

The impact of the Share & Care program
(Community-Based Health Insurance)
on preventing disabilities by improving
maternal and child health in Kavre
and Sunsari Districts of Nepal

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Preface

This master thesis is a result of the study International Public Health during my graduation at the Vrije Universiteit, conducted at Karuna Foundation.

First of all I would like to thank all the Nepalese women who participated in the focus-group discussions and who shared their visions and opinions. Then, I would like to thank Betteke de Gaay Fortman, to give me such a great opportunity in Nepal. Merel Scheurs, for giving me such good feedback all the time and helping me during my struggling's of my thesis. And of course the Nepalese staff of Karuna Foundation, by supporting our visit in Nepal and helping us in our research. You were all very welcoming and supportive, and you made me feel at ease in an unknown culture. I am very grateful to have this experience in Nepal that nobody would ever take away from me.

Furthermore, I would like to thank Uden during my stay in Kavre, for translating the questionnaires in Nepali, doing the interviews and making the transcriptions. And of course giving me a great time in Kavre! Also I would like to thank Sanan, for the interviews, translations and transcriptions in Sunsari. And your lovely diner at your place, what still is in our minds. Thank you for all of this!

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Amsterdam, February 2012.

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Summary

Context: Karuna Foundation is an INGO that has the mission to decrease the incidence of congenital impairments and disabilities among children in developing countries. Therefore they started Share & Care in Nepal, a community-based health insurance scheme to improve existing health systems and to empower communities and vulnerable groups within these communities. Strengthening health systems and improve health security has been recognized as important in poverty reduction and can improve the health status of people. Till now, the influence of Share & Care on the health status of mothers/women and children and the influence on the prevention of disabilities is not known.

Objective: This study evaluates the impact of the Share & Care community based health insurance (CBHI) program. This is done by looking at health(process) indicators influencing maternal and child health which are predictors for prevention of disabilities.

Design: The study is an exploratory study using quantitative and qualitative methods with a cross-sectional design.

Methods: The study took place in four Share & Care villages and in two control villages in Kavre and Sunsari district. A quantitative analyses was done with data retrieved from the HMIS data base. Calculating mainly averages and changes over time. Qualitative analyses were done from the focus-group discussions with women with children under 5 year and semi-structured interviews with health workers and MCH workers.

Results and conclusions: According to the analyses of the HMIS data, Share & Care does influence in Sunsari positively and in Kavre S&C doesn't show positive effect. But, according to the analyses of the FGDs does Share & Care have positive influence on the awareness mother/child health, the quality of the healthcare services, safe motherhood indicators and social inclusion and empowerment. The semi-structured interviews showed positive changes on quality and availability of health-care services and immunization rates. The conclusion is that the CBHI Share & Care program seems to have a positive influence on the prevention of disabilities and the improvement of mother and child health but the size of this influence is not clearly expressed in this research.

Recommendations: More research needs to be done to investigate the influence of CBHI schemes on the prevention of disabilities and the improvement of maternal and child indicators. Therefore, the reliability of the HMIS data needs to be improved. Better communication between sub-health post and hospital would be a step in the good direction for the improvement of mothers/women and child health.

Abbreviations

ANC	Antenatal Care
BHS	Basic Health Services
CBHI	Community-Bases Health Insurance
FCHV	Female Community Health Volunteers
FGD	Focus-group Discussion
HFOMC	Health Facility Operation and Management Committee
HMIS	Health Management Information System
INGO	International Non-Governmental Organization
MCH	Maternal and Child Health
MOHP	Ministry of Health and Population
NMR	Neonatal Mortality Rate
OOP	Out-of-Pocket
ORC	Outreach Clinics
PHC	Primary Healthcare Center
PNC	Postnatal Care
UN	United Nations
VDC	Village Development Committee
WHO	World Health Organization

Introduction

Health insurance is a 'hot' topic in development work in poor countries. This is because health security is increasingly being recognized as important in any poverty reduction strategy (Jutting, 2004). Health insurance can provide financial protection by reducing out-of-pocket (OOP) spending and can thus reduce the vulnerability of families and act as a safety net for 'catastrophic' high health expenditures (Ranson M.K, 2002). Karuna Foundation is an INGO that is committed to decrease the number of children born with or developing a disability and to improve the quality of life for children with a disability. Therefore, Karuna Foundation Nepal has started a Community-Based Health Insurance (CBHI) programme called 'Share & Care' to improve the existing health system. But does Share & Care improve the maternal and child health and if so, in what way? And is Share & Care an effective programme in decreasing the number of children born with a disability? Community-Based Health Insurance is a relatively new concept in public health and therefore interesting to be evaluated (Karuna Foundation Nepal, 2012).

Background

Nepal

Nepal is a relatively small country bordered by the two countries with the biggest populations in the world, India and China. The total population is almost three times as big as the Netherlands, namely around 29 million people. The mountainous surface makes it difficult to travel and therefore several parts of the country are difficult to reach. Of ten of the highest mountains in the world, eight are in Nepal, including the Mount Everest, which is situated on the border of China (Tibet). From South to North Nepal is divided in three zones, the lowland (Terai-region) in the south, hills and low mountains in the middle, and the Himalayas in the north (WHO 2004).

Nepal is a democratic republic. The country is divided into 5 development regions, 14 zones, 75 districts, 4000 VDCs (Village Development Committees) and 58 municipalities. Nepal is one of the poorest countries in the world and ranked 157 on the HDI with an estimate of 38% below poverty line (CIA, 2012). The GDP per capita is \$250. Nepal has a large rural area where most the poor people live. Agriculture accounts for about 40% of Nepal's GDP, industry 22% and 41% services whereas a big part exists of tourism (WHO 2004; CIA 2012).

Millennium Development Goals

In 2000, the World Health Assembly developed the Millennium Development Goals (MDGs) for 2015. The MDG's focus on poverty eradication, improving access to primary education, enhancing gender equity, improving health (notably by reducing child mortality, improving maternal health and combating HIV/Aids, TB, Malaria and other diseases) and ensuring environmental sustainability. The publication of the report of the commission on Macroeconomics and Health (CMH) in December 2001 stated the importance of the strengthening of health systems in poverty reduction. Therefore the United Nations(UN), the International Financing Institutions(IFI's) and bilateral donors at the global level started to invest in essential health care, health-related services and especially in the strengthening of health systems in low and middle-income countries (WHO,2004;OECD 2011).

Maternal and child health

The internationally agreed framework consists of 8 goals and 18 targets, but especially target 5 and 4 are focused on maternal and child health (WHO, 2012). Target 5 aims at reducing the maternal mortality ratio by three quarters. The indicators of target 5A are maternal mortality ratio and proportion of births attended by skilled personnel. Target 5B is mainly focused on achieving universal access to reproductive health and is assessed by contraceptive prevalence rate, adolescent birth rate, antenatal care coverage (at least one visit but preferred up to four visits) and unmet need for family planning (Unicef-WHO, 2005). Target 4 is the child health target. This includes reducing the under-five mortality rate by two thirds. The indicators for this target are under-five mortality rate, infant mortality rate and proportion of 1 year-old children immunized against measles (Unicef-WHO, 2005).

Since 1990, there already has been a lot of progress in improving mother and child health; several countries in Northern Africa and Asia have more than halved maternal mortality. Still, 358,000 women die each year in pregnancy and childbirth, and most of them die because of lack of access to emergency and skilled routine care (WHO 2012).

Maternal health in Nepal

Nepal's maternal mortality rate is very high; the best estimates for Nepal suggest that 6,900 women and girls die each year due to pregnancy-related complications (UNFPA, 2011). In addition, 138,000 to 207,000 Nepalese women and girls get disabilities caused by complications during childbirth and pregnancy each year (UNFPA, 2011). Most of the complications and deaths can be prevented. Reducing maternal mortality and disabilities can be done by improving maternal health services. These health services include emergency obstetric care, antenatal care, postpartum care for mothers and babies, family planning and HIV/AIDS/STI services. Table 1 gives an overview of the most important maternal health indicators of Nepal (MNPI 2005; Khan et al., 2006).

At-a-glance: Nepal	
Population	29,959,364
Births attended by skilled personnel	36%
Births in health facilities	18%
Total fertility rate	2.8 in rural areas
Contraceptive use married women (15-49)	48%
Maternal Mortality rate	280/100,000

Table 1 Source: WHO 2006, Unicef 2010

Deaths caused by complications due to pregnancy or childbirth and up to 42 days following childbirth are included in maternal mortality. In Nepal there still is a very low proportion of women giving birth in institutional facilities. Most women don't think it is necessary to deliver in a hospital. But when there are complications during labour or there is need of a caesarean section it is often already too late to reach a hospital on time. Therefore the low rate of institutional deliveries can cause a higher neonatal mortality rate and later on disabilities (Pant, 2008).

There are several different cultural, religious, personal and gender differences, which can have a negative influence on the health outcomes, such as early marriage and abortion regulation. Support to the rights of women and girls to have control over the resources and decisions that affect their safety and health are also very important (Khan, 2006; AbouZahr et al., 2004).

Child health in Nepal

The health and well-being of children in Nepal is improving. The infant mortality rate (IMR) is 41 per 1,000 live births and the neonatal mortality rate (NMR) is 28 per 1000 live births (Unicef 2010). Also the prevalence of anaemia in children is showed to be improving (SEARO 2004). Still, the under-fives with diarrhoea who receive oral rehydration and continued feeding is very low, just 37%. And just 31% of the population who uses improved sanitation facilities, which in turn can cause diseases. Even if the immunization rate is improving, there are still only few children who receive full immunization, only 60.1% of all. The low birth-weight prevalence is estimated at 27% (SEARO 2004). In Nepal there is much to improve in child health; almost 70,000 children die every year from preventable causes; one in two children are underweight or stunted. And these problems increase the risk of becoming disabled. Delayed action in health seeking behaviour in case of illnesses (Pneumonia, ARI etc.) or accidents (such as burns or fractures) can cause disabilities. Especially children are vulnerable, because they are often less likely to be taken a long distance to a health centre and get the care they need (Sinh et al. 2006; UN 2012).

Strengthening of health systems

Health insurance

In 2005, the WHO called for universal coverage in health systems. During the 58th World Health Assembly they urged “to ensure that health-financing systems include a method for prepayment of financial contributions for health care, with a view to sharing risk among the population and avoiding catastrophic health-care expenditure and impoverishment as result of seeking care”. Health care for all at an affordable price is of big importance to reduce poverty (WHO 2004). In achieving universal coverage there are a large number of funding mechanisms (e.g. many small insurance schemes) and different options for payment to health-care providers (McIntyre et al. 2008). Most developing countries have at least three mechanisms for financing of health services. They often have a principal financing mechanism, such as tax revenue or social health insurance. And making use of health services is also often combined with user charges and supplementary community financing for specific services and components of the health system. In low-income countries the funding for health services is only shared between the government through tax revenue and household income (Borghi et al., 2006).

User fees and tax revenues place a financial burden on households, and, especially in poor households, this can lead to decreased use of health services (McIntyre, 2008). Insurance entails households making fixed prepayments in return for minimization or avoidance of catastrophic high expenditures in times of need. Several low-income countries are starting a system of compulsory social health insurance, but this is still little developed in south Asia and sub-Saharan Africa. The slow development is because it is difficult to set up a compulsory insurance in rural areas. This is because of poor accessibility of households, low incomes, lack of a formal employment sector and a minimal health-care infrastructure (Shaw R.P., 2006; McIntyre et al., 2008).

Community-Based Health Insurance

Meanwhile, community-based health insurance (CBHI) is much more developed in low-income countries; this type of insurance is much more informal and on a smaller scale. There is not much evidence of the effect of the community insurance, because most of them are pilot programs, which operate on a small scale (Shaw RP, 2002). Another problem is that many community insurance schemes do not cover the more expensive care, like for example operations or referral during childbirth. Also, transport and time can be 20-50% of the total costs of health care expenditure, but most community insurance schemes do not provide for those costs (Borghini et al., 2006; McIntyre et al., 2008).

In the past decades, many low-income countries have found it difficult to sustain adequate financing for health care. Community-based health insurance schemes have shown that risk pooling is possible in countries where organising nationwide risk pooling is too difficult. The advantage of CBHI is the small scale in which the scheme can be implemented. Most programmes are voluntary, non-profit and community based (Ekman, 2004; Ranson, 2002; Preker et al, 2002).

Share & Care

Karuna Foundation has a mission to decrease the incidence of congenital impairments and disabilities among children in developing countries. Therefore they started Share & Care, a community-based health insurance scheme to improve existing health systems and to empower communities and vulnerable groups within these communities.

The associated components of a CBHI programme fit the framework of Share & Care well. Besides the main purpose of Share & Care (health insurance), community management (by creating cooperative structures), mobilizing resources and knowledge and development of strong leadership are all important components. In addition, in this CBHI programme, the community shares the risks, responsibility and costs of the improvement of health services. Prevention of handicaps and rehabilitation of children are other important components of the Share & Care framework. Strengthening the health of women and children and creating awareness on the rights of children with disability by several actions done by voluntary women, are involved in prevention. On the area of rehabilitation medical support, education and income-generating activities are realised. The Health Facility Operation and Management Committee (HFOMC) leads the programme. This HFOMC consists of one or more representatives of every community; they are responsible for the financial and administrative part of the scheme. A programme coordinator carries out the Share & Care activities with the sub-health post (Karuna Foundation Nepal, 2012).

Share & Care not only benefits the members; the non-members also profit from the improvements of the health services. Both members and non-member gain additional medicines, next to the 25 essential medicines in Sub Health Posts provided by the Ministry of Health and Population (MoHP). Briefly, Karuna wants to create a programme that is financially independent of Karuna after two years; a programme that is sustainable and only needs some financial resources of the MoHP and their own community (Figure 1.).

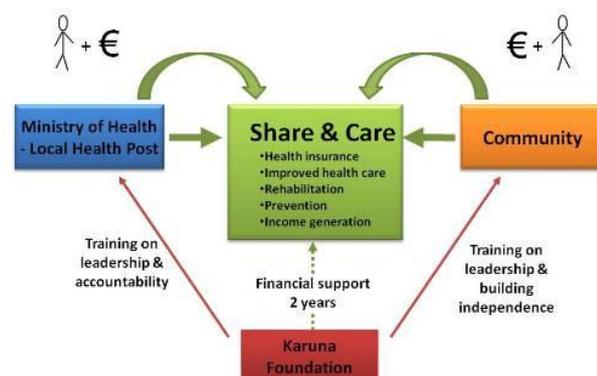


Figure 1 Share & Care (Karuna Foundation)

Field of study

A health insurance is always set up with a goal, either for cost-sharing purposes, decreasing financial risk for people or improving health care quality and accessibility or a mix of these examples. The review carried out by Mathijssen et al. (2010) reviewed studies that investigate the effect of several health insurance schemes in Africa and Asia. This study classifies evaluation studies according to the indicators on which the health insurance scheme can have influence. These indicators are “Social inclusion, utilization, resource mobilization, financial protection, community empowerment and quality of care”. Most reviewed studies are focused on the operational dimension of health insurance, which is evaluated by the impact on utilization in about 70% of the studies. The second most used form of evaluating a health insurance scheme is the financial dimension. Social inclusion, resource mobilization, community empowerment and quality of care are the least used indicators for evaluating a health insurance scheme (Mathijssen et al., 2010).

The framework provided by Health Insurance of the Poor(HIP), Ecorys and KIT recommends evaluating health insurance schemes in several areas: financial, operational and social. Karuna Foundation started their scheme to improve the health of mothers and child and to prevent disabilities Therefore this health insurance scheme should be evaluated with a focus on this main objective of Share & Care. The evaluation will also look at the indirect objective of Karuna (operational dimension); the use of health care services and the quality of those services. Also social inclusion and empowerment are indicators which will be taken into account in this research. The difference between this evaluation study and other health insurance evaluation studies is that this research focussed on the direct health outcome and will not be evaluated by indirect indicators.

Problem definition

The poor maternal and child health is a big problem in Nepal at this moment, and need to be improved, also in order to prevent disabilities and congenital impairments. Share & Care could be an important factor in the improvements of mother and child health, therefore it is beneficial to evaluate this programme. Until now there is no evidence of the performance of the Share & Care programme on mother and child health and the prevention of congenital impairments and disabilities. Share & Care started in several villages in year 2007. The aim of this programme was to achieve less than 5-10% of congenital impairments among new-borns and 30-40% less children developing disabilities caused by illness, malnutrition or accidents. This evaluation study measured predictive factors for the prevention of congenital impairments and disabilities, and therefore the health of mothers and children is investigated during this study.

Objective

The objective of this study was to evaluate the impact of the Share & Care community based health insurance (CBHI) program. This is done by looking at health care (process) indicators that are predictors for prevention of disabilities. Also health indicators are evaluated and compared between areas where there is and where there is no influence of Share & Care. Background information is retrieved through interviews with health workers and focus groups with members and non-members.

Central research question

What is the impact of the CBHI Share & Care programme on maternal and child health?

Study questions

- What is the impact of Share & Care on the performance and use of maternal and child health care services?
- What is the impact of Share & Care on the maternal and child health indicators measured by HMIS of Ministry of Health and Population (MOHP) of Nepal?
- What is the impact of Share & Care on the number of disabilities/birth defects among children/new-born babies?
- What other factors may have influenced maternal and child health and health care services in Nepal in the last 5 years?
- What is the impact of Share & Care on social inclusion and empowerment of women and what effect does this have on maternal and child health?

Methodology

Study design

The study is an exploratory study which uses a longitudinal retrospective design with two cohorts. It is longitudinal because the determinants and outcomes are measured at several points in time. It has two cohorts because both determinant and outcome (member/non-member) are measured and it uses both quantitative and qualitative methods.

Research framework

The main goal of Karuna Foundation is to prevent disabilities in children and improve their quality of life. During this study I focused on the prevention of disabilities in children. The onset of a disability among a child can happen at different times during their development. It can happen before birth, e.g. due to genetic causes, toxic effects such as smoking or alcohol or intrauterine stress such as lack of nutrients. It can happen around birth, e.g. through lack of oxygen, birth trauma or infection and it can happen during the development of a child as it is growing up due to many causes, such as malnutrition, diseases and accidents.

The prevention of congenital impairments (birth defects)

The prevention of congenital impairments (birth defects) starts before the baby is born. Family planning can help to think before getting pregnant for example in poor health status of the parents and good information about the risks of pregnancy and about contraceptive use are already very important. If parents decide to have a baby, the health behaviour of the mother influences the health of the baby, the health status of the mother is an indicator related to prevention of congenital impairments. Antenatal check-ups help to monitor and improve the health of the mother. During these check-ups (tt2+, iron tablet + folic acid, guidance and advice on nutrition) early development of disabilities can be detected (although difficult in the context of developing countries because of lack

of screening equipment) and difficulties during the delivery can be anticipated. During the delivery there are also several factors which can influence the risk of disorders caused by birth traumas, for example the place of delivery and professional help during the delivery.

The nutritional status of a woman before and during pregnancy has been shown to be important for a healthy pregnancy outcome (Black et al., 2008). Maternal under nutrition is a risk factor for having babies with a low birth weight and low birth weight can lead to developmental delays, neuromotor and speech problems. Also under-nutrition of women leads to chronic energy and micronutrient deficiencies (Black et al., 2008). Iodine deficiency in mothers during pregnancy, even in a mild form, can lead to impaired motor and mental development of the foetus. Goitre, congenital hypothyroidism and other disabilities arising from iodine deficiency have a high prevalence in the developing world. It has been shown that populations with chronic iodine deficiency have an average reduction in IQ of 13.5 points (Black et al., 2008). Blindness can be a result of vitamin A deficiency during early childhood or during pregnancy of the mother. Vitamin A deficiency can also lead to an elevated risk of morbidity from other diseases as measles and malaria (Black et al., 2008). During this study the following indicators as measured by HMIS were taken into account:

- Number of women having 1st and 4th ANC visits
- Number of women receiving TT2+
- Number of women receiving iron tablets

These indicators have been chosen because they were already measured by the SHP's. Under nutrition by women for example, is not measured and for this short period of time in which the study must be conducted, it was not possible to do our own measurements.

The prevention of the development of disabilities

The other possibility is that a child will develop a disability perinatal or during the first years of his live. The perinatal period is the period immediately before or after the birth. The disabilities which can originate at this time are mainly biomedical. Resulted from prematurity, injuries, infections during the trip through the birth canal and oxygen deprivation. Babies who are born too early are more likely to develop congenital impairments and some suffer of a form of blindness (WHO, 1992). Oxygen deprivation can occur through a difficult or prolonged birth. Also, during the first years of live the child can develop disabilities because of illnesses and injuries; here the health status of the child is important.

After the delivery, monitoring is important in preventing the development of a disability in the child. Therefore PNC visits are important. Also vaccination and growth monitoring are important health service processes which can indirectly the child health. Immunization can prevent diseases and therefore the onset of disabilities, for example polio. During growth monitoring a serious disorder can be diagnosed earlier and the child can receive the needed social or medical support. And also the nutrition status of children will improve through growth monitoring, which is a predictive value in the prevention of disabilities (Garner et al. 2012). The child health indicators, for example incidence of diarrhoea and pneumonia, are important outcomes because they show the health status of the child. In the research to the prevention of disabilities the following indicators were taken into account:

- The number of children immunized with BCG, DPT3, Polio 3 and Measles
- The number of post-partum women receiving vitamin A

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- The number of delivery conducted by health worker
- The number of women receiving 1st PNC visit.

In the FGD's birth, PNC visits, growth monitoring of children under 5 years, the child health situation, utilization of services and quality of (skilled personal) health care are discussed.

At first childhood illnesses were planned to analyse but afterward there was too much missing and less constant data. The numbers of the children with pneumonia, diarrhoea and acute respiratory infection and severe dehydration can be seen in appendix. 3.

Figure 2 shows the conceptual framework and the research framework. The blue part shows the connected indicators and health outcomes. The light blue part shows the data collection methods for every research indicator. The indicators in this conceptual framework are not based on the information available during this research but represent a clear view of the influence of the health indicators and process indicators on each other.

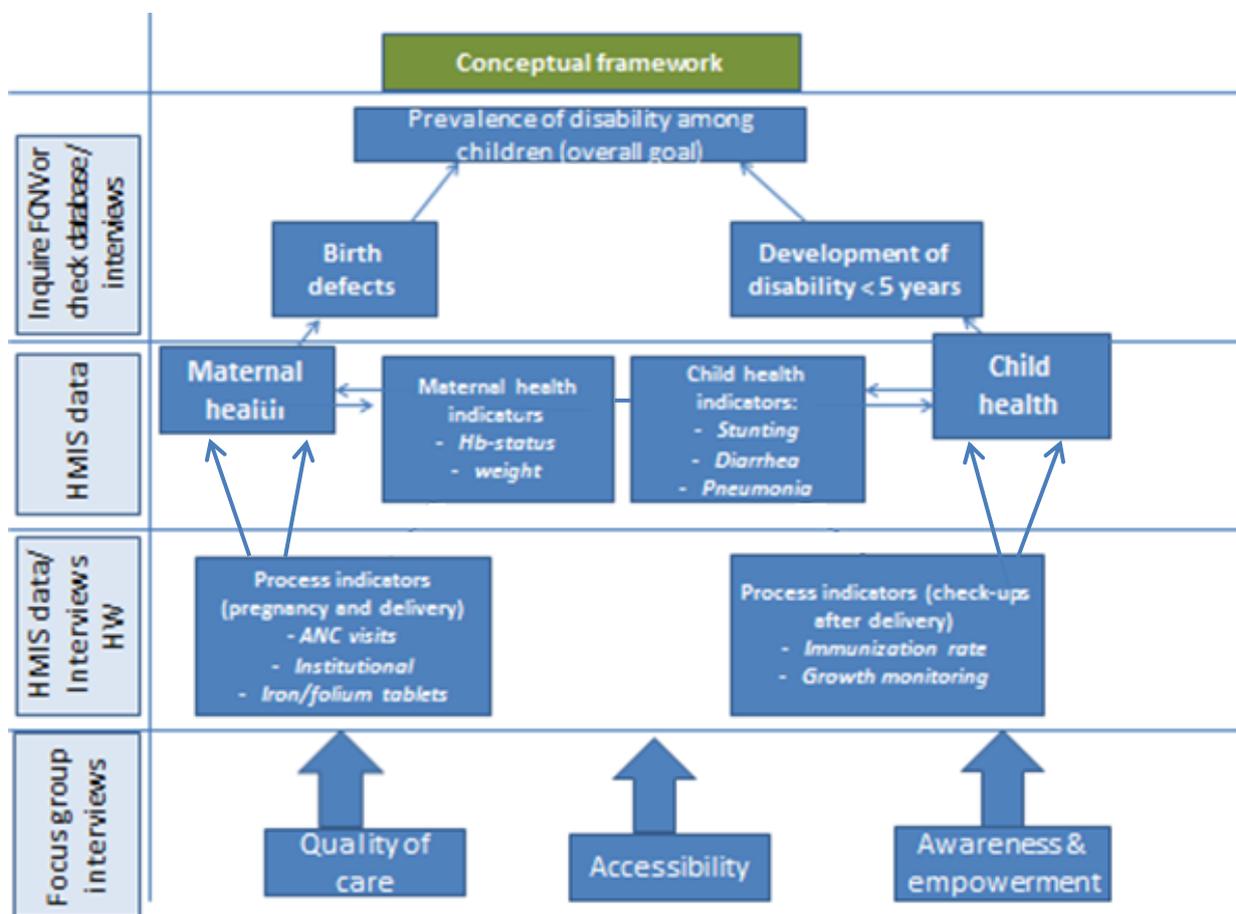


Figure 2 Conceptual Framework

Literature search

A literature research has been conducted to get more insight into the background of the research topics. The databases PubMed and Google Scholar were used and the most often used keywords were: 'maternal health', 'child health', 'disability', 'health insurance' and 'Nepal'. During this research several word combinations were used. Also by looking at references of other articles I found new useful articles. Excluded were articles in other languages than English or Dutch or articles older than 1990.

Study area

The study area was in Sunsari (Terai) and Kavre (Hills). In total 6 villages were included in this research of which four are carrying out Share & Care. Two villages in two separate districts similar to Sunsari and Kavre have been control villages. It was intended that these control villages were without any intervention in the last 5 years. But many NGO's working in the same area as Karuna made it difficult to find control villages without intervention. Therefore we chose the villages in the same area as Share & Care, with the same circumstances, but with interventions done by other NGO's.

In Sunsari district, a flat, sub-tropical area in the south of Nepal:

- Share & Care villages Bhokraha
- Share & Care village Madesha

Control village Bha Si

In Kavre district, hill area:

- Share & Care village Chapakhori
- Share & Care village Mechche

Control village Thulo Parsel

	<i>Number of households in total</i>	<i>Number of people</i>	<i>Number of households (member) of Share & Care</i>	<i>Number of people(member)</i>
Bhokraha	3,200	19,368	400	2,730
Madesha	1,290	7,023	525	2,461
<i>Bha Si</i>	--	13,266	--	--
Chapakhori	555	4,011	300	1,113
Mechhe	1,300	-	320	-
<i>Thulo Parsel</i>	580	3876	--	--
Total	6,345	30,402	1,545	6,304

Table 2 Overview members by village (Karuna Foundation, 2011)

Study population

The study included pregnant women or mothers (with children under 5 year) and children living in the villages involved in Share & Care (Bhokraha, Madesha, Chapakhori and Mechche) and pregnant women or mothers (with children under 5 year) and children in the control villages (Thulo Parsel and Bha-Si). The control villages were found in an area where there was no influence of Share & Care on the health system and of people living in that area. Also the members and non-members living in the communities of Share & Care are compared. In the case villages two focus-group discussions were held (member/non-member) and in the control one focus-group discussion. So, 10 focus-group discussions were planned (fig 3.) but in total, 8 were held. During the visit of Kavre I became sick and it was not possible to do focus-group discussions and the semi-structured interview that day in Mechche. In every VDC of the Share & Care and control villages, semi-structured interviews are held with the maternal and child worker and the person in-charge. In total, 5 semi-structured interviews with health workers are done. During the focus-group discussions excluded were men, and women who did not have children or were pregnant. In every VDC semi-structured interviews are held with the maternal and child worker and the person in-charge. In total, 5 semi-structured interviews with health workers are done.

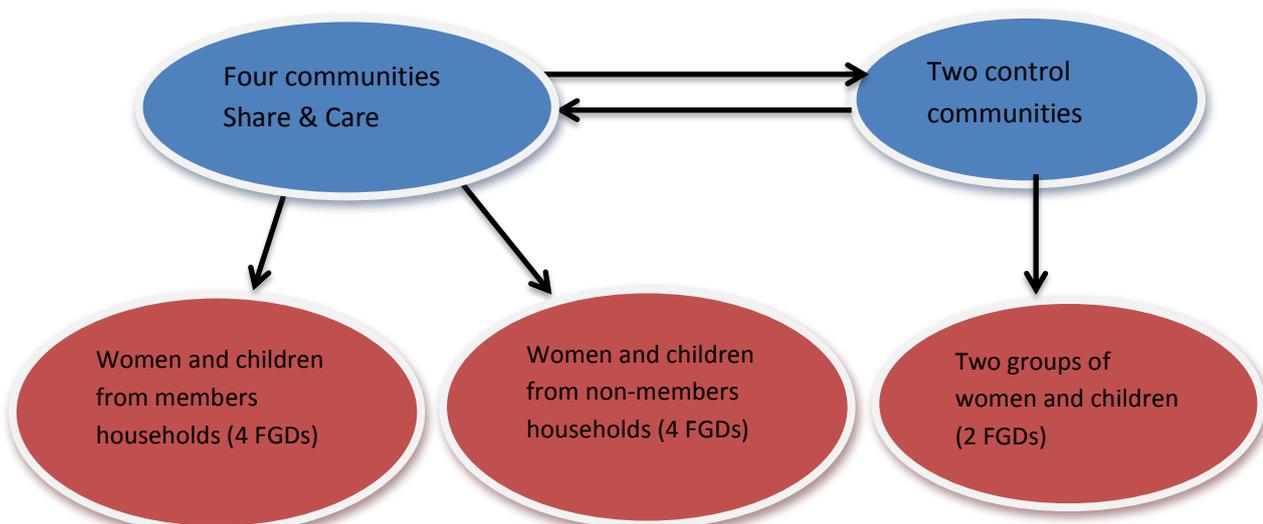


Figure 3. Overview of Focus group Discussions

Sample and sampling methods

During the study, information is retrieved from six different villages. Information on maternal and child health is retrieved from the HMIS reports of the four Share & Care villages and two control villages. There was not a significant difference between the villages in the surveillance of the maternal and child health data. In the control villages the years 2005 to 2008 were missing but in general in every village there was some missing information e.g. months or indicator. After investigation of the information of the health (process) indicators some indicators are excluded because of too much missing data.

Health care providers (health in charge, maternal and child health worker) are interviewed from 3 health posts in Share & Care villages and from the 2 control health posts. The health provider have been the Basic Health Services (BHS) in Nepal. The BHS consist of a network of primary health centres, health posts and sub-health posts that are staffed by nurses, midwives and health workers. The health posts are involved in the study for evaluating the utilisation, resource mobilisation and

health status of mothers and children. Interviews are done with staff of the health post about their opinion and ideas of indicators influencing the health of mothers and children. Focus group interviews with women are held to get more in-depth information on the underlying reasons and opinions on the health care processes and eventual successes or failures of Share & Care. Excluded are men, and women who do not have children are not pregnant.

Data collection

Data collection is done through several methods: secondary data from the HMIS, semi-structured interviews and focus groups.

HMIS data

The quantitative data collection is using data of the HMIS as collected by the health worker in charge and collected by the DHO. These data came from the Terai and Kavre district and the control area. The information is collected according to the indicators important for this research and they are measured every year in numbers through the sub-health post. I investigated the three years before the start of Share & Care until now. Karuna Foundation started in 2007/2008 the first Share & Care programme. Since then other villages get involved in the programme, but in different years. Table 3 gives an overview of the way the analysis is done.

Data collection	Case	Control
HMIS	(Share & Care)	(Normal village)
Year 2005- S&C	Before S & C	Before
Start Share & Care	Before S & C	Before
Year S&C – 2011	After S & C	After

Table 3 Quantitative data collection overview

Semi-structured interviews

The tool for the semi-structured interview was an interview guide. The interview guide is translated in Nepali and evaluated by several employees from Karuna. The semi-structured interview and topic-list for the focus-group discussions is tested in a village nearby Kathmandu (Bhaktapur) to make sure every question is clear. Afterwards some questions have been adapted. The semi-structured interviews are conducted by health workers working in the VDCs. During these interviews in-depth information about their opinions and beliefs regarding prevention of congenital impairments and disabilities are researched. Also their opinion of the Share & Care program and how it influences maternal and child health is studied. The interview guide for the semi-structured interviews can be found in the appendix 1. An interpreter went with me to conduct the interviews. During the interviews as much as possible is translated back to me so I could probe questions or check if the answers were going in the good direction. But due to lack of time it was hard to translate every question and it was mostly done after each topic.

Focus groups

A focus group discussion is a meeting of six to twelve people guided by a facilitator, during which each group member can talk openly about a certain topic. The purpose is to obtain in-depth information of the ideas and opinions of a group of people. During a focus group discussion the group members talk among themselves but with guidance from a facilitator. The facilitator is important in stimulating the discussion and tries to let everyone talk equally. The skills this facilitator needs to have are to be able to listen, support, summarize, challenge, lead and to be trustworthy. The facilitators of the focus-group discussions were two Nepali students. The translator who did the interviews in Kavre was already graduated and was experienced with doing focus-group discussions. The other translator in Sunsari was not very experienced but had already some practice at school. During the focus groups it is important to let everyone talk an equal amount of time, this was mostly encouraged by the facilitators. But there were always women who talked more than others. Thereby it was sometimes hard to provide a safe and confidence-inspiring environment because the health worker often wanted to join, people were walking in and out and sometimes too much women participated in the focus-group discussions. Because the women of the focus-group discussions had children under the age of five, they were forced to take them with them because there men were working and in Nepal it is not common to have a babysitter. The women I wanted to include, women who have children under five or are pregnant, were also actually coming. The tool for the focus-groups was a guiding topic list translated in Nepali. The topics are about maternal and child health and the health of the women during pregnancy (nutrition, vitamin A, iron tablets, smoking and alcohol habits and how they feel). They were also asked about their health seeking behaviour, health system factors, delivery situation and social inclusion and empowerment. Towards the end I asked members of Share & Care about the successes and failures and non-members about the reasons why they did not join the program. The topic list is included in the appendix 2.

Data analysis

During the study HMIS indicators are collected and analysed. There has been done a quantitative analysis to investigate the differences between areas involved in Share & Care and those not involved. Thereby, I compared between the years before Share & Care and the years after. A qualitative analysis was done to get more in-depth information on success or failures of Share & Care influencing factors on health and health care processes.

Quantitative

The database is made by gathered HMIS data obtained from Karuna. The information needed according to the indicators are put in excel sheets per village. The indicators with too much missing data or indicators who had different interpretations among the villages were excluded from the analyses. The indicators which are excluded from the quantitative analyses are the number of children visited for growth monitoring, children with lower weight than normal, acute respiratory infection, pneumonia, diarrhoeal and children with dehydration. The number of children visited for growth monitoring is excluded because the health workers in some sub-health posts counted the number of visits but the other health workers counted the number of children. Because some children visited several times a year the sub-health posts this did not comply. The number of children with lower weight than normal was very small, it was not necessary to analyse this. And the

Impact of Share & Care

indicators with childhood illnesses are not included because there was a lot missing data. Thereby, childhood illnesses are for a large part influenced by environmental factors.

Indicators	Year 2011/2010	Difference 2011/2010	Year 2010/2009	Difference 2010/2009	Year 2009/2008
total no of pregnant women	102		102		187
total no of children under 5 yrs	402		402		780
total no of children under 1 yr	87		87		100
No of postpartum mothers receiving Vitamin A	50		45		49
<i>% (A33/A10)</i>	<i>49,01961</i>	<i>4,901961</i>	<i>44,11765</i>	<i>17,91444</i>	<i>26,20321</i>
Number of delivery conducted by health worker	26		17		22
<i>% (A50/A10)</i>	<i>25,4902</i>	<i>8,823529</i>	<i>16,66667</i>	<i>4,901961</i>	<i>11,76471</i>
Number of women receiveing 1st PNC visit	26		37		34
<i>% (A52/A10)</i>	<i>25,4902</i>	<i>-10,78431</i>	<i>36,27451</i>	<i>18,09269</i>	<i>18,18182</i>
AVERAGE CHANGE IN MATERNAL HEALTH INDICATORS POST-NATAL	33,3	1,0	32,4	13,6	18,7

Table 4 Example quantitative analyses

To have a better overview of the influence of Share & Care on the prevention of disabilities and congenital impairments, a distinction is made between the indicators. This distinction involves indicators which are influencing the change in safe motherhood, maternal health post-natal and the change of immunization rates children.

Table 4. shows an example of the way the quantitative analyses have been done. In year 2011/2010 the number of postpartum mothers receiving vitamin A was 50 mothers. That year their where 102 pregnant women. So, the percentage of women receiving vitamin A in this village is $(50/102203) \cdot 100\% = 49\%$. The same calculation is made for the number of delivery conducted by health worker. In total 26 deliveries are conducted by a health worker, that makes $(26/102) \cdot 100\% = 26\%$. For all the indicators a calculation is made. For the change in child immunization rates, the total number of children under 1 year is used. And for the change in safe motherhood indicators the number of pregnant women is used, and the change in childhood illnesses the number of children under 5 years is used.

Then, averages of the percentages of the indicators , for the safe motherhood, maternal health post-natal and immunization rates children are made. For example, the average change in maternal health indicators post-natal the average of year 2011/2010 is calculated. This is done by adding together the percentages of that year and divide them through the number of indicators. For example, year 2011/2010 the average change in maternal health indicators is the number of postpartum mothers receiving vitamin A, number of delivery conducted by health worker and the number of women receiving 1st PNC visit $(49,0+25,5+25,5):3 = 33,3\%$. Also, differences between the years have been calculated, and also of them averages has been made, for example the difference in percentages between number of postpartum mothers receiving Vitamin A is $48,0-44,1=4,9\%$. Also, here the average of the indicators has been calculate $4,9+8,8+-10,8 = 1,0$.

Finally, trend analyses have been made by using for example the numbers of the average change in maternal health indicators post-natal. These trend analyses are views of the excel sheets and

therefore the lines of the graphics are interpretable in the results. In figure 4. the estimate average change in maternal health indicators post-natal before S&C in Chapakhori is 13% and after S&C is 8%. Based on calculations these is almost the same, before S&C is $(21,9+18+2,7)/3=14,2$ and after S&C is $(11+11+4)/3= 8,6\%$.

So, after the start of S&C the average change in maternal health indicators post-natal is lower than before the start of S&C. The symbols -, + and + show the decrease or increase of the indicators after the start of S&C. For the indicators which can be compared with the FGD's and semi-structured interviews separate averages are made which can be seen in appendix 5.

In the graphics a dot shows the starting point of Share & Care. The starting points of Share & Care are based on the agreement dates of the villages with Karuna Foundation.

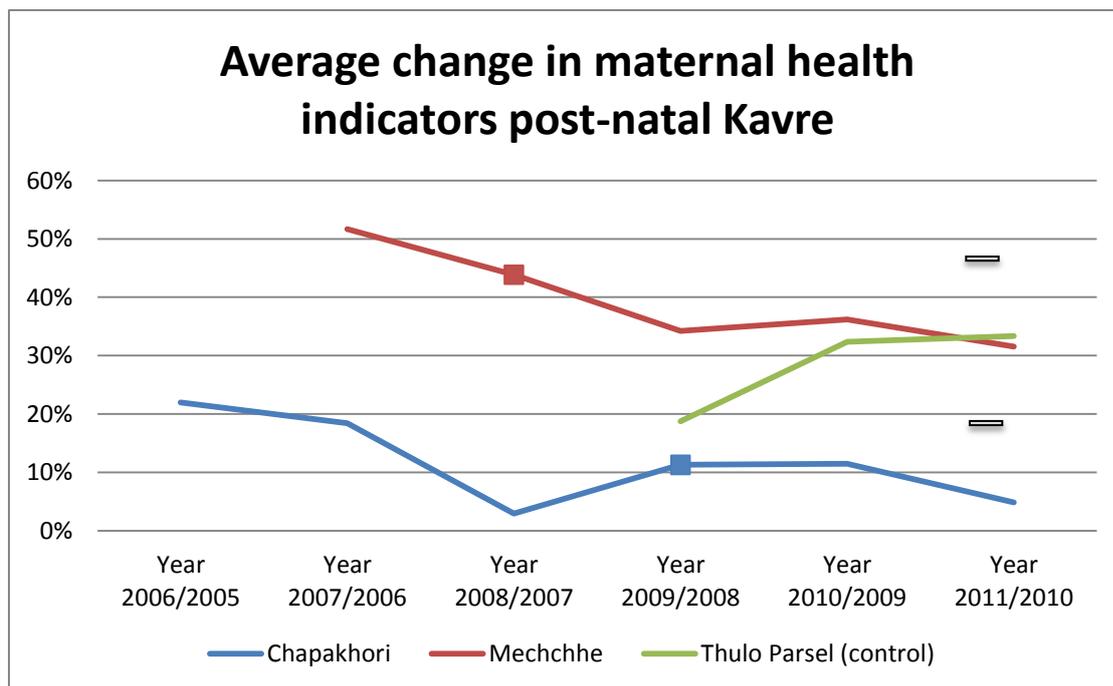


Figure 3 Example

For every year an average of the indicators has been calculated for each village. The averages are presented per district in the following graphs. A detailed table with the indicators and corresponding achievements can be found in appendix 3.

Qualitative

After the interviews and focus groups are conducted, the recordings are transcribed and translated in English by the translators. During and after the focus -group discussions or interviews I made a short summary of the most important elements. The semi-structured interviews and focus groups are analysed using the grounded theory approach. The idea of the grounded theory approach is to read (and re-read) the database and 'discover' and label variables and their interrelationships. The theoretical sensitivity is affected by a number of things and especially the person who is reading the database. Therefore it was important to be theoretically sensitive during the analyses (Straus and Corbin, 1990). The analyses of the transcriptions started with reading the text several times. Then every part of the text got a label which summarized that part of the text (open coding). After every

important text has been coded, every code is described and groups are formed groups and connections made. Also important and less important sub codes are distinguished. A list was made of the most important sub codes and divided the parts of the text between these. Then a summary for every label and a summary of every village are made. This is done for the semi-structured interviews as well as the focus-group discussions. For the overall conclusion the findings has been triangulated, e.g. interviews, FGD's and quantitative data, to see the differences or matches in the results.

Finally, I examined the codes and the connections between them in the transcriptions and I compared this with the literature collected in the study. This last phase of the analysis involved thinking about the codes in connection to the research objectives. Before conclusions are made, I triangulated the findings from various sources, e.g. interviews, FGDs and quantitative data, to see if they lead to the same conclusions. After this conclusions can be made.

Hypothesis testing

The following predictions are made:

1. There have been positive changes in maternal health indicators in Share & Care VDCs.
2. There have been positive changes in child health indicators in Share & Care VDCs.
3. There have been reductions in the predictors of incidence of various types of disabilities in Share & Care VDCs.
4. The maternal health indicators in the control villages haven't changed.

Results

To answer the main question several methods have been used focus-group discussions, semi-structured interviews and analyses of HMIS data. The focus of this research has been to evaluate the community-based health insurance scheme Share & Care on the performance of maternal and child health indicators and on the prevention of disability indicators.

1. The prevention of congenital impairments (maternal health care indicators)

The prevention of congenital impairments is examined according to several indirect indicators. The prevention of congenital impairments in the HMIS data is dependent on *the average change of safe motherhood indicators* and *the average change of maternal health indicators post-natal*. Topics of the focus-group discussions according to this indicator are *awareness child/mother health, family planning, iron/iodine tablets, ANC/ PNC-visits, birth and mother health situation*. In the semi-structured interviews almost the same topics as the focus-group discussions are used.

HMIS data

1.1 Average change in safe motherhood indicators

The average change in safe motherhood indicators is dependent on *the number of pregnant women having 1st and 4th ANC visit, number of women receiving TT2+ and number of pregnant women receiving vitamin iron tablets*

Results Kavre

The dots in Figure 6 refer to the starting point of Share & Care; this applies also to the other similar graphs. On average, in the years before Share & Care, the rate of the safe motherhood indicators in Chapakhori was around 14%, in the years after Share & Care the average rate is a little bit higher 17%(appendix 4). In Chapakhori there doesn't change much since the start of Share & Care. In Mechchhe the safe motherhood indicators were 42% and after the start of Share & Care there average is around 31%. The safe motherhood indicators scored higher after the first year since Share & Care but there is a decrease in the past years. In Thulo Parsel, the village without the S&C program, there is a steady increase of the safe motherhood indicators (average 31%) and in 2011 these indicators score higher than the villages without Share & Care.

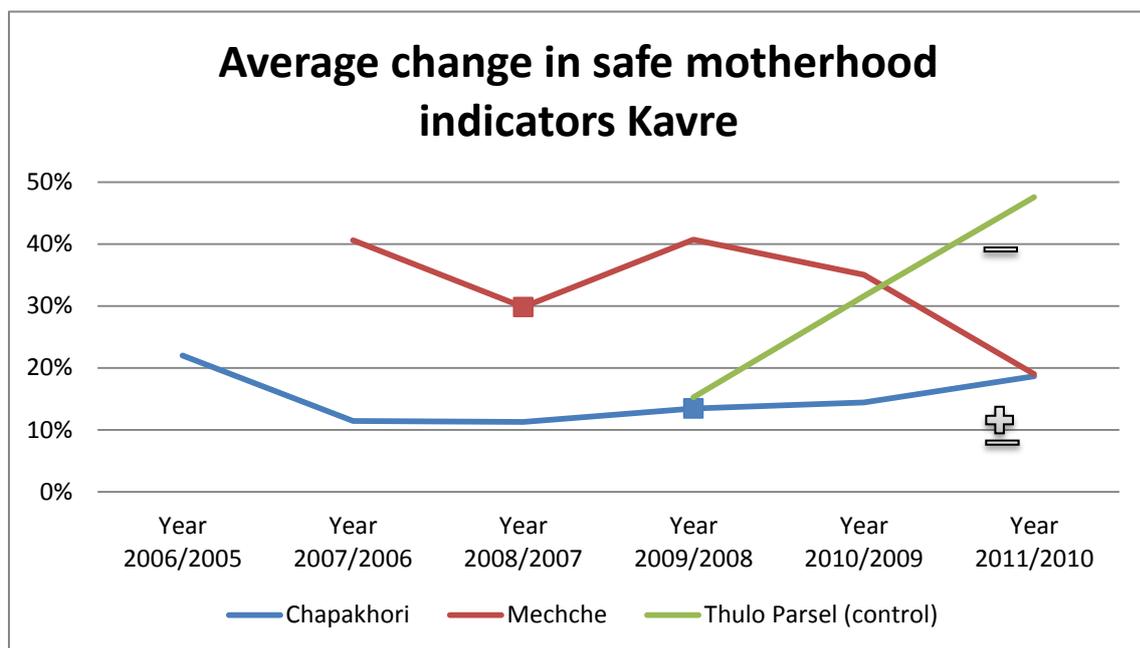


Figure 4

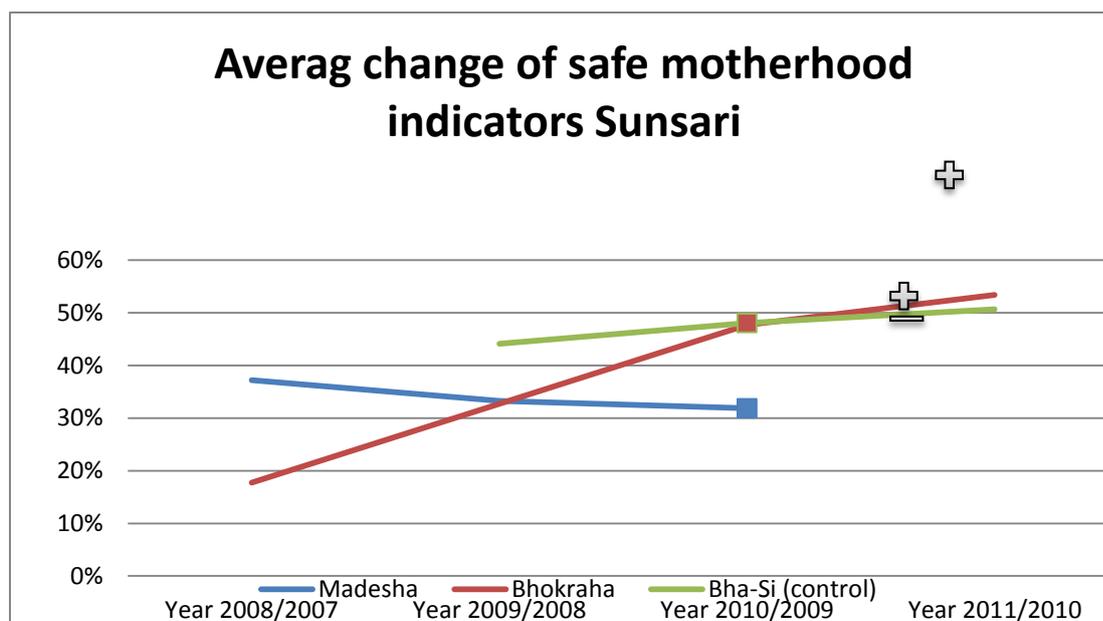


Figure 7

Results Sunsari

In Madesha there is a slight decrease of the indicators, 35% is the average score of the safe motherhood indicators here. After the start of Share & Care the safe motherhood indicators are 32%. In Bhokraha there is already an increase in the years before Share & Care (from 18% to 51%) and there is a less steep increase after the start of Share & Care. In comparison has Bha Si scores higher in the average change (47%) in safe motherhood indicators with the case-villages.

1.1.2 Average change of maternal health indicators post-natal

The average change of maternal health indicators post-natal are dependent on *the number of delivery conducted by health worker* and *the number of women receiving 1st PNC visit*. In the focus-group discussions the following topics are related to this subject *PNC* and *birth (intra-partum)* and in the semi-structured interviews *PNC*.

Results Kavre

According to the data in Figure 8, Share & Care has no positive influence on the change in maternal health indicators post-natal. In Chapakhori the average was 11% before the start of Share & Care and after Share & Care the average of the maternal health indicators is 7%. Mechche follows almost the same line but before the start of Share & Care they score relatively high 41% and after Share & Care 35%. The average in Thulo Parsel is 30% and therefore in between the Share & Care villages.

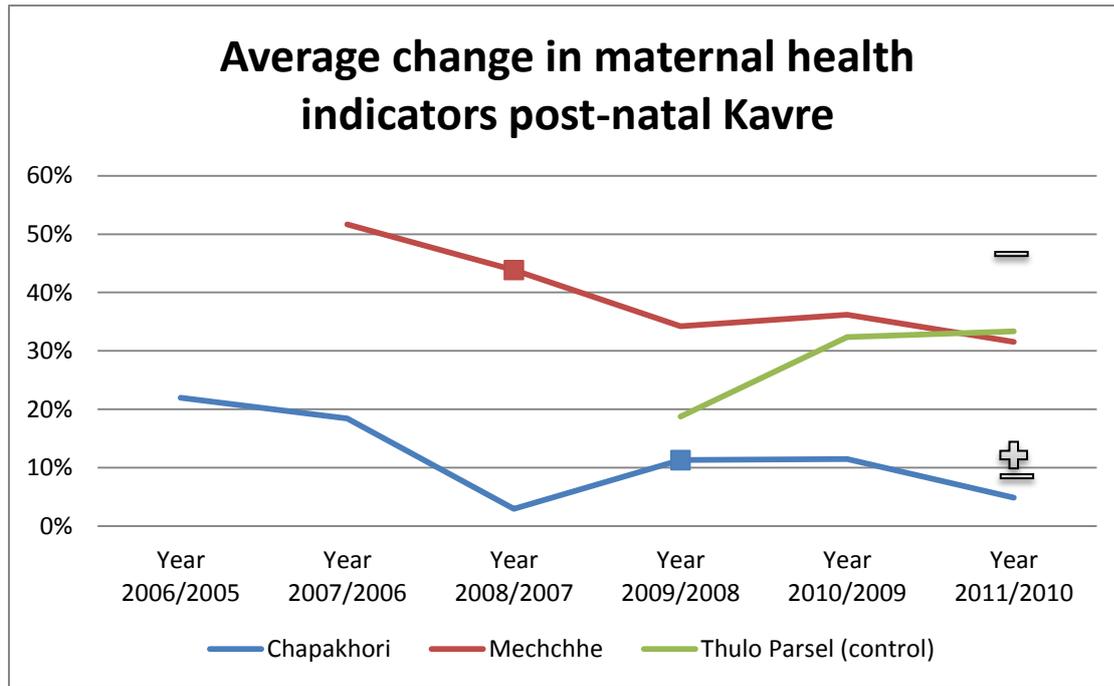


Figure 8

Results Sunsari

In Madesha there is a slight decrease in the average change in maternal health indicators post-natal, 35% is the average score of the safe motherhood indicators here. In Bhokraha there is already an increase in indicators during the years (average 15%), and there is a steeper increase after the start of Share & Care (average 28%). Bha Si, the control village, has maternal health indicators post-natal in average in between Madesha and Bhokraha. But as you can the difference between the villages is small.

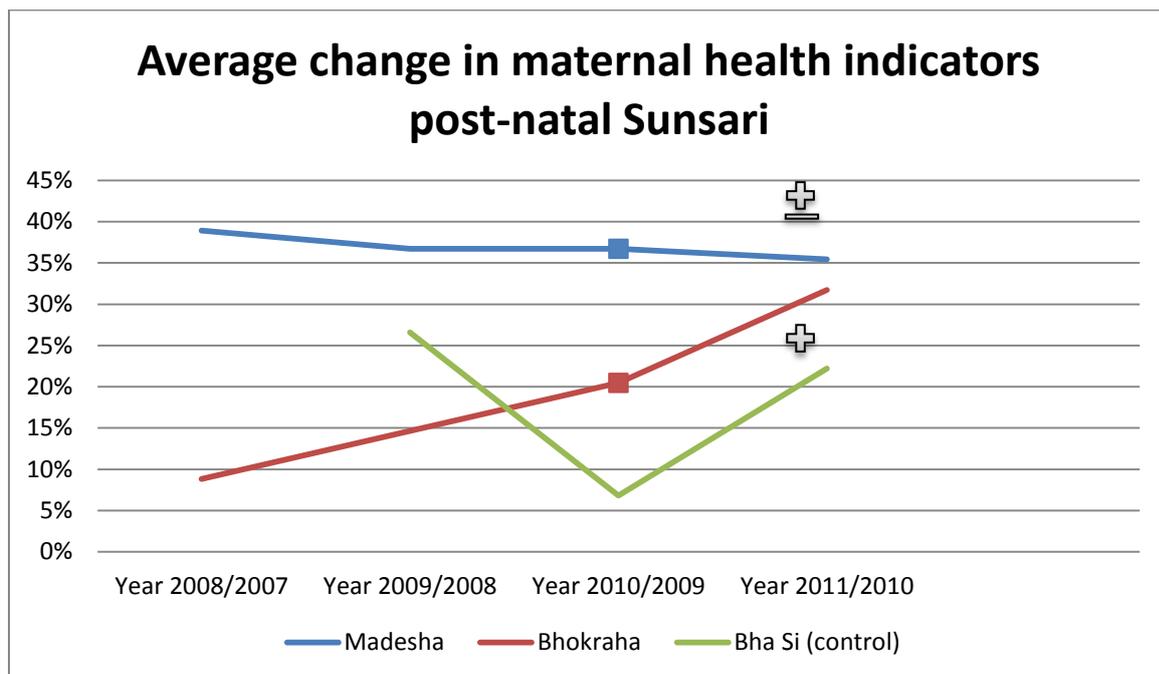


Figure 9

Focus groups discussions

1.2.1 The average change in safe motherhood indicators

Awareness child/mother health

In all the villages, both Share & Care and control villages, women name more or less the same health behaviour to make sure they and their babies are healthy. The things that are mentioned for the health of their babies is “to take care of feeding habits such as fresh foods and safe drinking water”, “breastfeeding”, “proper cleanliness”, “keep them safe from dust and cold”, “routine health check-ups” and to “let their babies immunized”. For their own health they mention “to do no heavy work during pregnancy”, “proper cleanliness”, “routine health check-ups”, “proper rest”, “iron tablets and nutritious and varied food”.

Family planning

In the Share & Care villages changes in use and experience of family planning have occurred. The women stated during the discussion that: “women used to have many children before” (Chapakhori) and “they now have better knowledge of the use of contraceptives”, also “they were shy before”. They are also more aware that it is better for the women to have fewer children. If you give birth to too many children “it will deteriorate the health of women”(Bhokraha). In a control village the women said that when a woman has many children she won’t be able to do many things for her own development and progress, she will lag behind” (Thulo Parsel-control).

Iron tablets

In all villages, Share & Care and control, iron and iodine tablets are taken on regularly basis, they already know the use of it and take them already for a few years during their pregnancies.

ANC

According to the women, the number of ANC visits in general in most villages has not increased in recent years. The number of ANC visits is already up to level according to the women, most of them go 3-4 times. For the members of Chapakhori there are changes in the number of visits and especially “after being member, it has been very easy to come here for antenatal check-ups”. The places where they go for ANC differs between the sub health post and hospital but it mainly depends on the place which is near to them, for example in Bha Si “sometimes Biratnagar, SHP or Itahari”.

In the HMIS data you can see the increase in ANC visits also in Chapakhori after the start of Share & Care but also in Bhokraha this has increased. The HMIS shows not a high number of pregnant women having 1st and 4st ANC(appendix 3).

Maternal health situation

“I am aware about my family health, so both my children’s and my health has improved”. The women noticed a change in health awareness which influences the maternal health situation positively. Better treatment, medicines and the improvement of services are entitled as important factors in the improvement of the maternal health situation. Share & Care influences these positive changes

Impact of Share & Care

mainly through the improvement of services. In the control village Bha Si the mothers noticed a negative change in their health, this can maybe be attributed to birth of their children and lack of guidance after the child birth.

1.2.2 The average change in maternal health indicators post-natal

PNC

Following from the focus groups the women told that there is a slight increase of PNC visits, but this differs in the different villages. The increase of PNC visits is predominately not through Share & Care but moreover through “the FHCV workers who have often helped them to come along with difficult situations” (Thulo Parsel-control). In the Share & Care villages the members indicate the increase of the accessibility of the SHP as an important factor (Chapakhori/Bhokraha).

The decrease of the average change in maternal health indicators post-natal in Kavre can be related to the fact that women who deliver in a hospital also go there for PNC. This PNC information is not communicated with the health posts.

Birth (intra-partum)

The women revealed during the focus groups that there still are a lot of home deliveries. Over the past years this has been changed a bit, so some deliveries are now in the SHPs (Chapakhori/Bhokraha). Only complicated deliveries are done in a hospital, despite of that most women prefer to deliver in a hospital. The transportation cost reimbursement from Share & Care increased the accessibility to the hospital (Madhesa).

The average change in maternal health indicators post-natal differs not very much between the case and control villages. It is all below 40%, this means that less than 40% of the women go for PNC or have a delivery conducted by a health worker.

Semi-structured interviews

1.3.1 The average change in safe motherhood indicator

Awareness child/mother health

In Chapakhori they organize community intervention programs, Female Volunteers do a lot and the management committee conducted outreach clinics that help to impart awareness. According to the health workers there is raised awareness of community people in Thulo Parsel but the location of the health post is not appropriate. “People are unaware about the nutritive foods in their surroundings, they want Vitamin tablets but we should be able to make them aware” in Bhokraha they already have awareness programs where they counsel the women about personal hygiene and cleanliness. There is lack of awareness in Bha Si because a lot of women still think they can do home delivery and they do not participate in health education programs.

ANC

Almost all the women are going for ANC visits are in all the Share & Care villages according to the health workers. In Madhesha there still is place to increase the number of ANC visits. In most villages

the women go to health posts for ANC visits but in Chapakhori the rich go to other health institutions. “Thulo Parsel is up to level” according to the mother and child health worker but in Bha Si they need improvement of services, activate manpower and activate FCHVs to meet the level.

Maternal health situation

According to the health workers the mothers are aware of their own health situation. This has been improved over the years. “There are mainly geographical difficulties, for example there’s just one bus a day and they mostly have to walk to come to health facilities, this influences the mother health situation” (Chapakhori), furthermore there were no apparent factors which came forward in the interviews.

In Thulo Parsel the mother health situation can be improved, the location of the health post is not appropriate and they need skilled manpower and quality equipment. And also in Bha Si there must be more awareness among women and there must be more equality between men and women.

Maternal and child health services

“After the introduction of Share & Care the MCH services have been improved (“ according to the health workers in Chapakhori. In Madhesha there are no changes. But in Bhohkraha “the MCH services are now much better, they have 24-hour service, manpower has increased and more space and rooms”

In the control villages there also have been some improvements but this is more due to other NGOs. The condition is improving but they still don’t have good medicines (Thulo Parsel) but they learned new skills, the Community Based Newborn Care Program(CBNCP) taught them those. In Bha Si the quality of services is improved through World Vision, Plan Nepal and Save the children.

1.3.2 The average change in maternal health indicators post-natal

PNC

Following from the semi-structured interviews the case-villages are up to level, there could be more improvement but for now they are satisfied. This is also because female volunteers visit mothers’ homes on the 3rd, 7rd and 29th day for neonatal check-ups. In Thulo Parsel they could do better and in Bha Si “they behave as everything is now alright after the child delivery but it is not always.

In comparison with the HMIS data the PNC visits are not up to level, they have a visiting rate below 40%. The cause of this low number of PNC visits in the HMIS data could be the shift of women going to hospitals and having PNCs there or the Female Volunteers who do the neonatal check-ups but do not record them.

2. Development of disability < 5 years (child health care indicators)

The development of a disability can be predicted by several indirect indicators, the immunization rate of children and childhood illnesses. However, childhood illnesses are strongly influenced by environmental factors, therefore they will not be used in the analyses of the HMIS data. In the focus group discussions and semi-structured interviews childhood illnesses are discussed because they are a predictive factor for development of disability. The immunization rate of children will be used in the HMIS data, *the average change of child immunization rates.*

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During the focus-groups discussions, topics such as *growth monitoring of under-5 year old children, immunization of children and child health situation* were discussed and compared with the HMIS data. In the semi-structured interviews *utilization of services* and quality of *(skilled personal) health care* will be used. The development of a disability can be earlier detected when the mother comes with the child in regularly basis or when she suspects something, utilization of services. The quality of (skilled personal) health care is a factor which can influence the use of health services. Therefore, and because it is an indirect process indicator the quality of (skilled personal) health care will be taken into account.

HMIS data

2.1 Average change of immunization rates children

The immunization rates of the HMIS data are dependent on the following indicators, *number of children immunized with BCG, DPT-3, Polio 3 and Measles*.

Results Kavre

The immunization rate of Chapakhori was in the first years around 49%, now in 2011 it is 34%. Also after the implementation of Share & Care it is decreasing. The immunization rate of the children in Mechchhe is in the first years already almost 100%, and stays relatively stable in the years after the implementation of Share & Care (average 90%).

In Thulo Parsel the immunization rate in the health post has been increasing. First it was around 60%, now it is 80%. The immunization rate is as high as Mechche and higher than Chapakhori.

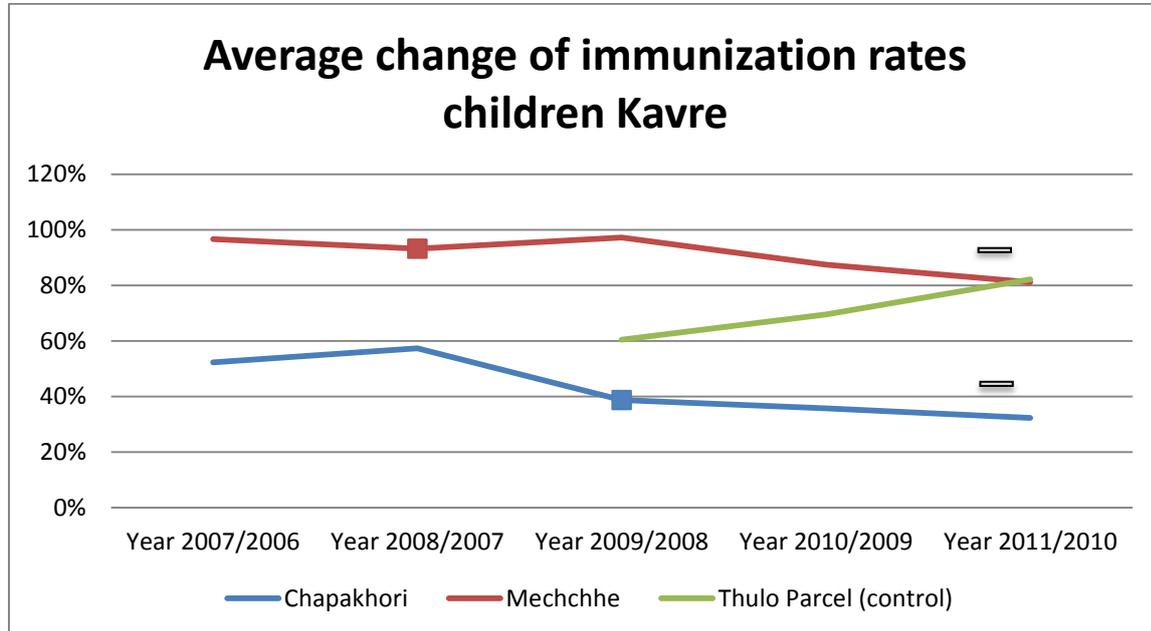


Figure 10

Results Sunsari

In Madhesha the average immunization rate was around 50% but declining in the years before Share & Care. After Share & Care the immunization rates has been increased to 58%. The immunization

rate in Bhokraha follows the line of Madesha and was in the years before Share & Care 40% but after Share & Care 53%. The immunization rate in Bha Si is around 100% during the years.

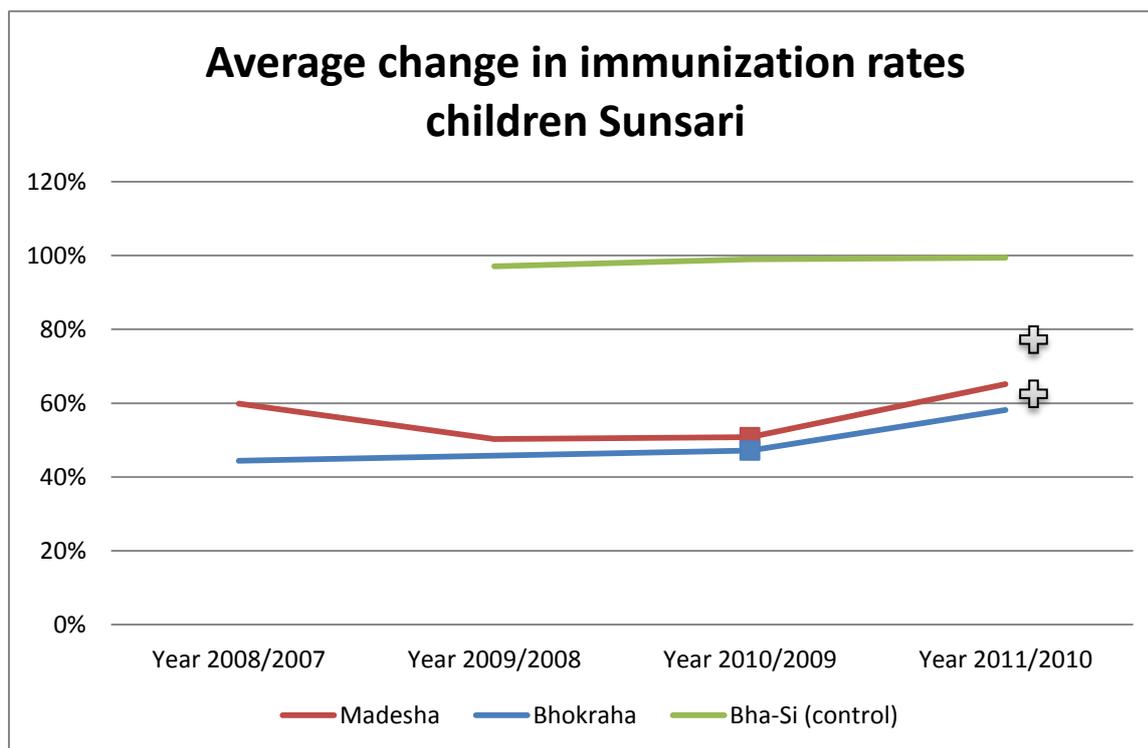


Figure 11

Focus-groups discussions

2.2. The average change of child immunization rates

Immunization of children

Immunization practices are especially improved in Kavre according to the women, this is due to Share & Care. In Sunsari there already was an immunization program (World Vision) before Share & Care started, so the improvements are not directly related to Share & Care. The sub health posts have outreach clinics which once or more often a month carry out immunization programs; these outreach clinics are coordinated by the FCHVs. The FCHVs are named as an important component in the change in the immunization of children in the Share & Care and control villages. Namely, the vaccination practices in control village Thulo Parsel is increased “women bring their children for vaccination, it’s better than before”.

2.2.2 The average change of childhood illnesses

Growth monitoring of under 5-year old children

According to most villages the number of children coming for growth monitoring has not changed, they already started doing this 4-5 years ago. Some villages (Chapakhori, Thulo Parsel) say it is improved, but these changes are not due to Share & Care but for example by the program conducted by World Vision. Also, growth monitoring is now often done during the general health check-ups and immunization.

Child health situation

There is a decrease of child mortality and of childhood diseases in comparison with the years before (both S&C and control villages: Chapakhori, Thulo Parsel, Madhesa, Bhokraha and Bha Si). Pneumonia, diarrhoea and health problems related to digestion are reduced. The changes are a result of positive changes of the awareness-level. The women now take action when the child is sick, before they waited and proper actions were not taken. Also they are more aware of the importance of cleanliness. Education and the involvement of community-based rehabilitation workers are named as important in these changes.

Semi-structured interviews

2.3.1 The average change of child immunization rates

The immunization rates of most case villages are up to target and this is predominantly done by the FCHV's. "She has to visit for 3 times to the house for check-ups, she provides us the record and we coordinate with her to inform the mother about the immunization programs. The FCHV go for every house to inform about it." In Chapakhori this year the immunization rate of children is increased a lot; now they do not meet the government target but the local target according to the health worker. This is an improvement but still not good enough for the MDG indicators. In Bha Si the immunization rate is increased and in Thulo Parsel it is slightly increasing but still not up to target.

2.3.2 The average change of childhood illnesses

Utilization of services

The patient flow changed differently in every Health Post. In Chapakhori, Bhokraha and Bha Si the patient flow has been increased according to the health workers this is because more women and patients from ethnic minorities are coming now (Chapakhori), more rich people come (Bhokraha) or more poor people (Bha Si). In Thulo Parsel it was decreasing probably due to improved personal hygiene behaviors and urbanization stated the health workers. In Madhesa the patient flow has not changed, but more rich people are coming to the health post. Share & Care have had positive influence on the patient flow for Chapakhori.

2.3.3 Quality of (skilled personal) health care

"Now the condition has been improved. The number of health workers has increased along with the number of different types of medicines"(Chapakhori). Especially the quality of services and the availability of the services has been increased in Share & Care villages, this is also through Share & Care. But still abnormal cases cannot be handled. The case-villages have less services "we know things but there is no equipment".

There are in general improvements in the health centers but this is also due to the new health minister. For example financial assistance for transportation for newly child-delivered mothers in every village.

2. Social inclusion and empowerment

Social inclusion and empowerment is not measured in the HMIS data but has been a topic in the focus-group discussions and interviews. The social inclusion of women in community activities and the social participation in health programs in general has increased in the Share & Care villages. Also,

women are much more empowered to stand up for their own health and the health of their child. This applies to the Share & Care villages as well as the control villages . This is what the women noticed and told in the focus-group discussions.

Social inclusion, semi-structured interviews

According to the health workers women now mostly decide in seeking health services but men decide about the money. Also parents in law play a prominent role or the most elder people of the family. But there is a shift in self decision (Bhohkraha). Educated neighbors play an positive role and if not educated they often try to send the mothers to traditional healers (Chapakhori, Thulo Parsel). The control villages have stated that they lack social inclusion of people in the community in the health programs. The health workers in the Share & Care villages are satisfied with the social inclusion of the community.

Empowerment, semi-structured interviews

“The mothers are much more aware and more active in health seeking behavior, women even come alone for delivery in the night and they use contraceptives even if their husbands do not let them. This is due to Share & Care” (Chapakhori/Bhohkraha). In Thulo Parsel they say that the changes in empowerment are through the media and therefore the women are less shy now. Also in Bha Si there are changes, but this is because everything changes in Nepal, the women’s education and employment status has increased and different NGOs organize different health awareness programs (Madhesa).

Discussion

The main research question is “*What is the impact of the CBHI Share & Care programme on preventing disabilities by improving mother and child health?*” The research showed that the CBHI Share & Care program seems to have a positive influence on the prevention of disabilities and the improvement of mother and child health. This positive influence is mainly due to the improvement of health services, increased safe motherhood indicators and increased health awareness. The HMIS data have only shown a visible change due to Share & Care in Sunsari but not in Kavre, according to maternal and child health.

HMIS data	Safe motherhood	Post-natal	Child immunization
Kavre	-/+ -	-/ +-	-/-
Sunsari	+ / +-	+/ +-	++

Figure 10. Overview influence S&C shown by HMIS data.

Meanwhile, the FGD’s and semi-structured interviews showed that the Share & Care programme had positive influence on both areas on maternal and child health and the prevention of disabilities. The findings of this study corroborate with the findings of other studies(Ekman, 2004; Sekabaraga et al. 2011). The studies of Ekman and Sekabaraga showed that health insurance does have positive influence on maternal and child health. In the discussion the results in this study are per important indicator divided and compared with current literature and the situation in Nepal.

PREVENTION OF DISABILITIES

Health insurance entails healthcare system strengthening. Healthcare system strengthening can play a positive role on the prevention of disabilities. For example, the detection and prevention of hearing impairments in developing countries can be done but is dependent on the improvements of the health care facilities (Olusanya B. et al, 2007). The treatment and prevention of some mental disorders can be very effective in developing countries when the health system would be strengthened according to Patel V. et al (2007). This is in accordance with indirect influence of the Share & Care programme on the prevention of disabilities. During the FGDs the women is asked if the S&C programme had positive influence on the prevention of disabilities and the women agreed on this. This positive influence is mainly through the improving health services and the increasing awareness about child health. The improvement of health services influence important indicators for the prevention of disabilities; antenatal check-up, skilled attendance at birth and immunization rate of children. During the FGS's women stated that since the start of Share & Care antenatal check-ups, skilled attendance at birth and the immunization rates are increased. The same is confirmed during the semi-structured interviews with the health workers and the HMIS indicators of Sunsari showed positive influence.

S.Robles (2004), states "that prevention efforts need to extend beyond the individual to the environment that affects behaviour". Community-based interventions in combination with preventative health services have shown to be successful and have the potential to reach all sectors of the population. This is also what the S&C programme does, the programme gives the opportunity to let every person in the community participate and the community is responsible for the programme. The S&C programme is a bottom-up intervention and works in combination with preventative health services, this can ensure the sustainability of the programme because it changes the environment that affects the behaviour.

CHILD HEALTH

Previous studies have reported the positive influence of health insurance on child health. A study done by Dow & Schmeer(2003) shows the decrease of infant and child mortality after the start of health insurance in Costa Rica. In Rwanda a study is done where the implementation of policies as health insurance contributed to the improvement to the health child MDG's (Sekabaraga et al. 2011). Also, the influence of CBHI Share & Care on child health has been shown positively. The child health in this study has been measured according to the child health situation, childhood illnesses and immunization rate of children. The women in the FGDs noticed less childhood illnesses then years before. Children became less often sick and the women where more pro-active to go to the sub-health post when the child became sick. The health workers stated that the awareness of the mothers on their children's health was improved. Nevertheless, the rough HMIS data (appendix 3) showed a high incidence of ACI, diarrhoea and sometimes pneumonia in the Share & Care villages. The incidence was higher in Sunsari, this could be due to several reasons, maybe due to heavy rainy season and floods. Even though the HMIS data of the childhood illnesses were not included in my analyses of the research, these outcomes need to be taken into account.

Even if the women in the focus-group discussions had an optimistic view on child health, the average health status of children in Nepal still is poor. The neonatal mortality rate is 55% and the under-five mortality is 50 per 1000 live births. The incidence of under-nutrition and childhood illnesses such as acute respiratory infection (ACI) and diarrhoea is high (UNICEF 2003). In the recent years there has

been made a lot of progress, but there is especially a need of health system strengthening in the service provision from community to hospital (Sing et al. 2006). In S&C villages the transportation cost reimbursement increased the accessibility to the hospital. This was an important financial geographical barrier for women to come to the hospital, which is overcome by a simple solution. The health system must be strengthened in order to improve child health.

IMMUNIZATION RATES CHILDREN

In a study done in three South American countries, significant positive effects are found of health insurance on the immunization rates of children aged 3-24 months (Wehby 2012). The change of immunization rates in children in the years after S&C are noticeable positive in Sunsari but negative in Kavre in the HMIS data. Nevertheless, the women in the FGD's noticed improvements in the immunization rates in both areas due to S&C. Also, the health workers in the Share & Care villages have seen an increase in the immunization coverage and now meet the local target but not yet the government's target. The increase of the immunization coverage is not predominantly attributed to Share & Care in the Sunsari, they also attribute this to other programmes working in the area.

The National Immunization Program (NIP) started in 1979 in Nepal and since then they achieved 80% coverage for all antigens. However, the immunization coverage is not uniform throughout and within the districts (WHO 2010, NIP). There are only slight variations in children fully immunized by gender, residence and ecological zones but children in the Terai are less likely to be fully immunized than children in other zones (84% compared with 88-89%) (NDHS USAID 2011). In comparison with the data from Kavre and Sunsari in this research, you see the same variations, because Sunsari is a region in the Terai and has in average a lower immunization coverage than Kavre. The national coverage in 2010 is for BCG 94%, DPT3 85%, Polio 83% and measles 93%. Especially the immunization coverage of BCG fluctuates between the districts (WHO, 2010).

In the Share & Care villages the average immunization rates are respectively BCG 63%, DPT3 56%, Polio 56% and measles 53% (appendix 5), which is lower than the national average in 2010. One of the possible explanations is that Karuna choose to work in these areas of the Terai and the hills because they are worse off than the other areas. The immunization coverage was already low in these areas in comparison with other areas before the start of Share & Care (appendix 5). In the HMIS data of Sunsari there is already shown an increase. Also, there could be a discrepancy between the numbers of children recorded and the children who are actually immunized. The immunization of children most often takes place in outreach clinics (ORCs) done by health in-charge and assistants. But supervision of the FCHVs does not take place in many areas in Nepal and is often informal and irregular. Especially during the outreach clinics the FCHVs do not receive much supervision from the Village Health Workers and therefore monitoring could be done unstructured in Kavre and Sunsari (UNICEF, 2004).

MATERNAL HEALTH (SAFE MOTHERHOOD INDICATORS)

Maternal health-care interventions are very cost-effective, this is because maternal interventions often also positively influence new-born babies, older children and the rest of the household (Bhorgi et al. 2004). According to Filippi et al. (2006). Health insurance has showed to be beneficial to the health of women and maternal health interventions. Especially during childbirth unpredictable costs can occur which makes it more interesting to have a good health insurance system for pregnant

women. The influence of Share & Care on the performance of safe motherhood indicators is slightly positive according to the HMIS data. This increase is very small. On the other hand, according to the women in the Share & Care villages very positive changes have occurred in family planning, health awareness, ANC visits and the health situation of the women. The health workers noticed more positive changes in the S&C villages than the health workers in the control villages, on the indicators of safe motherhood.

The average of Nepalese women having at least one ANC visit is 58% in 2011, half of the women had an antenatal care visit more than four times during their pregnancy (NDHS, 2011). This means that Sunsari (62%) is comparable with the national average but Kavre (24%) still is below the national average (appendix 5). So, according to the HMIS data, Kavre is not yet up to level but this is in contrast with the findings from the focus-group discussions and semi-structured interviews. The health workers and the women in the Share & Care villages stated that the ANC-visits are done by most of the women in the villages. The discrepancy can be explained by the poor monitoring of the places where the women come for ANC. If some women come for ANC to the sub-health post and if some go to the hospital, but the hospital doesn't monitor the number of ANC visits then this can influence the HMIS indicator measured in SHP negatively. During the focus-group discussions it emerged that Share & Care has positive influence on the ANC visits because they had improved health care services. Therefore you would expect a rise in ANC visits in the SHP and the poor monitoring could explain this. Thirty-six percent of the births in Nepal are assisted by a skilled provider and another 11% are assisted by a traditional birth attendant. Skilled assistance at birth is more common in urban (73%) areas than rural areas (32%) (NDHS, 2011). In Kavre the percentage of births assisted by skilled health personnel was in 2006/2007, 6, 5% and in 2011, 8%. In Sunsari the percentage of births assisted by skilled health personnel is increased from 6% in 2006/2007 to 19% in 2011 for the S&C villages(appendix 5). This means that the average percentage of births assisted by skilled health personnel in the Share & Care villages is lower than the average in Nepal in rural areas. This is also confirmed by the women in the focus-group discussions, they revealed that there still are a lot of home deliveries without skilled attendance and that they only seek help in the case of complicated deliveries. But there is an increasing trend in women who go for delivery to the sub-health post; this also increases the percentage of births assisted by skilled health personnel.

The maternal health post natal-indicators show a decrease in Kavre and a small increase in Sunsari, Bhokraha. Also here, the HMIS data do not show any influence of Share & Care. But in the FGD's and semi-structured interviews came forward that the PNC-visits has been increased and that the births with skilled attendance have been increased. The health workers in the Share & Care villages where satisfied with the number of PNC visits and the health workers in the control villages where not yet satisfied.

USE OF HEALTH SERVICES

The improvements of maternal and child health after the implementation of health insurance can be attributed to the increased use of health services (Sekabaraga et al. 2011). Gnawali et al. (2009) found a significant positive effect of CBHI on the health care utilization. Also, the study done by Smitz & Sulzbach (2008) reported positive influence on the access of maternal health services by the introduction of CBHI. According to Acharya and Cleeland (2000), the activeness of community health volunteers, location of the health post and the quality of the services and the building of the health post are the most important factors in the utilization of services. The utilization of services has

increased in most sub-health posts of the CBHI Share & Care villages. This is due to the improvements of the quality of the services and the skilled personal since the start of Share & Care. This was an evident difference with the control villages. During the semi-structured interviews the health workers in the control villages named several times the lack of services. And during the focus-group discussions the women named the improvement of services as important in their health status and in that of their children.

Family planning

In the Share & Care villages changes in use and experience in family planning have occurred the past years. They will tend to choose for fewer than more children and women have more to say in the decisions regarding contraceptives. Several positive statements in the context of the change in family planning also are made in the control villages. These outcomes are not surprising if you associate them with the progress that Nepal made in family planning the past years. The Nepalese government has put a lot of effort in family planning programs the last 30 years. Now 43% of the women use modern methods of family planning (Sharma S. 2011). However, the use of modern methods of family planning remained the same since 2006 and still is not in accordance with the average of developing countries. This is in contrary with the awareness level of family planning, 99% of all the women (15-49 years) know at least one modern method of family planning (NDHS, 2011). Unfortunately, the awareness of family planning and the use of contraceptives is only addressed in the focus-group discussions and semi-structured interviews but not analysed in the HMIS data. There is a high risk of bias concerning this subject and therefore a fact-based statement concerning the use of modern methods of family planning is difficult to make. But despite the difficult to measure changes concerning the use of family planning the past years, Share & Care can be attributed as an stimulating factor. Empowerment and social inclusion

A lot has happened in the past 9 years in Nepal on gender development and there has been an increase of literacy, education and health care among Women (UNFPA, 2007). Still, just 77% of the women are employed of which 61% are paid for their work. Also just 7% of the women own a house alone (NDHS, 2011). The focus-group discussions and semi-structured interviews indicated an increasing trend in social inclusion of women in community activities and health programmes. Also the women reported during the FGDs that they are much more empowered the last few years, so this is comparable with the rest of Nepal (UNFPA, 2007).

Methodological discussion

General strengths and weaknesses

A limitation of the study is the poor reliability of the HMIS data collected by the health in charge at SHP level. The reliability of the HMIS data is not only threatened by the missing data but is also influenced by the method of the collection of the data, registration failure and interpretations of the data. The method of the collection of the data is based on targets and achievements. The 'targets' show the number of persons who were expected to visit or immunised e.g. that year and the 'achievements' were the number of persons who actually came to visit or immunised. However, during the analyses of the HMIS data I noticed that frequently the achievements had exactly the same number of persons as the targets. It is implausible that the exact same number of persons are achieved that year, as the target was set. This indicates that the monitoring of the number of persons regularly wasn't based on the reality but on what was set by the target.

Thereby, there was a lot missing data in the HMIS data collected by the health in charge at SHP level. Sometimes there missed a whole year or there were missing months during the years and therefore there was a chance of underestimation of the numbers. The number of missing data was higher in the years before Share & Care and reduced in the past years. Nevertheless missing data is not needed when the registration would have been done with greater care. The control villages only had monitored the past years, since 2008, while Share & Care villages already monitored since 2005. This also made it harder to make a good comparison between the control and the Share & Care villages.

Sometimes the indicators had different interpretations in the sub-health post. For example the number of children that visited for growth monitoring; in one village they counted the number of visits for growth monitoring per year, but sometimes a child came more than one time a year for growth monitoring. And the other villages counted the numbers of children who came for growth monitoring, so every child was only counted once. This led to totally different outcomes. Therefore this indicators were not used in the research. But also this needs to have attention in the registration of the HMIS data.

The villages Bha-Si and Thulo Parsel were not very suitable as control-villages for the study. NGOs were already working in these areas and therefore the mother and child indicators could have been improved by their help. This could be the reason that there were no big differences in the HMIS data and the control villages sometimes even scored better in the indicators. The study would have been stronger if the control-villages had been villages without any help of an NGO. According to the HMIS data, the control villages scored better than the Share & Care villages which this is contrary to the hypothesis. There could be several reasons that the control villages were doing better. The Share & Care villages were chosen by Karuna to implement the programme, because they were lagging behind in development. A strong point of the control villages is the similarity of the environment and circumstance because they are in the same area as the Share & Care villages.

An external limitation is the short period of time in which Share & Care is active. In 2007 Karuna started the first Share & Care programme, just five years ago (Karuna Foundation). To investigate the influence of a community based health insurance program on the prevention of disability more time is needed. This is because the development of a congenital impairment or disability is influenced by various factors over a long period of time or even generations. Therefore, I recommend further research on the influence of Share & Care on the prevention of disabilities after more years. Then, differences of the indicators of the years before and after Share & Care might be better distinguished.

Bias and validity issues

The research was conducted in Nepal, a developing country, and therefore there were some difficulties to cope with. Especially the language barrier may have caused bias, especially during the focus-group discussions and semi-structured interviews. The questionnaires and topic lists are translated from English to Nepali and this could lead to differences in interpretation. The focus-group discussions and interviews were led by a translator; they translated back to me what was said by the women or health worker. Due to time limitation it was not possible to translate after each sentence what was said. Therefore it was difficult to intervene if the questions were not understood correctly or to probe questions. I could only read the whole interview after this was transcribed and when I was missing relevant information it was not possible to ask again. There was even a language

difference between the villages. During the focus-group discussion in Sunsari the translator did not always understand the women because they were talking in their own language. This is not very strange if you consider that only 60% of the Nepalese population speaks Nepali and the rest of Nepal all kind of different languages.

Two different translators also could cause bias. First of all the way they asked the questions can cause different interpretations and therefore different answers. Also one of the translators was a man and the other one was a woman. Because of this gender difference women can be less willing to talk if a man is doing the focus-group discussion, especially with topics of this research.

Not only the language barrier but also cultural differences caused difficulties in doing the research. First of all my appearance is different than theirs. When I was entering a room they were definitely aware of my presence also during the focus-group discussions. Even when I explained that I wasn't working for Karuna they did not always understand this. And this different appearance and the misunderstanding of my visit could have resulted in socially acceptable answers. Even the health workers did not always understand that I did not work for Karuna, but was an objective person who did research in name of the university. Next to this, the working field in a developing country caused unexpected events. For example during one FGD, cows were breaking out of the meadows, and because we had the FGD outside in a wooden hut next to the meadow all the women were running away to catch them. Or one time we had a focus-group discussion with more than 25 women participating. Normally the health worker is aware that we wanted no more than 10 women in the FGD's but because they were so curious they all wanted to join. And because some women had to walk a long distance it was hard to send them back home. During a pilot of the focus-group discussions I noticed that all the women took their own children with them. These children sometimes caused noise in the recorder or distracted the women during the interviews. But the women had no choice to take their children to the FGD's because in Nepal it is not common to have a babysitter or crèche.

Doing research in a developing country can lead to unexpected events and can therefore make it harder to do a reliable and objective research, but nevertheless even more interesting. And by being creative and adjust to the circumstances most bias can be prevented.

Conclusion

The main question in this research is *“What is the impact of the CBHI Share & Care programme on preventing disabilities by improving mother and child health?”* Several conclusions can be drawn:

1. The CBHI Share & Care program seems to have a positive influence on the prevention of disabilities and the improvement of mother and child health according to women and health workers, the HMIS shows positive changes in Sunsari and no positive changes in Kavre.
2. The size of the influence of the Share & Care program on the prevention of disabilities and the improvement of mother and child health is not clear.
3. Social inclusion of community members in health programs is more present in S&C villages than in control villages. In both, S&C and control villages empowerment has been increased the past years, this is due to changes in Nepal, the media and S&C.
4. In Nepal a lot has changed and improved in mother and child health the last couple of years. This most likely has also positive influenced the improvements in the Share & Care villages and therefore the prevention of disabilities.
5. The positive changes of the CBHI Share & Care are in accordance with other research what has been done concerning health insurance and maternal and child health.

Recommendations

1. Another research needs to be done to investigate the impact of the Share & Care program on the prevention of disabilities after a few more years. Only then more significant changes may be noticed. During this research the control villages need to be chosen more carefully and without NGO's working in that area.
2. Furthermore, the numbers of children born with a congenital impairment and the children who develop a disability must be monitored. This can help to conduct a better research next time.
3. The HMIS data now is a limited system that often does not sufficiently reflects the reality. There needs to be more uniformity of the interpretation of the indicators and the registration process. More attention needs to be paid on the collection of the indicators in the context of missing data. There needs to be better communication between the sub-health post and the hospitals, for instance during PNC or ANC visits. More health awareness programs for women should be conducted to convince them that skilled birth attendance is very important.
4. More attention has to be paid to childhood illnesses, because the incidence of pneumonia, anemia and diarrhea was very high in Sunsari in the Share & Care and control villages.

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Appendix 1 Interview guide VDC-health worker (Share & Care area)

Name interviewee:

Date:

Place of VDC:

Impact of Share & Care

My name is.... I am..... and I am here together with Juliet to ask you some things about health and healthcare, especially of women and children in your VDC. I will be translating the questions and answers to Juliet. Juliet is a researcher from the Netherlands and is studying at the VU University in Amsterdam. She is here to do research for her graduation. I would like you to ask some questions about your work and what you think of mother and child health. You would help me a lot by answering my questions. There are no wrong or right questions and it is not compulsory to answer. The interview will take around 60 minutes. The outcome will be confidential and your name will not be mentioned. You can stop the interview at any time and this will have no negative consequences for you. Thank you in advance for your help and I am very pleased to have this interview with you!

General

- Sex : M/F
- Age : _____
- Education : _____
- Job : in-charge and maternal and child health worker
- How long have you been working at this VDC? _____

Services available in the health post

- What maternal and child health services are available in your health post? List them
 - Care for newborns (*Kangaroo mother care for low birth weight*)
 - Oral rehydration therapy (ORT)
 - Growth monitoring
 - Vaccination
 - Breastfeeding information
 - Basic Curative services (*dressings, stitching, _____, _____*)
 - Medicine (*sales*)
 - Laboratory
 - Institutional delivery
 - Post/ Antenatal check-up
 - Supplementary distribution

- How do you rate the quality of your services at your health? And why?

<i>Before S&C</i>	<i>After S&C</i>
<input type="checkbox"/> Very good	<input type="checkbox"/> Very good
<input type="checkbox"/> Good	<input type="checkbox"/> Good
<input type="checkbox"/> Average	<input type="checkbox"/> Average
<input type="checkbox"/> Inadequate	<input type="checkbox"/> Inadequate

Impact of Share & Care

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------------	--------------------------------

- How do you rate the quality of services specifically for women and children? And why?

<i>Before S&C</i>	<i>After S&C</i>
<input type="checkbox"/> Very good	<input type="checkbox"/> Very good
<input type="checkbox"/> Good	<input type="checkbox"/> Good
<input type="checkbox"/> Average	<input type="checkbox"/> Average
<input type="checkbox"/> Inadequate	<input type="checkbox"/> Inadequate
<input type="checkbox"/>	<input type="checkbox"/>

- What are according to you important factors in providing good quality of healthcare?

- Knowledge
- Time
- Money
- Environment/ surroundings
- Presence of health workers
- Something else _____

- Can maternal and child health services (could) contribute towards prevention of disability?
 - If yes, what are they?
 - And are these health services available?
 - If no, what do you think what can contribute towards the prevention of disability?
- Do these services need improvement? If so, in what way?
- And how can you improve these services? How will you achieve this?

Information system

- What kind of health information of maternal and child health is routinely collected?
- Is these maternal and child health information analyzed?
- Are there any difficulties in understanding and/or analyzing these data?
- Is these maternal and child health information utilized? And how?
- Is the health information made available to relevant stakeholders through reports?
- Who are the relevant stakeholders?

Utilization

Impact of Share & Care

- Has there something changed in the patient flow compared to before the Share & Care program?
- Has there been a change in the type of patients that visit the health post compared to before S&C? In terms of:

- | | <i>Before S&C</i> | <i>After S&C</i> |
|--|-----------------------|----------------------|
| <ul style="list-style-type: none">○ Age(more children or more adults)○ Gender(more women, pregnant women)○ Socio-economic status (people from poorer groups)○ Caste/ethnicity (more people from low caste/marginalized groups) | | |
| <ul style="list-style-type: none">• Is the health seeking behavior of members of Share & Care different from non-members and members?• What has happened to the frequency of ? | <i>Before S&C</i> | <i>After S&C</i> |
| <ul style="list-style-type: none">○ Antenatal visits○ Post-natal visits○ Institutional deliveries○ Immunization of children | | |
| <ul style="list-style-type: none">• Have you seen any evidence for these changes? If so, what is the evidence for this?• What are possible problems/barriers that women and children might face when seeking health care?• How do you make people aware of the importance of health, and especially health of pregnant women, children etc.? | | |

Performance on maternal child health/disability prevention

- Is the ANC up to the desired level/ Do all the pregnant women go for ANC? If no, how will you improve this/reach these women?
- Is the PNC up to the desired level/ Are all women visited/seen after delivery? If no, how will you improve this/reach these women?
- What do you do when a child has malnutrition (underweight /stunted/wasted)?
- How do you stimulate mothers to come for vaccinations for their children?

Impact of Share & Care

- What do you do when (you suspect) a baby is born with a birth defect?
- What do you do when you in case of a disability in a child (who needs specific care)?

Health status of mother and child

- In what way can mothers improve the health status of their child?
- In what way can mothers improve in their own health status?
- What are problems/barriers to improving the health?
 - Social
 - Geographical
 - Cultural
- What can be done to improve maternal and child health?
- What are important influencing factors in the prevention of disabilities?

Social inclusion and empowerment

- Who most often takes the decision (about a woman or a child who needs health care) to visit a health clinic in a household (men/women/grandparents etc)?
- Who else has influence besides people/members of the households?
- Has the Share & Care program changed the participation of women in seeking health services for them and for their child? If so, how?

Interview guide VDC- health worker (Control area)

Name interviewee:

Date:

Place of VDC:

My name is.... I am..... and I am here together with Juliet to ask you some things about health and healthcare, especially of women and children in your VDC. I will be translating the questions and answers to Juliet. Juliet is a researcher from the Netherlands and is studying at the VU University in Amsterdam. She is here to do research for her graduation. I would like you to ask some questions about your work and what you think of mother and child health. You would help me a lot by answering my questions. There are no wrong or right questions and it is not compulsory to answer. The interview will take around 60 minutes. The outcome will be confidential and your name will not be mentioned. You can stop the interview at any time and this will have no negative consequences for you. Thank you in advance for your help and I am very pleased to have this interview with you!

General

- Sex : M/F
- Age : _____
- Education : _____
- Job : in-charge and maternal and child health worker
- How long have you been working at this VDC? _____

Services available in the health post

- What maternal and child health services are available in your health post? List them
 - Care for newborns (Kangaroo mother care for low birth weight)*
 - Oral rehydration therapy (ORT)*
 - Growth monitoring*
 - Vaccination*
 - Breastfeeding information*
 - Basic Curative services (dressings, stitching, _____, _____)*
 - Medicine (sales)*
 - Laboratory*
 - Institutional delivery*
 - Post/ Antenatal check-up*
 - Supplementary distribution*

Impact of Share & Care

- How do you rate the quality of your services at your health? And why?

<i>Since three years</i>	<i>Now</i>
<input type="checkbox"/> Very good	<input type="checkbox"/> Very good
<input type="checkbox"/> Good	<input type="checkbox"/> Good
<input type="checkbox"/> Average	<input type="checkbox"/> Average
<input type="checkbox"/> Inadequate	<input type="checkbox"/> Inadequate
<input type="checkbox"/>	<input type="checkbox"/>

- How do you rate the quality of services specifically for women and children? And why?

<i>Since three years</i>	<i>Now</i>
<input type="checkbox"/> Very good	<input type="checkbox"/> Very good
<input type="checkbox"/> Good	<input type="checkbox"/> Good
<input type="checkbox"/> Average	<input type="checkbox"/> Average
<input type="checkbox"/> Inadequate	<input type="checkbox"/> Inadequate
<input type="checkbox"/>	<input type="checkbox"/>

- What are according to you important factors in providing good quality of healthcare?

- Knowledge
- Time
- Money
- Environment/ surroundings
- Presence of health workers
- Something else _____

- How do maternal and child health services (could) contribute towards prevention of disability?

- If yes, what are they?
- And are these health services available?
- If no, what do you think what can contribute towards the prevention of disability?

- Do these services need improvement? If so, in what way?
- And how can you improve these services? How will you achieve this?
- Do these services need improvement? If so In what way?
- And how can you improve these services? How will you achieve this?

Impact of Share & Care

- **Information system**

- What kind of health information of maternal and child health is routinely collected?
- Is these maternal and child health information analyzed?
- Are there any difficulties in understanding and/or analyzing these data?
- Is these maternal and child health information utilized? And how?
- Is the health information made available to relevant stakeholders through reports?
- Who are the relevant stakeholders?

Utilization

- Has there something changed in the patient flow compared with three years ago?
- Has there been a change in the type of patients that visit the health post compared to three years ago? In terms of:

- | | <i>Since three
years</i> | <i>Now</i> |
|--|------------------------------|------------|
| ○ Age(more children or more adults) | | |
| ○ Gender(more women, pregnant women) | | |
| ○ Socio-economic status (people from poorer groups) | | |
| ○ Caste/ethnicity (more people from low caste/marginalized groups) | | |

- Is the health seeking behavior of members within the community different since three years?
- What has happened to the frequency of ?

- | | <i>Since three
years</i> | <i>Now</i> |
|----------------------------|------------------------------|------------|
| ○ Antenatal visits | | |
| ○ Post-natal visits | | |
| ○ Institutional deliveries | | |
| ○ Immunization of children | | |
- What are possible problems/barriers that women and children might face when seeking health care?
 - How do you make people aware of the importance of health, and especially health of pregnant women, children etc.?

Performance on maternal child health/disability prevention

- Is the ANC up to the desired level/ Do all the pregnant women go for ANC? If no, how will you improve this/reach these women?
- Is the PNC up to the desired level/ Are all women visited/seen after delivery? If no, how will you improve this/reach these women?
- What do you do when a child has malnutrition (underweight /stunted/wasted)?
- How do you stimulate mothers to come for vaccinations for their children?
- What do you do when (you suspect) a baby is born with a birth defect?
- What do you do when you in case of a disability in a child (who needs specific care)?

Health status of mother and child

- In what way can mothers improve the health status of their child?
- In what way can mothers improve in their own health status?
- What are problems/barriers to improving the health?
 - Social
 - Geographical
 - Cultural
- What can be done to improve maternal and child health?
- What are important influencing factors in the prevention of disabilities?

Social inclusion and empowerment

- Who most often takes the decision (about a woman or a child who needs health care) to visit a health clinic in a household (men/women/grandparents etc)?
- Who else has influence besides people/members of the households?
- Since three years, is the participation changed of women in seeking health services for their own and for their child? If so, how?

Appendix 2 Focus group discussion guide (member)

Name of village:

Date:

My name is.... I am..... and I am here together with Juliet to ask you some things about health and healthcare, especially of women and children in your VDC.. I will be translating the questions and answers to Juliet. Juliet is a researcher from the Netherlands and is studying at the VU University in Amsterdam. She is here to do research for her graduation. She is interested to hear how your health and the health of your child(ren) is and maybe has changed. Also she would like to hear your opinions about the health post and its services here, especially for you when you are pregnant, for your children etc.

The information you give us is completely confidential, and we will not associate your name with anything you say in the focus group. We would like to record the focus group so we can collect all information about your opinions and ideas afterwards. The recordings will be destroyed as soon as we are done transcribing them. There is no good or wrong answer, and you may refuse to answer any question that you don't want to answer.

The reason for this group discussion is to get more in-depth information on the subject. You do not have to agree with each other but we are just interested in your opinion. After this discussion we hope to understand a deeper context of this subject. The focus group will take one hour. Thank you in advance for your help and I am very pleased to have this interview with you!

Italic questions = probing questions

Topic list

Start questions (to make them more open to talk maybe)

- What do you think are the most important factors to make sure your child is healthy?
- What do you think are the most important factors to make sure you are healthy?

Rank the things they name. And go further in health answers.

Mother and child health

Pre-conception

- Do women in your village use family planning before S & C, and what do/would you do now?
- Do women in your village use contraceptives before S & C, and what do/would you do now?

Antenatal

- What did you know about.... before S & C and what do you know now (has it changed)?
 - Good nutrition
 - Health
 - Vitamin deficiency (folate, iodine, vitamin A, Iron)
- Did you go and where did you go for ANC when you were pregnant before S&C, and what do/would you do now ?

Intra-partum (birth)

- Where did you go for delivery before S&C and where do/would you go now?
- Is there something changed since S & C of the quality of (skilled personal) health care during delivery?

Postnatal

- Did you go and where did you go for PNC when you were pregnant before S&C, and what do/would you do now ?
- Did you go for these health care services (growth monitoring, vaccination) and is this changed since S & C?
- Are you more aware of health problems during childhood since S & C? (for example diarrhea) And what do you do now?
- What are the changes you observed in the health post since the implementation of Share & Care?

General

- Is there something changed in the places where you seek health since S & C? Yes, where? No, why not?
 - *Self-care (self-treatment)*
 - *Traditional healers (Dhami-Jhankri)*
 - *Temple*
 - *Medicine shop*
 - *Private health center*
 - *Government health center*
 - *District Hospital*
 - *No action taken*
- Is there something changed in the involvement of community members since S & C?
- Is there something changed since Share & Care which influenced your health and/or the health of your child? *And why? Rank the most important factors*
- What do you think are important things to do when you are pregnant to prevent disabilities? Is the way of thinking changed since S & C?
- How do you think these changes have affected the health status of you and your children? *Improved or not?*

Share & Care

- What is the most important reason that you join Share & Care?
- What are the benefits of Share & Care?
- Are you satisfied with the program?
- If no, what can be improved of Share & Care?
- If yes, what is good about the program?

Focus group discussion guide (non-member)

Name of village:

Date:

My name is.... I am..... and I am here together with Juliet to ask you some things about health and healthcare, especially of women and children in your VDC.. I will be translating the questions and answers to Juliet. Juliet is a researcher from the Netherlands and is studying at the VU University in Amsterdam. She is here to do research for her graduation. She is interested to hear how your health and the health of your child(ren) is and maybe has changed. Also she would like to hear your opinions about the health post and its services here, especially for you when you are pregnant, for your children etc.

The information you give us is completely confidential, and we will not associate your name with anything you say in the focus group. We would like to record the focus group so we can collect all information about your opinions and ideas afterwards. The recordings will be destroyed as soon as we are done transcribing them. There is no good or wrong answer, and you may refuse to answer any question that you don't want to answer.

The reason for this group discussion is to get more in-depth information on the subject. You do not have to agree with each other but we are just interested in your opinion. After this discussion we hope to understand a deeper context of this subject. The focus group will take one hour. Thank you in advance for your help and I am very pleased to have this interview with you!

Italic questions = probing questions

Topic list

Start questions (to make them more open to talk maybe)

- What do you think are the most important factors to make sure your child is healthy?
- What do you think are the most important factors to make sure you are healthy?

Rank the things they name. And go further in health answers.

Mother and child health

Pre-conception

- Do women in your village use family planning before S & C, and what do/would you do now?
- Do women in your village use contraceptives before S & C, and what do/would you do now?

Antenatal

- What did you know about.... three years ago and has it changed?
 - Good nutrition
 - Health
 - Vitamin deficiency (folate, iodine, vitamin A, Iron)
- Did you go and where did you go for ANC when you were pregnant since three years, and what do/would you do now ?

Intra-partum (birth)

- Where did you go for delivery three years ago and where do/would you go now?
- Is there something changed since three years of the quality of (skilled personnel) health care during delivery?

Postnatal

- Did you go and where did you go for PNC when you were pregnant since three years, and what do/would you do now ?
- Did you go for these health care services (growth monitoring, vaccination) and is this changed since three years?
- Are you more aware of health problems during childhood since three years? (for example diarrhea) And what do you do now?
- What are the changes you observed in the health post since three years?

General

- Is there something changed in the places where you seek health since three years? Yes, where? No, why not?
 - *Self-care (self-treatment)*
 - *Traditional healers (Dhami-Jhankri)*
 - *Temple*
 - *Medicine shop*
 - *Private health center*
 - *Government health center*
 - *District Hospital*
 - *No action taken*
- Is there something changed in the involvement of community members since three years?
- Is there something changed since three years which influenced your health and/or the health of your child? *And why? Rank the most important factors*
- What do you think are important things to do when you are pregnant to prevent disabilities? Is the way of thinking changed since three years?
- Are these changes good for the health status of you and your children? (maybe to leading?)

Share & Care

- Have you heard about the Share & Care programme?
Yes, how?
- What is the purpose of the Share & Care programme?
- What is the most important reason that you do not involve in Share & Care?
 - *They did not know*
 - *Money*
 - *Low SES*
 - *Not satisfied with service*
- Would there be any factors that would make you change your mind about participating in the program?

Appendix 3 Overview of excel sheets

Impact of Share & Care

Bhokraha						
						Share & Care 27-08-2009
Indicators	Year 2011/2010	<i>difference 2011-2010</i>	Year 2010/2009	<i>difference 2010-2009</i>	Year 2009/2008	
General						
total Households	NA		3204*		NA	
Total population	NA		19050*		NA	
Membership of S&C HH	165		451		NA	
membership of S&C people	NA		NA		NA	
total no of women (15-39)	5101		4993		4637	
total no of pregnant women	585		581		755	
total no of children under 5 yrs	2285		2335		2578	
total no of children under 1 yr	502		498		502	
Immunization (Children under 1 year) +++++						
No of children immunized with BCG	370		349			
% (A14/A12)	73,705179	3,6	70,080321	70,1	0	
No of children immunized with DPT-3	300		208			
% (A16/A12)	59,760956	18,0	41,767068	41,8	0	
No of children immunized with Polio-3	308		208			
% (A18/A12)	61,354582	19,6	41,767068	41,8	0	
No of children immunized with Measles	190		174			
% (A20/A12)	37,848606	2,9	34,939759	34,9	0	
AVERAGE CHANGE IN CHILD IMMUNIZATION RATES	58,2	11,0	47,1			
Childhood illnessness -----						
Nutrition (Children under 5 years)						
No of children visited for growth monitoring	820		1155			
% (A27/A11)	35,886214	-13,6	49,464668	49,5	0	
No of children with lower weight than normal	20		23			
% (A29/A11)	0,8752735	-0,1	0,9850107	1,0	0	
Acute Respiratory infection (Children under 5 yrs)						
Number of children with Acute Respiratory infection	4292		4522			
% (A36/A11)	187,8337	-5,8	193,66167	193,7	0	
Number of children with Pneumonia	841		2155			
% (A38/A11)	36,805252	-55,5	92,291221	92,3	0	
Diarrheal diseases (Children under 5 years)						
Number of children with Diarrhoeal	471		2986			
% (A41/A11)	20,612691	-107,3	127,88009	127,9	0	
Number of severe dehydration	144 (but not sure)		0			
% (A43/A11)						
AVERAGE CHANGE IN CHILDHOOD ILLNESSES		-42,2				
Safe motherhood (Expected pregnancy)						
Number of pregnant women having 1st ANC visit	424		371			
% (A46/A10)	72,478632	8,6	63,855422	63,9	0	
Number of pregnant women having 4th ANC visit	301		256			
% (A48/A10)	51,452991	7,4	44,061962	44,1	0	
Number of women receiving TT 2+	130		144			
% (A24/A10)	22,222222	-2,6	24,784854	24,8	0	

Impact of Share & Care

Chapakhori						
						Share & Care 15-9-2009
Indicators	Year 2011/2010	difference 2011-2010	Year 2010/2009	difference 2010-2009	Year 2009/2008	difference 2009-2008
General						
total Households						
Total population						
Membership of S&C HH						
membership of S&C people						
total no of women (15-39)						
total no of pregnant women	103		102		136	
total no of children under 5 yrs	391		399		486	
total no of children under 1 yr	89		88		100	
Immunization (Children under 1 year)						
No of children immunized with BCG	29		25		41	
% (A14/A12)	32,58427	4,2	28,40909	-12,59091	41	-20,36364
No of children immunized with DPT-3	29		31		39	
% (A16/A12)	32,58427	-2,6	35,22727	-3,772727	39	-23,5
No of children immunized with Polio-3	29		31		39	
% (A18/A12)	32,58427	-2,6	35,22727	-3,772727	39	-23,5
No of children immunized with Measles	31		39		36	
% (A20/A12)	34,83146	-9,5	44,31818	8,318182	36	-7,181818
AVERAGE CHANGE IN CHILD IMMUNIZATION RATES	32,3	-2,6	35,8	-3,0	38,8	-18,6
Nutrition (Children under 5 years)						
No of children visited for growth monitoring	90		143		163	
% (A28/A11)	23,0179		35,8396		33,53909	
No of children with lower weight than normal	0		0		5	
% (A30/A11)	0		0		1,028807	
Acute Respiratory infection (Children under 5 yrs)						
Number of children with Acute Respiratory infection	585		605		101	
% (A37/A11)	149,6164		151,6291		20,78189	
Number of children with Pneumonia	137		178		48	
% (A39/A11)	35,03836		44,61153		9,876543	
Diarrheal diseases (Children under 5 years)						
Number of children with Diarrhoeal	301		362		59	
% (A42/A11)	76,9821		90,72682		12,13992	
Number of severe dehydration	0		0		0	
% (A44/A11)	0		0		0	
AVERAGE CHANGE IN CHILDHOOD ILLNESSES						
Safe motherhood (Expected pregnancy)						
Number of pregnant women having 1st ANC visit	27		18		24	
% (A47/A10)	26,21359	-75,78641	17,64706	0	17,64706	3,921569
Number of pregnant women having 4th ANC visit	9		13		7	
% (A49/A10)	25,45009	-76,54991	17,30104	4,32526	12,97578	-0,480584
Number of women receiveing TT 2	10		12		12	

Appendix 4 Calculated averages for indicators before/after S&C

Indicators	Kavre	
	Chapakhori(before S&C)	Chapakhori(after S&C)
In percentages(%)		
Average change in safe motherhood indicators	14	17
Average change in maternal health indicators post-natal	11	35
Average change in immunization rates children	49	34
	Mechche(before S&C)	Mechche(after S&C)
Average change in safe motherhood indicators	42	31
Average change in maternal health indicators post-natal	41	35
Average change in immunization rates children	94	83
	Thulo Parsel(control)	
Average change in safe motherhood indicators	31	
Average change in maternal health indicators post-natal	30	
Average change in immunization rates children	71	

Indicators	In	Sunsari	
		Madesha(before S&C)	Madesha(after S&C)
percentages(%)			
Average change in safe motherhood indicators		34	32
Average change in maternal health indicators post-natal		18	15
Average change in immunization rates children		54	59
		Bhokraha(before S&C)	Bhokraha(after S&C)
Average change in safe motherhood indicators		18	51
Average change in maternal health indicators post-natal		9	25,5
Average change in immunization rates children		44	53
		Bha Si(control)	
Average change in safe motherhood indicators		47	
Average change in maternal health indicators post-natal		19	
Average change in immunization rates children		98	

Appendix 5 Calculations of separate indicators

Averages ANC visits

2011	Kavre	Sunsari
ANC 1st	24%	62%
ANC 4th	22,50%	40%

Child immunization rates 2010

	Share & Care 2010*		Control	
	Kavre*	Average	Sunsari*	
BCG	55%	63%	71%	86%
DPT	60%	56%	52%	89%
Polio-3	60%	56%	53%	89%
Measles	62%	53%	45%	86%
Average	59,15%		55%	87%

* Share & Care 2010 = Average year 2009/2010 and year 2010/2011

Kavre* = Average Chapakhori and Mechchhe

Sunsari* = Average Madesha and Bhokraha

Percentage of births with skilled attendance

Year	2006/2007	2011
Kavre	6,50%	8%
Sunsari	6%	19%

The calculation have been made based on the HMIS data. Of the areas the averages of the S&C villages have been made.