Combat HIV/AIDS, malaria and other diseases	
People living with HIV, 15-49 yrs old	0.5 %
Prevalence of tuberculosis (per 100,000 people)	244
Goal 7: Ensure environmental sustainability	
Land area covered by forest	25.4 %
Carbon dioxide emissions per capita (metric tons)	0.1146
Access to improved drinking water sources (% of total population)	89 %
Goal 8: Develop a global partnership for development	
Internet users (per 100 people)	1.1

Table 3: Millenium goals for Nepal (source: www.mdgmonitor.org)

BUNCH project on location:

The medical checks of the 1216 children were performed in seven days at five different locations (see table 4).

All villages that were visited by the BUNCH project are poor rural areas although some of the inhabitants are in a wealthier position because of income from the tourist industry or money made outside Nepal.

We checked only the poorest children from these places.

Saktikhor was a new location for the medical mission of MCC in 2009. It is a poor village in the hills of Chitwan and we checked in two consecutive days the children from the governmental and the private school in the village. We also saw some babies, infants and under five children of the village itself and the children of a school two hours walking away from the check location high up in the mountains who were in a very bad condition.

In Chandi, all schoolchildren of the Chandi National Primary School were checked (for the first time) as well as some babies, infants, under five children and some disabled children of the village itself. Chandi is a rural area as well in between Sauraha and the hills. The area has a lack of safe water and Sapana village started a water and sanitation project at the school earlier this year.

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Age	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
	N	%	N	%	N	%	N	%	N	%	N	%
≤1 year	33	3%	2	-	6	4%	8	5%	2	2%	16	5%
>1 - ≤5 years	331	29%	82	23%	50	32%	52	34%	44	26%	103	33%
>5 - ≤10 years	640	56%	200	56%	73	47%	74	49%	108	64%	185	59%
>10 years	145	12%	75	21%	26	17%	18	12%	15	8%	11	3%
Gender												
Boy	643	53%	208	56%	75	47%	87	52%	94	52%	180	53%
Girl	573	47%	163	44%	83	53%	81	48%	88	48%	158	47%

Table 4: Place of stay of checked children by BUNCH per geographical area, age and gender in 2010

Age	Total		Shaktikor				Chitrasari		Kumrose	
	1211		Total=371				Total=523		Total=317	
	N	%	N	%			N	%	N	%
≤1 year	44	4%	8	2%			16	3%	20	6%
>1 - ≤5 years	276	23%	76	20%			99	19%	101	32%
>5 - ≤10 years	795	66%	268	72%			347	66%	180	57%
>10 years	96	8%	19	5%			61	12%	16	5%
Gender										
Boy	658	54%	202	54%			294	56%	162	51%
Girl	553	46%	169	46%			229	44%	155	49%

Table 5: Place of stay of checked children by MCC per geographical area, age and gender in 2009

The check location in the very poor village of Siddhi was introduced by the Medical Officer of the Sub Health Post of Shaktikhor and Siddhi, Keshab Babu Paudel. Although we saw a lot a children in a bad condition, during the day, when the word spread of our activities, we had to send many children away without seeing them from the neighbouring villages.

In Chitrasari with its surrounding villages, live mainly Tharu people and MCC performed a mission for the last three years at the governmental school in Chitrasari. The BUNCH project team checked one day at this location and was focused on the younger children of the school and children with medical problems which were selected by the headmaster.

The last three years, MCC visited Kumrose, a village out in the jungle, which is built on governmental property. The people of Kumrose were in 2008 so poor they can't even effort buying tea and sugar and ate everything the land and the jungle gives for free. In the last years the financial situation and living conditions have improved. There is still no running water but more sanitation facilities.

Most of the medical cases which received the attention of the BUNCH team were growth abnormalities, anaemia, skin problems and worm infections.

On each location the children stood in line for the check up in the medical carrousel. They were given a numbered form and were admitted to the first station where their name, age and MCC number were written on the form by a local helper. This paper was than given to the child who kept it until his or her treatment had been completed. If checked by MCC in former years, efforts were taken to collect the form (s) of these checks.

After their weight and height had been taken, blood was checked for haemoglobin.

A complete physical examination was done by one of the doctors who subscribed treatment when needed.

Afterwards the child was sent to the station where the clinical forms were kept after medication was dispensed and information was given with the help of a local worker.

When indicated by the doctors, the child was referred to a local dentist or hospital.

At the end of the medical carrousel, every child got a toothbrush, tooth paste and soap together with instructions for the child and the care taker about how to brush their teeth, proper hand washing and healthy food.

The data of all children were put into the database computer program.

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Every evening an analysis of the charts and diagnosis was made.

We made efforts to include local volunteers (medical workers, teachers, students etc.) in the care of the children as much as possible.

Diagnosis and categories of ailments:

During the week, BUNCH checked 1216 children.

Due to the high risk of mortality and morbidity for children under five years of age, the focus of BUNCH is checking young children.

Of all checked children, 31% (364 children) had the age of five or younger and 87% (1004 children) had the age of ten years or younger.

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
	N	%	N	%	N	%	N	%	N	%	N	%
Underweight	296	28%	105	28%	32	20%	61	36%	37	20%	61	18%
Stunting	404	33%	159	43%	52	33%	88	52%	29	16%	76	22%
Wasting	56	7%	13	4%	3	2%	9	5%	8	4%	24	7%
Anaemia	426	35%	108	30%	41	26%	50	33%	76	45%	151	48%
Active worm infection	124	11%	42	12%	13	8%	29	19%	13	8%	27	9%
Pneumonia (clinical diagnosis)	12	1%	1	-	3	2%	5	3%	1	1%	2	1%
Otitis media	36	3%	9	3%	6	4%	13	8%	0	-	8	2%
Otitis externa	12	1%	3	1%	1	1%	2	1%	1	1%	5	1%
Caries n.o.s	293	26%	105	29%	57	37%	32	21%	41	24%	58	18%
Caries with pain	75	7%	35	10%	11	7%	7	5%	10	6%	12	4%
Wounds n.o.s.	24	2%	6	2%	7	5%	5	3%	2	1%	4	1%
Eczema n.o.s.	8	0,7%	2	1%	2	1%	1	1%	-	-	3	1%
Dermatomycosis	37	3%	4	1%	6	4%	5	3%	10	6%	12	4%
Impetigo / furunculosis	35	3%	13	4%	4	3%	3	2%	1	1%	14	4%
Lice	171	15%	52	14%	26	17%	30	20%	10	6%	53	17%
Scabies	6	0,5%	1	-	1	1%	2	1%	-	-	2	1%
Erysipelas / cellulites	2	0,2%	2	1%	-	-	-	-	-	-	-	-
Wounds infected	27	2%	6	2%	7	5%	3	2%	1	1%	10	3%
Burn wound (fresh)	2	0,2%	1	-	-	-	-	-	-	-	1	-
Other dermato	6	0,5%	3	-	-	-	2	-	-	-	1	-
Psychomotoric retardation	4	0,4%	1	-	1	-	2	1%	-	-	-	-
Physiological cardiologic murmur	24	2%	3	1%	5	3%	5	3%	2	1%	9	3%
Pathological cardiologic murmur suspected	23	2%	5	1%	1	-	4	3%	3	2%	10	3%
Refractory problems	1	-	1	-	-	-	-	-	-	-	-	-
Strabismus	2	0,2%	-	-	-	-	-	-	-	-	2	-
Keratoconjunctivitis	7	0,6%	1	-	-	-	-	-	5	3%	1	-
Amblyopia	1	-	-	-	-	-	-	-	1	-	-	-
Other eye	3	0,3%	1	-	1	-	-	-	-	-	-	-
Inguinal hernia	2	0,2%	-	-	-	-	-	-	-	-	2	-
Urinary tract infection	2	0,2%	-	-	-	-	-	-	-	-	2	-
Chronic kidney pathology (suspected)	1	-	-	-	1	-	-	-	-	-	-	-
Artralgia n.o.s.	3	0,3%	2	-	-	-	-	-	-	-	1	-
Hip dysplasia	1	-	-	-	-	-	-	-	-	-	1	-
Other skeletal	5	0,4%	2	-	2	-	-	-	-	-	1	-

Table 6: Disease/ailments prevalence among all 1216 children, total and per area.

As pointed out all children who needed treatment according to the doctors got their treatment free of costs on the spot together with education about the reason for the medication, the working mechanism, directions for use and possible side effects of the medication.

Except for the treatment for scabies, all medication was bought locally.

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
	N	%	N	%	N	%	N	%	N	%	N	%
Ferro/iron	241	21%	60	17%	26	17%	18	12%	51	30%	86	27%
Multivitamins	519	45%	177	49%	67	43%	96	63%	57	34%	123	40%
Mother iron	20	2%	3	1%	2	1%	6	4%	2	1%	8	3%
Preventive antiworm	1004	87%	303	84%	130	84%	123	81%	166	98%	283	90%
Acute worm treatment	123	11%	42	12%	14	9%	27	18%	13	8%	27	9%
Lice treatment	146	13%	46	13%	16	10%	21	14%	10	6%	53	17%
Scabies treatment	5	0,4%	1		1	-	3	2%	-		-	
Amoxicilline	62	5%	12	3%	10	6%	18	12%	4	2%	18	6%
Clarithromycine	12	1%	3	1%	3	2%	2	1%	1	1%	3	1%
Metronidazol	0	-	-		-		-		-		-	
Eardrops	13	1%	3	1%	2	1%	1	1%	1	1%	6	2%
Eyedrops	8	0,7%	1	-	1	-	-		5	3%	1	3%
Hydrocortison cream	6	0,5%	2	0,6%	1	0,7%	-		-		3	1%
Dactarin cream	16	1%	1	0,3%	2	1,9%	3	2%	6	4%	4	1,7%
Fusidin cream	37	3%	13	4%	8	5%	2	1%	-		14	4%

Table 7: Treatment of all 1216 children, total and per area (details in appendix A)

Unfortunately, the forms of former checks could be found for only 95 children. Given the 891 children we checked on locations where they could have been checked in former years by MCC, in only 11% we could use the medical information of earlier years.

We cannot draw any conclusions of the analysis of this subgroup of children. The numbers are too small and unreliable because, although we didn't have the form of the MCC check, we think the main proportion of the children checked by BUNCH on the locations of Shaktikor, Chitrasari and Kumrose were checked in former years by MCC.

1: Growth abnormality and malnutrition: (see table 8)

(underweight: 28% (296/1068), stunting: 33% (404/1215), wasting 7% (56/817))

Growth retardation is correlated with poverty, malnutrition, living conditions, hygiene and the prevalence of chronic diseases.

Percentages of stunting indicating moderate to severe growth retardation is correlated with living conditions, showing higher prevalence in poor rural versus richer urban children in middle class schoolchildren.

The two major causes of malnutrition are poor feeding practices and inadequate childcare. Adequate food intake and education programs addressing nutritious food need to be provided.

A report of the World Bank shows that one percent decrease in adult height due to childhood stunting correlates with 1.4 percent loss of productivity. The report shows furthermore the fact that stunting in general is associated with as much as eleven points decrease in Intelligence Quotient (IQ).

Malnutrition is thought to account for one third of all deaths of children under five years of age (UN Millennium Developmental Goals). Therefore, BUNCH assessed growth abnormalities, measuring and weighing all children in a standardized fashion, using the following criteria (WHO growth curves):

- Underweight = weight for age at or under the third percentile of the reference population (only for 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 (only for 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 (only children up to 120 cm in height). This is an indicator of acute malnutrition.

At present, Nepal has the highest levels of malnutrition in South-East Asia. A study conducted in 2008 by the Ministry of Health and Population shows that 39% of children under the age of five are underweight, 49% is stunted and 13% is wasted. In Nepal 47% of the population lives below the minimum level of energy consumption reflecting chronic malnutrition.

Data on stunting were complete as opposed to underweight and wasting data. However, estimation of age is sometimes troublesome without official documents stating date of birth and children or even parents not knowing their children's age, making the stunting data less reliable than the wasting data. It has to be noted that reference data are only available for certain heights, weights and ages (as specified above).

	Total				Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216				Total=371		Total=158		Total=168		Total=182		Total=338	
	n	/	N	%	n	%	n	%	n	%	n	%	n	%
Underweight	296	/	1068	28%	105	36%	32	24%	61	41%	37	22%	61	19%
no underweight	772	/	1068	72%	187	64%	99	76%	89	59%	132	78%	266	81%
not possible	148	/	1216	12%	79	21%	27	17%	18	10%	13	7%	11	3%
		/												
Stunting	404	/	1215	33%	159	43%	52	33%	88	52%	29	16%	76	22%
no stunting	811	/	1215	67%	212	57%	106	67%	80	48%	152	84%	262	77%
not possible	1	/	1216	-	0	-	0	-	0	-	1	-	0	-
		/												
Wasting	56	/	817	7%	13	6%	3	3%	9	7%	8	7%	24	10%
no wasting	761	/	817	93%	210	94%	107	67%	122	73%	107	93%	215	90%
not possible	399	/	1216	33%	148	39%	48	31%	37	22%	67	37%	99	29%

Table 8: Growth retardation among children (index $\leq P3$), total and area (2010)

In all children seen at locations MCC did a medical check in former years, all indicators of growth problems are improved (see table 9) although in Saktikhor the improvement is less obvious. In Saktikhor however, more "new children" were checked and a certain proportion came from the hill villages where living conditions and food are very poor. The growth disturbances of the children in Siddhi reflect the very poor situation in this hill region (see also remarks in the paragraph concerning anaemia).

	Total				Saktikhor				Chitrasari				Kumrose			
	n	/	N	%	n	/	N	%	n	/	N	%	n	/	N	%
Underweight	439	/	999	44%	143	/	327	44%	155	/	393	39%	141	/	279	51%
Stunting	436	/	1210	36%	189	/	371	51%	146	/	523	28%	101	/	316	32%
Wasting	184	/	774	24%	49	/	264	19%	61	/	281	22%	74	/	229	32%

Table 9: Growth retardation among children (index $\leq P3$), total and area (2009)

	Total 2008		Total 2009		Total 2010	
	n	%	n	%	n	%
Weight for age: underweight	274	24%	439	44%	296	28%
Height for age: stunting	320	28%	436	36%	404	33%
Weight for height: wasting	72	6.4%	184	24%	56	7%

Table 10: Growth retardation among children (index $\leq P3$), total in 2008, 2009 and 2010

During the medical check-ups, we gave all children and their guardians hygiene and nutritional advice, with emphasis on hand-washing, vitamin C and vegetable intake, so their children may grow healthy and strong. We noticed the policy of a lot of mothers to feed their babies up to the age of one year or even more, almost

only with breast milk. For babies, we advised exclusive breastfeeding up to six months and then start with the introduction of normal food.

2: **Anaemia** (564/1206, 47%)

Anaemia is the most prevalent micronutrient disorder. In Nepal no national policy has been implemented 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 which, through integrative interventions, addresses the various factors that play a significant role in producing anaemia in a given community. 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, are especially important.

As in other populations, we found a larger percentage of anaemia in children one to five years of age.

We treated the children with anaemia (and their mothers if they were breast fed) with supplements for three months.

The eight children with a haemoglobin level less than 5.0 mmol/l were treated and referred to the hospital for further diagnostic procedures after three months of treatment.

Because of emotional problems, haemoglobin levels were not determined in 23 children (2%) all of them were diagnosed as anaemic based on signs and symptoms.

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
	N	%	N	%	N	%	N	%	N	%	N	%
anaemia	426	35%	108	30%	41	26%	50	33%	76	45%	151	48%
no anaemia	767	63%	262	73 %	103	66%	117	77%	102	60%	184	58%
Hb <5.0 mmol/l	8	1%										
unknown	23	2%										

Table 11: Anaemia prevalence among children in 2010 in total and per area. In the analysis above, haemoglobin levels at or below the CDC criteria were considered to represent anaemia.

The percentage of anaemic children living in the village's with poor conditions is less than the percentage anaemic children living in the better conditions.

In the children seen at the locations were the growth abnormalities improve, the percentage of anaemic children is increasing. This trend can be seen in other populations with MCC interventions. At this moment we can only speculate on the reasons for this phenomenon. Further investigation is needed.

	Total				Saktikhor				Chitrasari				Kumrose			
	n	/	N	%	n	/	N	%	n	/	N	%	n	/	N	%
anaemia	564	/	1206	47%	139	/	370	38%	268	/	522	51%	157	/	314	50%
Hb > 5mmol/l	12	/	1211	0.1%												
Hb unknown	5	/	1211	0.4%												

Table 12: Anaemia prevalence among children in 2009 in total and per area. In the analysis above, haemoglobin levels at or below the CDC criteria were considered to represent anaemia.

In comparison with the anaemic children MCC saw in the years from 2007 until 2009, an improvement could be seen in 2010 (see table 12 and 13). Of course we can also only speculate about the origin of this improvement. It should be kept in mind that we didn't check exactly the same children during those years. Unfortunately, we are not able yet to make a data analyses on an individual base. Although an enormous investment of the local helpers, during the checks in the medical camp we could use only in 11% of the children the Case Report Forms of the preceding year(s).

Age category	Total 2007	Total 2008	Total 2009	Total 2010	Chitrasari 2008	Chitrasari 2009	Chitrasari 2010	Kumrose 2008	Kumrose 2009	Kumrose 2010
< 1 year	68 %	70%	57%	71%	67%	69%	-	70%	45%	83%
1 - 5 years	68 %	46%	53%	46%	52%	53%	47%	48%	58%	55%
5 - 12 years	63 %	45%	44%	33%	45%	51%	43%	45%	46%	43%
Total	64%	45%	47%	35%	46%	51 %	45%	45%	50%	48%

Table 13: Anaemia prevalence among children 2007 - 2010 who successful blood samples were obtained, total and per age category area and year (when available).

	Total			Shaktikor			Chandi			Siddhi			Chitrasari			Kumrose		
	n	N	%	n	N	%	n	N	%	n	N	%	n	N	%	n	N	%
Total	426	1195	36%	108	358	30%	41	142	29%	50	151	33%	76	165	46%	151	312	48%
Hb unknown	21	1216	1.7%	1	359	0.3%	13	155	8.4%	1	152	0.7%	4	169	2.4%	2	314	0.6%
Boy	223	634	35%	53	207	26%	19	69	28%	26	87	30%	43	94	46%	82	177	46%
Girl	203	561	36%	55	163	34%	22	76	29%	24	80	30%	33	84	39%	69	158	44%
Per age category																		
>=0 and <1	10	14	71%				2	3	67%	3	5	60%				5	6	83%
>=1 and <2	13	22	59%	1	2	50%	2	2	100%	2	3	67%	1	2	50%	7	13	54%
>=2 and <3	23	43	53%	2	5	40%	1	4	25%	2	9	22%	7	9	78%	11	16	69%
>=3 and <4	29	63	46%	8	16	50%	2	8	25%	5	10	50%	1	5	20%	13	24	54%
>=4 and <5	33	92	36%	10	27	37%	4	13	31%	2	12	17%	7	18	39%	10	22	45%
>=1 and <5	98	220	46%	21	50	42%	9	27	33%	11	34	32%	16	34	47%	41	75	55%
>=5 and <6	44	117	38%	10	34	29%	3	15	20%	6	21	29%	3	10	30%	22	37	59%
>=6 and <7	29	93	31%	8	29	28%	1	8	13%	5	17	29%	6	14	43%	9	25	36%
>=7 and <8	41	143	29%	7	40	18%	9	22	41%	6	16	38%	8	21	38%	11	44	25%
>=8 and <9	72	195	37%	10	28	36%	4	25	16%	4	20	20%	11	26	42%	43	96	45%
>=9 and <10	36	113	32%	9	49	18%	4	11	36%	2	12	17%	17	33	52%	4	8	50%
>=10 and <11	33	93	35%	18	53	34%	1	7	14%	3	9	33%	7	14	50%	4	10	40%
>=11 and <12	21	90	23%	11	49	22%	3	16	19%	1	10	10%	2	7	29%	4	8	50%
>=5 and <12	276	844	33%	73	282	26%	25	104	24%	27	105	26%	54	125	43%	97	228	43%
>=12 and <13	19	50	38%	10	24	42%	4	10	40%	1	7	14%	3	6	50%	1	3	33%
>=13 and <14	0	1	0%										0	1	0%			
>=14 and <15	1	3	33%	1	2	50%							0	1	0%			

Table 14: Anaemia prevalence among the 1216 children checked in 2010 in total, per gender, age, age category and per area. In the analysis above, haemoglobin levels at or below the CDC criteria were considered to represent anaemia.

The children with anaemia (and their mothers if they were breast fed) were treated with supplements for three months (see also table 7). When an acute (worm) infection was suspected and/or there were clinical signs of a vitamin deficit in an anaemic child, multivitamins were prescribed.

Of 1216 children, 241 (21%) were given iron tablets or iron syrup and 519 (45%) were given multivitamins. Iron supplements were given to 20 (2%) mothers breast-feeding a child with anaemia.

As pointed out in the paragraph of growth abnormalities, we gave during the medical check-ups all children and their guardians nutritional advice with emphasis on vegetable intake and vitamin C. When it comes to the prevention of anaemia, the vitamin C intake is important because vitamin C facilitates the uptake of iron in the gut (as milk and tea counteracts it). A cheap and available source for vitamin C in Nepal is lemon.

For babies, we advised exclusive breastfeeding up to six months, then start with the introduction of normal food and we discussed the possibilities of donation of breast milk by another woman when the normal supply is lacking.

3: Worm treatment (1004, 87% prophylactic and 123, 11 % therapeutic treatments were given)

Due to the relationship between helminths *Ascaris lumbricoides*, *T. trichiura* and anaemia the children it is important to de-worm all children. In the last years a de-worming program was established in Nepal for

children aged one to five. According to UNICEF Nepal, the coverage of this program is 95 %. We asked every child/care taker if the child received de-worming treatment in the last six months. In whole group only 8% received this treatment and only 13% of the children age one to five (see table 15).

	Total			Shaktikor			Chandi			Siddhi			Chitrasari			Kumrose		
	n	N	%	n	N	%	n	N	%	n	N	%	n	N	%	n	N	%
Total	97	1216	8%	41	359	11%	12	155	8%	14	152	9%	3	169	2%	27	314	9%
>=1 and <5 years	32	244	13%	8	50	16%	9	39	23%	2	39	5%	0	35	0%	13	81	16%

Table 15 : Frequency of worm treatment in last halve year in total, age category and per area

We treated children who were not in the de-worming program on the spot with Albendazol and left medication for repeating the treatment after six months as MCC did in 2009 (see table 16). So it seems children forget to take their pill after half a year or the children didn't give the right information about these pills. The latter might be because of fear of the children not getting a medical check or new de-worming medication. Any ways, despite the efforts of trying to do half year de-worming program it still has a very low coverage.

	Total			Saktikhor			Chitrasari			Kumrose		
Preventive antiworm	928	1211	77%	355	371	96%	422	523	81%	151	317	48%
>=1 and <5	152	276	55%	71	76	93%	57	99	58%	24	101	24%
Acute worm treatment	65	1211	5%	22	371	6%	25	523	5%	18	317	6%

Table 16 : Frequency of given worm treatment per area (2009)

An active worm infection was suspected in 123 (11%) children (see table 17). In the villages with the poorest living conditions were more children suspected of having an acute worm infection. The acute worm infections were treated with one tablet of Albendazol. Of cause BUNCH gave medication to repeat the prophylactic treatment after six months. Although all members of a population can be infected by worms, those who are at most risk and would benefit most from preventive interventions are the pre-school (2-5 years), school age children, adolescent girls and women of childbearing age.

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	n	%	n	%	n	%	n	%	n	%	n	%
Preventive antiworm	1004	87%	303	84%	130	84%	123	81%	166	98%	283	90%
Acute worm treatment	123	11%	42	12%	14	9%	27	18%	13	8%	27	9%

Table 17: Frequency of given worm treatment per area (2010)

Health education on the spot and was aimed at increasing awareness of worm transmission, the disabilities caused by intestinal helminth and the importance of the de-worming program every half year.

Simple ways of improving personal hygiene and sanitation through hand washing, nail trimming, wearing of shoes and use of a latrine and clear water supplies were encouraged.

4: Pneumonia (12; 1%)

"Pneumonia", "sannipat", "fast/difficult breathing", "chest indrawing" and "inability to suck milk" are the key words used by care-takers indicating a (severe) acute respiratory infection (ARI).

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	n	%	n	%	n	%	n	%	n	%	n	%
Pneumonia (clinical diagnosis)	12	1%	1	-	3	2%	5	3%	1	1%	2	1%

Table 18: Frequency of pneumonia per area

The 12 children with a severe ARI were treated with appropriate antimicrobials and home treatment advice.

For a doctor normally working in Europe it is amazing how few children have asthma in Nepal. This year we saw no children with symptoms of asthma/bronchiolitis.

The principles of the Integrated Management of Childhood Illness (IMCI, see www.who.int/child-adolescent-health/integr.htm) for recognition and treatment of a pneumonia were transferred to the local workers, teachers and care takers.

5: Suspected pathological Cardiac Murmurs (23; 2%)

All children got a cardiac examination by one of the BUNCH doctors. We suspected 23 children of having a pathological heart murmur, mainly due to a septal defect (see table 19).

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
Caries n.o.s	293	26%	105	29	57	37%	32	21%	41	24%	58	18%
Caries with pain	75	7%	35	10%	11	7%	7	5%	10	6%	12	4%
Physiological cardiologic murmur	24	2%	3	1%	5	3%	5	3%	2	1%	9	3%
Pathological cardiologic murmur suspected	23	2%	5	1%	1	-	4	3%	3	2%	10	3%

Table 19: Frequency of dental problems and cardiologic murmur per area

In Nepal the prevalence among school age children in Kathmandu of rheumatic heart disease is 1.2/1000 and 1.3/1000 for congenital heart disease. Mitral regurgitation and atrial septal defects being the most common heart problems (Indian Heart J 2003;55:615-618). For this condition no treatment is available although a good dental situation is essential for a healthy live. The children and their care takers with the suspected pathological heart murmurs were stressed on teeth brushing procedures. Besides this, they were told and got a written explanation to give their child antibiotics when going to a dentist for a teeth extraction.

In two children a serious cardiac problem was suspected and they should be seen in a specialised hospital in Kathmandu (see appendix B).

6: Dental (see table 19)

The BUNCH project to Nepal did not include a dentist/dental hygienist.

The number of cases mentioned in table 19 is probably even an underestimate of the prevalence of dental disease in the children we checked. We stressed the care takers to take their children with painful caries to a dentist.

We had the impression that the more wealthier the people were, the more painful caries we saw. Maybe this is due to the more buying of sweets and cookies when there is more money available.

After the check volunteers gave out toothbrushes, toothpaste, a piece of soap and education on good dental and hygiene habits.

7: Stomach ache and other gastrointestinal complaints

During our health checks we encounter a huge amount of (older) schoolchildren with complaints of stomach pain(no exact data available). In the absence of weight loss, bloating or fever these pains could be stress induced. Pressure on adolescents to succeed academically is well known in Nepal, along with problems at home.

Data on milk products sensitivity, gastritis or peptic ulcers are currently lacking as well as the prevalence of Helicobacter pylori bacteria. One study done in Nepal reported an overall higher rate of infection with H. pylori in an urban population compared with a rural population (25.8 % versus 10.2 %)

We also noticed a lot of children who have complains about obstipation/constipation, leg cramps and headaches (no exact data available). These complaints can be due of the habit of drinking too little. We noticed the normal drinking habit of schoolchildren in Nepal consists of drinking only one or two cups a day while they need at least a litre a day. We explained the children and their care takers how and why they should change their drinking habits.

8: Ear-Nose-Throat (ENT) (see table 20)

The prevalence of acute ear infections was comparable with the prevalence in the Netherlands. Chronic or recurrent ear infections are a common condition encountered by the ENT surgeons in Nepal. Effective initiatives for better hygiene and nutrition will play a part in diminishing chronic ear infections and their complications. Treatment of middle ear infections with antibiotics has a big impact in preventing deafness as well.

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
Otitis media	36	3%	9	3%	6	4%	13	8%	0	-	8	2%
Otitis externa	12	1%	3	1%	1	1%	2	1%	1	1%	5	1%

Table 20: Frequency of Ear Nose Throat complaints

9: Skin diseases (see table 21)

Among the skin diseases pyoderma, tinea capitis, scabies, viral skin disorders (mainly moluscum contagiosum) pedicosis capitis, dermatitis and reactions due to insect bites are the most common in children in Nepal. As in Western countries, lice have a seasonal prevalence.

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
Wounds n.o.s.	24	2%	6	2%	7	5%	5	3%	2	1%	4	1%
Eczema n.o.s.	8	0,7%	2	1%	2	1%	1	1%	-	-	3	1%
Dermatomycosis	37	3%	4	1%	6	4%	5	3%	10	6%	12	4%
Impetigo / furunculosis	35	3%	13	4%	4	3%	3	2%	1	1%	14	4%
Erysipelas / cellulites	2	0,2%	2	1%	-	-	-	-	-	-	-	-
Wounds infected	27	2%	6	2%	7	5%	3	2%	1	1%	10	3%
Burn wound (fresh)	2	0,2%	1	-	-	-	-	-	-	-	1	-
Other dermato	6	0,5%	3	-	-	-	2	-	-	-	1	-
Scabies	6	0,5%	1	-	1	1%	2	1%	-	-	2	1%
Lice	171	15%	52	14%	26	17%	30	20%	10	6%	53	17%

Table 21: Frequency of skin diseases

A peak of prevalence for pyoderma can be observed among 5-9 year olds, with a progressive constant decrease over three years of age.

Pyoderma, scabies and tinea capitis are more common in overcrowded households. The role of traumatic sores as a predisposing factor for pyoderma is also common. Especially legs and less commonly ears (because of septic ear piercing in girls) were common of posttraumatic pyoderma. The children were treated with Fusidic crème and/or macrolides for pyoderma.

Antifungal cream (eventually in combination with hydrocortison) was given for fungal infections and hydrocortison crème was given for different forms of dermatitis. We did not treat the children with tinea capitis with griseofulvine as there were limited supplies and the great majority heals spontaneously when in puberty.

Scabies is an infective skin disease caused by a mite (*Sarcoptes scabiei*) and is transmitted in situations of poor hygiene and prolonged physical contact (15 min) with an infected person or contaminated bed sheets or clothing. The female mite burrows just beneath the upper skin layer, producing 0.2 - 0.6 cm long lines on the skin, primarily between and on the fingers, palms, wrists, around nipples (women) and genital areas (men). In severe cases, the mite spreads even to the skin of the belly and sometimes the back. Itching and sometimes secondary infection of scratch lesions are the main symptoms. Chronic severe scabies infection may lead to dark (hyperpigmented) spots on the skin. A scabies infection was seen in six children. Since the best treatment for a severe Scabies infection (Ivermectine) is not available in Nepal, we brought this from the Netherlands. Health education and hygienic instructions were given to the children and their care takers about scabies.

BUNCH

In Chandi striking amount of children have skin problems not always leading to a diagnose code. The reason for this is speculative but facing the fact that safe water is a problem in the region, the use of poisoned water can be the cause of the seen skin problems.

10: Eye problems (see table 13)

In former years, especially in the group of children over five years of age, a rather common complaint was dry and/or painful eyes. Xerophthalmia can be attributed to Vitamin A deficiency. Vitamin A deficiency effect growth, the differentiation of epithelial tissues and immune competence. The most dramatic impact, however is on the eye and includes night blindness, xerosis of the conjunctiva and cornea and ultimately corneal ulceration and necrosis of the cornea. Vitamin A deficiency occurs when body stores are exhausted and supply fails to meet the body's requirements, either because there is a dietary insufficiency, requirements are increased, or intestinal absorption, transport and metabolism are impaired as a result of conditions such as diarrhoea. The most important step in preventing Vitamin A deficiency is insuring that children's diets include adequate amounts of carotene containing cereals, tubers, vegetables and fruits. This year we hardly heard the complaint of painful/dry eyes.

Maybe the national program of vitamin A supplementation to 6-59 months aged children with, according to the official sources, a coverage of 93%, shows its effects.

As in former years, it is amazing how little refraction problems the children of Nepal have.

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
Refraction problems	1	-	1	-	-	-	-	-	-	-	-	-
Strabismus	2	0,2%	-	-	-	-	-	-	-	-	2	-
Keratoconjunctivitis	7	0,6%	1	-	-	-	-	-	5	3%	1	-
Amblyopia	1	-	-	-	-	-	-	-	1	-	-	-
Other eye	3	0,3%	1	-	1	-	-	-	-	-	-	-

Table 22: Frequency of eye problems

11: Urinary tract infections (see table 14)

We performed an urine screening (dip-sticks) test in the children with fever and/or children with the complaint of painful urination. Some protein will appear in the urine if the level of protein in blood becomes high (infections) even when the kidney is functioning properly. Antibiotics, severe emotional stress and strenuous exercise can interfere with the test.

In two children a urinary infection was diagnosed and treated with antibiotics.

One child had an already known and in the hospital treated chronic kidney pathology. Because of complains, he was referred to the hospital again for proper diagnosis and treatment.

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
Urinary tract infection	2	0,2%	-	-	-	-	-	-	-	-	2	-
Chronic kidney pathology (suspected)	1	-	-	-	1	-	-	-	-	-	-	-

Table 23: Frequency Urinary tract infection and (suspected) chronic kidney pathology

12: Psychomotoric retardation/neurological problems

In a population of the remote areas BUNCH is visiting for the medical checks, a prevalence of psychomotoric retardation of 0,4% (4 children) and even less inborn neurological problems is not what you would expect. The reason for this is of course speculative but we should find a way to encourage care takers to bring their handicapped children.

	Total		Shaktikor		Chandi		Siddhi		Chitrasari		Kumrose	
	1216		Total=371		Total=158		Total=168		Total=182		Total=338	
Psychomotoric retardation	4		1	-	1	-	2	1%	-		-	

Table 24: Frequency Psychomotoric retardation

As was pointed out in paragraph 7 about stomach ache and other gastrointestinal complaints, we encountered a huge amount of children with complains about headaches (no exact data available), besides constipation and leg cramps due to the habit of drinking only one or two cups a day while they need at least a litre a day. These children and their care takers were educated on their drinking habits.

Referrals of children.

Of the 1216 children seen in the BUNCH project in Nepal, 98 children (8%) needed some kind of follow up (see table 23). Of the 368 children with caries we only referred the children with caries and pain to the local dentist. The two boys with a hydrocèle were referred to the hospital for a surgical intervention.

	Dentist	Specialist in hospital	Revisit	X-thorax	ECG	Kidney function	Bloodtest after 3 months	International organisation
N	75	8	-	-	-	-	8	7
%	7%	0,7%					0,7%	0,6%

Table 23: referrals

As pointed out in the paragraph about anaemia, the eight children with a haemoglobin level beneath 5.0 mmol/l were treated and referred to the hospital for further diagnostic procedures after three months of treatment.

The names of the six children for who support of an international organisation could be helpful can be found in appendix B together with their ailments/medical problem.

Education health workers, caretakers and other local helpers

One of the important tasks of BUNCH is to encourage the continuation of education of the caretakers, teachers and older children.

During our week we had teaching sessions on common diagnoses of frequent illnesses and medication.

We especially focused on anaemia and malnutrition, on balanced diet, infection, parasites and failure to thrive. Our information mainly consisted of knowledge and practical advice about nutritious food and vitamin supplements, as well as hygienic and health promotion issues.

Future medical needs

- On all the locations visited, there is a strong need for comprehensive and systematic health promotion and preventive measures. Special emphasis needs to be put on personal hygiene, dental care, good eating and drinking habits and nutritious food. For this purposes, programs should be continued and started in the schools of the villages.

- It is important to stress, over and over again, the importance of regular (half yearly) de-worming off all children up to fourteen year of age. BUNCH can help to set an de-worming program, provided that de-worming tablet are provided through existing local governmental systems, through additional sponsoring by third parties, or by a program covered by the local people.

- It is important to encourage the local people in taking their responsibility in improving the health of their children. Their cooperation in the two points above is considered required for good implementation of the programs.

Maybe inspiration and even cooperation can be found in the Nepali project "Female Community Health Volunteer". (http://www.nep.searo.who.int/LinkFiles/Home_Female_Community_Health_Volunteer1.pdf)

- It is important to improve safe water facilities and good sanitation on all locations were BUNCH worked. Cooperation with the national leading NGO in the WASH sector Nepal Water for Health (NEWAH) seems a

real option through the contact with Yubraj Shrestha who visited the BUNCH project in Siddhi (Email: shresthayubraj@hotmail.com; telephone: 0097-98-55059833).

The water in Chandi should be checked for toxic components.

- More investigation is need for the seen trend of declining haemoglobin levels when the parameters for growth (especially stunting) are improving.
- There is a need to find a method/system for keeping relevant medical information with the child.
- It is important to find a way to continue health improving activities/medical camps in the region. Based on the information gathered in the past years by MCC and BUNCH, it might be time to make further steps in sustainable health improvement. In order to achieve this, in depth discussion is considered required, with all parties involved as FEMI, Sapana Village and BUNCH.

Last words

Over the last five years I have participated in 19 medical missions at different places in Asia, Africa and South America. Since I did my first medical camp in Chitwan in 2005, I witnessed the growth of local expertise and the improvement of the general health situation at different locations in Chitwan.

Leading the BUNCH project in Chitwan was a great experience in my live and an encouragement to continue my work. It is inspiring to work with team members from different background, exchanging ideas, to learn from each other and to see the efforts of our hosts facing the vast medical demands with limited supplies.

I am proud to work with such kind and generous individuals who put their time and energy in creating a better world for all of us.

A personal thanks goes to Ruud Bakhuizen for his trust and his financial support to make my dream "to inspire and challenge people to find their solutions in improving their happiness and health" come through.

I want to thank the volunteers of the Eco Paradise Club, Suren, Shiva, Sujata, Sayama and Elisha for their enthusiasm and hard work during the week. I enjoyed working together on location with Naran, Sanjaya Dhakal and Renu, all part of the staff of Sapana lodge. The input of (the just married) Machhindra Thapaliya, the Medical Officer of the Sub Health Post of Shaktikhor and Siddhi, Keshab Babu Paudel and the head teachers Surya Prasad Lachime, Bhanu Bhakta Paudel and Mait Sing Ghising was touching, great and very helpful. I hope Yubraj Shrestha, from Nepal Water for Health (NEWAH), the national leading NGO in WASH sector, and I can continue our short, though inspiring conversation in Siddhi on how to improve the health of children in Nepal. Joke van der Zwaan I want to thank for her work in funding Health programs in Nepal. Without people like her, dreams never will come through.

I am grateful to all parents, care takers and community people for bringing their children, borrowing us their tables and chairs for a whole day and helping to conduct the program in many ways.

Special thanks also go to the board of Medical Checks for Children, especially to Iris van de Gevel, for their trust and willingness to open new doors in cooperation.

I want to thank Elsa, Marie Jose, Gwen, Alice, Leanne, Marian, Hemmie, Joel, Carla and Nen, all members of the BUNCH team project NeCh10, for their hard work, energy and joy.

A special personal thanks goes to Dhurba Giri and Anne Vlietstra who did a great job in making this first BUNCH project a very success full one but most of all because their friendship, their care for the children in Chitwan and for shearing their dreams with me.

But most of all, I thank the children who came to the checks for their inspiring presence.

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I hope Sapana Village and FEMI will find a way to continue their health promoting activities for a better future for the children of Chitwan and I hope I will be part of it.

Karlien Bongers,
MD, General Surgeon, Director of Bongers Unlimited Health (care) Improvement
Projectleader of the Bongers Unlimited Children's Health project Nepal Chitwan 2010
Amsterdam, January 19th, 2011

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Appendix A : Overview of medication

Medicatie	ordered	Received at start	Local stash 2009	Bought during week	Total left over	Total used	Retour	content
IRON bottles: POLIF 150 ml				48	2	46	2	per 5ml iron (III) hydroxide polymaltose complex, elemental iron 50 mg, folic acid I.P. 0.5mg
IRON bottles: HEMATIN 150 ml	100	98		40	0	138	0	Per 5 ml: Ferrosulfaat 125 mg, elementair Fe: 60mg/5ml
<i>Total IRON bottles</i>	100			86	2	184	2	
IRON tablets: HAEMOGEN	13000	3000	110		0	3110	0	Ferrofumerate 300 mg, ascorbic acid 75mg, folic acid 1mg, elementair zinc 15mg, manganese sulphate 1mg, copper sulphate 0,2mg, cyanocobalamin 15 mcg
IRON Tablets: HEMAK				10.020	0	10020	0	300 mg ferrous fumarate; 0.75 mg folic acid; 75 mg ascorbic acid; 7.5 mcg cyanocobalamine
IRON Tablets: VIRON				440	0	440	0	Ferrofumerate 200mg, folic acid 1.5mg, cyanocobalamin IP 7.5 mcg, zinc sulphate monohydrate equivalent to elemental zinc 15 mg
<i>Total IRON tablets</i>	13000					13570		
Multivitamines drops: V-PLEX (Omniplex not available) 15ml	400	400		71	0	471	0	Per ml: Vit A 5000 U.I., Vit D3 640 U.I., vit C 50 mg, Vit B1 1,6 mg, Vit B2 1,37 mg, Vit B6 1.0 mg, nicotinamide 10mg, D-Pantenol 5,0 mg.
Multivitamines tablets: OMNIVIT	27000	28800	1280	9600	3800	35880	3800	Vit A (acetato 500) 5000 U.I., Vit E 15.0 IU, Foliumzuur 1.0 mg, Vit B1 5,0 mg, Vit B2 5,0 mg, Vit B6 1.5 mg, Vit B12 0,005 mg, Niacinamide 45.0mg
Anti scabies treatment tabl	0	0			16.5	3.5	0	Ivermectin 3 mg (uit NL)
Clarithromycine tabl 250mg	60	120			84	36	84	
Amoxicillin, bottles 60 ml, liquid/susp. 125 mg/5 ml: Mymox	60	60		24	3	81	3	Per 5 ml: Amoxiciline 125 mg
Amoxicillin tablet 500mg: Moxin	90	100		400	50	450	0	Amoxicilline 500mg mg
Amoxicillin, tablet/capsules 250 mg Moxacil	300	300	180		200	280	200	Amoxicilline 250mg mg
Cotrimoxazol tablet, 400-80mg	30	30			10	20	0	
Azithromycin 200mg/5ml, bottle, 15ml	10	10	8		8	17	1	
Metronidazol 200 mg	20		10		30	0	0	200mg
Albendazole 400mg	2000		200		9	2209	9	
Betamethason/neomycin eye/ear 5ml	30	10			0	10	0	
Ciprofloxacin eye-ear drops 5ml		11			10	11	10	
Chlooramfenicol eyedrops) bottles 10 ml		10			10	0	10	Chloor Amfenicol 0,5 %
Cipromax cream (antibacterial= Fuscidine) tube 15 gr	20	25			8	37	8	Ciprofloxacin 0,5% p/p
Antifungal. daktarin, tube 20 gram	10	10			3	17	3	

Betamethason/gentamycin creme 20 gram	20	20			17	3	17	
Hydrocortison creme 15 gram	20	17			9	8	9	
Dendruuff shampoo	-	180			156	24	156	
Iodine lotion 1 liter	1	0.5			100 ml	400ml	0	Per 100 ml: 10 gr Yodopolivinilpirrolidona
Paracetamol 500mg			88		58	30	0	
Benzoine tinctuur 30 ml	10				10	0	10	
Afee (multivitamin)	-							Retour ivm foutieve dosering 53 doosjes a 150 tabl.
Hematin								Retour ivm over datum 32 bottles.

Appendix B: Children for who support of an international organisation could be helpfull

Name:	Sajan Chapang	Organisation:	Liliane Fonds
Name Village:	Siddhi (ward 8 of school)	Age:	5 years
Name mother:	Jalmaya Chepang	Name father:	Primjeet Chepang
Problem:	Psychomotoric retardation and hypertonia		
Raison:	"physiotherapy", supportive devices		
Medical history:	High fever nine days post partum. Started walking at the age of four, eats himself, doesn't hear/speak		
Contact:	Medical Officer Sub Health Post Shaktikhor (en Siddhi): Keshab Babu Paudel, +98-45049662, +977-56-694790		
Name Kind:	Ganike Tamang	Organisation:	Liliane Fonds
Name Village:	Siddhi	Age:	11 years
Contact:	Medical Officer Sub Health Post Shaktikhor (en Siddhi): Keshab Babu Paudel, +98-45049662, +977-56-694790		
Problem:	psychomotoric retardation and hypertonia		
Raison:	"physiotherapy", supportive devices (especially for sitting)		
Medical history	Since birth problem after a home delivery, not able to walk, stan or sit properly. Doesn't speak not able to eat by himself, does hear		
Name Kind:	Ranjit Chaudhary	Organisation:	Nieuwendijk Fonds
Name Village:	Kumrose	Age:	2 years
Number:	BUNCH NeCh100960	boy	
Name mother:	Jagmati Chauday	Name father	Jena Chauday
Problem:	Suspected for pulmonal stenose / tetralogy of Fallot		
Raison:	Diagnostic procedures in Kathmandu		
Medical findings:	Stunting & wasting , grade IV systolic soufflé, pm IC 4 left with radiation (to the left thorax and upwards)		
Contact:	Rudra Prasad Subedi tel.: 9855057048 / 056.583630 (Father is driver Tiger Residence Resort +977-56-580053 mobile +98-45068949)		

Name Kind:	Lal Kumar Chapang	Organisation:	Nieuwendijk Fonds
Name Village:	Siddhi	Age:	11 years
Nummer:	BUNCH NeCh100620	boy	
Contact:	Medical Officer Sub Health Post Shaktikhor (en Siddhi): Keshab Babu Paudel +98-45049662, +977-56-694790 of via Dhurba Giri		
Problem:	Suspected for a complex heart disorder		
Raison:	Diagnostic procedures in Kathmandu (Gangalal Cardiac Centre Bangbari? Name local doctor of hospital: Dr Bhagwan Koisala)		
Medical findings:	Stunting & wasting , clubbing fingers, grade IV holosystolic soufflé, pm IC 2 left , saturation 83%		
Name Kind:	Niruty Chaudary	Organisation:	Private money Leanne vd Vetten & friends
Name Village:	Kumrose (Naya Basti)	Age:	8 years
Number	BUNCH NeCh1001056	girl	
Contact:	Raju Prasad Silwal +98-55008628 (ziekenhuis Kathmandu: +98-41732265)		
Problem:	Contracture fingers right hand		
Raison:	Surgical correction		
Medical history	Scarring from old burn		
Name Kind:	Sumita Gurung	Organisation:	German NGO for plastic surgery
Name Village:	Chandi	Age:	11 years
Arranged on the spot		girl	
Contact:	Mait Sing Ghising, Headmaster Chandi school through Dhurba Giri		
Problem:	Deformities of both hands and feet since birth		
Raison:	Plastic surgery		
Name Kind:	Sona Gurung	Organisation:	German NGO for plastic surgery
Name Village:	Chandi	Age:	11 years
Arranged on the spot		girl	
Contactpersoon:	Mait Sing Ghising, Headmaster Chandi school through Dhurba Giri		
Problem:	Deformities of both hands with skin problem since birth		
Raison	Plastic surgery		

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