



**Research Proposal Template:**

**Teasdale Corti Project, African region**

**Final Report 2011**

**Exploring the complex contributions of a community based safe motherhood program to comprehensive primary health care**

Examining the Safe Motherhood program in North Kivu, Democratic Republic of Congo

*from*

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## 1. Introduction

Within the multitude of problems, interventions and possible causal relationships affecting maternal mortality and morbidity in rural Africa, this study will attempt to isolate the added value of the community components of a safe motherhood program in North Kivu, Democratic Republic of Congo, that attempt to address the social determinants of this health problem, and identify the specific contribution of the safe motherhood solidarity groups to better outcomes in obstetrical care.

### Policy Context and health service provision

The Democratic Republic of Congo has implemented a health system based on Alma Ata principles since 1985, with significant sustained funding from USAID (1981 – 2006), the World Bank and other donors. The coverage is based on the Health zone, ideally serving a population of 150 000, divided into roughly 15 *aires de santé*. A zone will have a general referral hospital able to do emergency surgery, and each *aire de santé* has its Health Centre, staffed and equipped to minimal standards, able to provide preventive and curative medicine.

This service is inclusive of all services established over the previous century by churches and foreign NGOs. A recent report by IMA shows that the state owns and runs 50% of the institutions, and the church owns and runs the other half. All institutions follow national policies and guidelines, disseminated through the *Medecin Inspecteur Provincial* and the *Médecin de District*. Within each zone, the Government also appoints a *Médecin Chef de Zone*, although the nominee is frequently among the paid staff of the church owned hospital.

The policy makers' response to the health needs of the rural population is based on the principles of Primary Health Care. A package offered in a health zone must include the 8 components listed in the Alma Ata recommendations. But in no respect can this package be considered comprehensive, because no attention is given to the social determinants of illness and health. For example, in the area of maternal and child health, in particular safe motherhood in the rural area, the government has targeted specific problems that contribute to bad delivery (ex. Family Planning through Health Centres, promoting delivery in health centres, prevention of post-partum hemorrhage, use of partograms), but has not addressed the barriers that prevent women from using the health centres at the time of their delivery.

### Impact of war

The east of Congo has seen war without end since 1992. About 5% of national budget of DRC was allocated to the health structures in 2008. However, all actors in the field recognize the importance of supporting national policy and local supervision. Therefore, each health structure makes a monthly financial contribution to the functioning of the zone (10% of receipts) and Provincial inspection (5% of receipts). In this situation, each zone attempts to find a sponsor to support their activities and the public health package (ex. CEMUBAC, Merlin, IRC, MSF, World Vision, Save the Children). These agencies look for project funding from bilateral donors; they then go to accessible zones where they can show outcomes within the life of their project. The resulting inequities of coverage are related to access (transport infrastructure and the activities of the militias), and investment (the volume of the donor's package). In remote areas, where there is greatest need, there are very few services. *Grosso modo*: 80% of the population live in rural areas, and 80% of the health services are in towns.

The effects of the war on health are seen in:

- Destruction and looting of health infrastructure;
- Flight of trained personnel;

- Continual displacement of populations with attendant poverty, illness, malnutrition, war injuries;
- Disruption of vaccination programmes;
- Unchecked spread of communicable diseases, in particular sexually transmitted diseases and HIV, often related to sexual violence;

Disproportionately high rates of maternal and child mortality in a context with already disastrous health indicators (life expectancy at birth m/f (years): 46/49, healthy life expectancy at birth m/f (years, 2003): 35/39, probability of dying under five (per 1000 live births): 205, probability of dying between 15 and 60 years m/f (per 1000 population): 454/382, total expenditure on health per capita (Int\$, 2005): 17).

Within this context, can the community involvement that we see in HEAL Africa's safe motherhood programme make a significant difference to maternal health outcomes?

### Status of Maternal mortality

Despite this theoretical total coverage, D R Congo has among the worst maternal mortality statistics in the world.

Maternal mortality rate:

- Worldwide : about 140 to 200/100 000
- Reality of DRC: about 1298/100 000 (in 2004)

Source: *worldbank.org, 2007*

**Table 1 : Additional statistics for the war-torn territory of Masisi in North Kivu are**

No. of expected births for the year / population	89704
No. of assisted deliveries by trained nursing staff in 3 months:	7320
% of women registered for CPN in 8 <sup>th</sup> month who deliver in a health centre	49.95%
% of women registered for CPN in 8 <sup>th</sup> month who deliver in a health centre	46.44%
% assisted births in the target population	23.19%
<b>Estimated number of unassisted in the target population during 12 month:</b>	<b>68902</b>

Source : *Janvier - Mars 2005 BUSISE, Nord-Kivu.*

The proportion of new couples (women) who accept family planning services in rural zones of North Kivu varies between 2.6% et 3,5%

Preventive and curative medicine is a preoccupation of the policy makers, but promotional services are sadly neglected, and frequently left to NGOs or civil society development initiatives. Through promotional services, the social determinants of behaviour, in relation to safe motherhood are addressed.

### Current programs to address maternal mortality

Within the minimal package delivered in each health zone, the following components must be found:

- treatment of STIs
- Antenatal clinics
- emergency obstetric care
- use of partograph
- control of postpartum haemorrhage

### **Social determinants of maternity outcomes and HEAL Africa's safe motherhood programs**

The following barriers to safe maternity services have been identified in the four health zones of North Kivu where the HEAL Africa program is working:

#### **Technical barriers**

- Destruction of infrastructure
- Looting of equipment; old dilapidated furniture or equipment
- Lack of lighting for surgery and delivery
- Lack of trained personnel
- Poor training of surgeons to do a safe C/section
- Lack of medicines, partograms

#### **Policy barriers**

- Specific interventions instead of a comprehensive approach
- Neglect of the importance of TBAs, despite the clear message of statistics (more than half of the deliveries are conducted by TBAs)

#### **Economic barriers**

- Cost of delivery in a health centre (5\$ in cash, instead of a chicken to the TBA)
- Cost of C-section (35\$ minimum)
- Cost of absence from the field, to await delivery at the hospital
- Cost of transport from home to health centre or health centre to hospital in case of EOC
- Men have control over money, so have power of decision

#### **Social barriers**

- Traditional beliefs about women and maternity
- Wishes and values of husbands and mothers in law
- Role and influence of TBAs
- The question of who will provide care for children and husband, if the woman is absent from home

- Early marriage
- Multiparity

### **Gender inequity**

HEAL Africa is able to build on the foundation of existing community programmes to address the social components of health, in particular as related to safe motherhood. HEAL Africa is a Christian NGO working in eastern Democratic Republic of Congo, with an original mandate for training people working in the area of health (doctors, paramedics, community activists). HA is based on a tertiary referral hospital in Goma, and has community extension programmes related to a wide range of the social determinants of health: HIV, disability, sexual violence, safe motherhood, food security, conflict management, rural development initiatives, microfinance. HA is active in the east of Congo in the provinces of Maniema and North Kivu. Teaching and outreach teams also work in Equateur, Orientale, South Kivu and Katanga provinces.

## **2. Literature review**

The Democratic Republic of Congo has implemented a health system based on Alma Ata principles since 1985, with significant sustained funding from USAID (1981 – 2006), the World Bank and other donors. The coverage is based on the Health zone, ideally serving a population of 150 000, divided into roughly 15 *aires de santé*. A zone will have a general referral hospital able to do emergency surgery, and each *aire de santé* has its Health Centre, staffed and equipped to minimal standards, able to provide preventive and curative medicine.

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### 3. Research questions

#### Objectives of study

- a) To measure the contribution made by the Safe Motherhood solidarity groups in improving the utilization of maternity services in Kayna and Birambizo health zones.
- b) To identify the experience and perceptions of project stakeholders regarding the value of the safe motherhood solidarity groups.
- c) To identify the constraining and facilitating factors in the operation of the safe motherhood programme as reported by the project stakeholders

#### Research Questions

- How effective is the maternity insurance scheme in making maternity services available and accessible in an area of conflict and displacement?
- Do TBAs understand and accept their role within the scheme, with regard to solidarity group leadership, referrals, family planning?
- Do health professionals understand and respect their role?
- To what degree did the program facilitate this? Illustrate the value of everyone's role in this process.
- Have the hospitals and health centres perceived any positive impact in terms of cost recovery for obstetrical care (CPN, delivery and EOC) as a result of the maternity insurance program?
- Have women of childbearing age a better understanding of health factors related to maternity as a result of the program?
- Do they feel more in control of their reproductive health?
- Do community leaders and men understand the purpose of the solidarity groups and support women in their power of decision over their own maternity?

- What specific role do faith-based leaders play in the program?
- Do women of childbearing age perceive any ripple benefits from the program that impact other areas of health?

#### **4. Methods**

Description of the Safe Motherhood programme

The intervention is made through a community approach with two facets: a medical and a community one.

Regarding the medical approach, SM works with health structures such as health centres and general reference hospitals. Activities which are carried out include:

- Capacities improvement of medical staff regarding safe motherhood
- To equip health structures
- To renovate maternity centres
- The community facet includes the following:
  - Training of TBAs in SM techniques
  - Training of agents who will carry out mobilisation sessions in the community
  - Training of local leaders (religious and tribal ones)
- The community is also impacted through socio-economic assistance such as:
  - Training in IGAs
  - Creation of Solidarity Groups to implement maternity insurance groups
  - Rotation credits to lower poverty within the members' household

We use the same tools in all study areas. Tools have been pre-tested by researchers. Interviewers and focus group leaders have been recruited from the community, to avoid bias by using the project staff. Interviewers were high school graduates, with knowledge of local languages. The interviewers were trained in the administration of questionnaires, and the facilitation of focus groups.

Of the four project zones, we chose two, Birimbizo, where the programme has been functional for three years and Kayna where the programme will be implemented for the first time. To calculate the sample size for the population survey in the two zones, we used EpiInfo 6.04 for Windows; we have administered the survey to 87 women members of solidarity groups and 87 who are not members of solidarity groups in each zone.

We held 2 focus groups for women in solidarity groups and 2 for women who are not in solidarity groups. We held 2 focus groups for Traditional Birth Attendants in solidarity groups and 2 for TBAs who are not in solidarity groups. We held 2 focus groups for men in Nehemiah committees in areas where solidarity groups are functioning, and 2 in areas where solidarity groups are not functioning.

In order to ensure credible, transferable and dependable information, we paid attention to the following points.

- The research team is made up of people with experience in qualitative methods, who can provide adequate training to new researchers and interviewers recruited from the community. We will ensure adequate supervision during data collection, and a systematic data archive.

- Coding, thematic analysis and quantitative data analysis were supported by the best available computer program (SPSS). Data entry and analysis were performed by two or more researchers from the team.  
Analysis will focus specifically on the context, to isolate transferable and non-transferable information from the study.

The survey was conducted following two different approaches, a quantitative and a qualitative:

- Quantitative analysis:

Survey of 352 respondents 40% members of Solidarity Groups, 60% non-members

48% of surveyed people in Birambizo and 52% in Kayna

- Qualitative analysis:

Semi-structured interviews of stakeholders and 20 Focus groups in 2 zones, including:

- 2 Médecins Chef de Zone (MCZ)
- 4 Supervision Nurses
- Women of childbearing age, members of MMR Solidarity Groups (SG)
- Women of childbearing age, non members of MMR SG
- TBA (Traditional Birth Attendant) members of MMR SG

A pre-test of the semi structured interviews and Focus Group was conducted in the Kirotshe Health Zone with a MCZ, members of the Nehemia Committee Group and women of child bearing age. The household questionnaire, a tool of this study, was tested in Bwerema and Kihindo.

## 5. Results

### 5.1 General characteristics

**Table 2: Respondents' General Characteristics**

Member and those who are not members among the solidarity groups are almost Christians. More than their halves of those who are not members from the solidarity groups are illiterates. One five of solidarity group members attended high school studies, ¼ of members and those who are not members are married, and all of them are almost farmers.

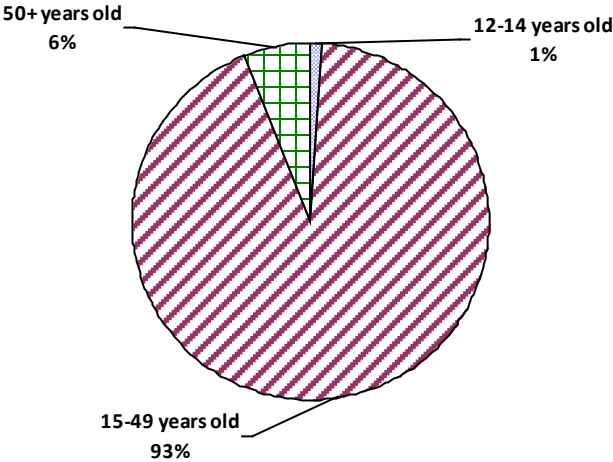
<b>N= 352</b>	<b>Solidarity group members</b>	<b>%</b>	<b>No solidarity group members</b>	<b>%</b>
<b>Religion</b>				
Catholic	64	45,1	95	46,1
Protestant	78	54,9	107	51,9
Moslem	0	0	1	0,5
Jehovah Witnesses	0	0	3	3
<b>Education level</b>				
University	2	1,4	4	2
High School	30	21,3	18	9,1
Primary Completed	23	16,3	26	13,2
Primary Not completed	29	20,6	31	15,7
Literate	1	0,7	5	2,5
Illiterate	56	39,7	113	57,4

<b>Marital Status</b>				
Single	11	7,7	26	12,6
Engaged	4	2,8	6	2,9
Married	113	79,6	145	70,0
Divorced	4	2,8	6	2,9
Widow	10	7,0	24	11,6
<b>Occupation</b>				
Farmer	123	89,8	190	95,0
Civil employee	4	2,9	3	1,5
School Teacher	2	1,5	1	0,5
Businessmen	6	4,4	3	1,5
resourceful	2	1,5	3	1,5
<b>Age</b>				
Average age	10,29		8,54	
Mean	30,73		35,22	

The average age of members of SG is 30.8 years old (SD 10,29) and 35,22 (8,54) for non members , with women representing the majority (98%). The main religion is Christian (98%), with 74% married people.

**5.2 Contribution made by the MMR groups in improving the utilization of maternity services**

**Female respondents division by age category**



**Figure 1 Female respondents division by age category**

45% of women of child bearing age (from 15 to 49 years old) are part of the Safe Motherhood Programme (MMR).

## Comparison of utilization and accessibility of maternity services by members and no members of solidarity groups

Table 3 : Utilization and accessibility of maternity services by members of solidarity groups

Comparison indicators	Solidarity group members	No solidarity group members	RR	p
<b>Utilization</b>				
Yes	168	31	3,71	0,0001
No	3	86	1	
<b>Delivery with health workers</b>				
Doctor	26	17	1,96	0,0006
Nurse	119	103	1,17	0,0005
TBA	13	13	1,95	0,01
None	62	24	1	
<b>Complicated obstetrical detection and treatment</b>				
Abortion	6	3	5,85	0,003
C-section	8	10	2,36	0,04
Hemorrhage	14	3	11,38	0,0001
Threat of abortion	5	11	1,46	0,46
Others	60	34	2,78	0,0001
None	34	114	1	

This board shows that there is a significant statically association between usage of maternity services and the belonging to solidarity groups. Likewise, there is a significant statically association between delivery by a health professional worker and the belonging to solidary group and also between obstetrical complication detection and treatment.

## Comparison of the utilization and accessibility of maternity services and the utilization by maternity insurance

This board shows a significant statically association between usage of maternity services and the belonging to maternity liability and usage of maternity services and the lead delivery by a health professional worker.

Table 4 : accessibility of maternity services and the utilization by maternity insurance

Comparison indicators for maternity insurance	Utilisation maternity insurance	No utilization of maternity insurance	RR	p
<b>Utilization</b>				
Yes	154	134	1,19	0,0001
No	5	30		

<b>Delivery with health workers</b>				
Doctor	23	20	1,82	0,002
Nurse	99	114	1,16	0,003
TBA	4	20	0,92	0,84
None	6	26	1	
<b>Complications</b>				
Abortion	5	4	3,97	0,02
C-section	6	11	1,81	0,2
Hemorrhage	12	5	6,17	0,0001
Threat of abortion	4	10	1,41	0,53
Others	51	39	2,19	0,001
None	23	85	1	

#### **Rule box 1 : Advantages of the SM (SAFE Motherhood) programme**

Motivating elements to joining the SM programme:

-financial support: antenatal consultation, deliveries and post natal fees partially funded by SG members

- training through IGAs
- rotation credit allowances
- information on family planning
- Gender and Justice, HIV information
- literacy training
- social support

Focus Groups of SG members have identified the impact of SM programme through the following statements or testimonies:

- *SM has helped our community with advice on prevention of maternal mortality.*
- *SM has abolished the bad habit of women giving birth from their houses*
- *Thanks to SM, women work together and pay Maternity for members of their group*
- *Our wives have learned a variety of skills; they have been educated in giving birth at hospital and joining earlier the health centre.*
- *From SM, they are learning how to live together in union and fraternity.*
- *Thanks to SM, there is change within families:*
  - There has been dialogue in families concerning family planning*
  - Mothers have learned how to avoid unwanted pregnancies*
  - New mothers have been educated to pursue care in the hospital even after she has delivered.*
- *IT REDUCES THE RATIO OF WOMEN WHO ARE DELIVERED FROM HOME*
- *It brings change in the way of thinking of people*
- *It contributes to the fraternity of people here*
- *The number of members is only growing and they are working more and more*

**Both members and non members desire to deliver in maternity service. So what are the barriers?**

## Barriers to access to health care

- Majority of surveyed people reckon that armed conflicts represent a barrier to access in the two areas where the study happened.
- Other mentioned barriers are:
  - risk of sexual violence during the travel up to the health structure
  - Lack of financial means
  - Lack of medicine in health structures
  - distance to reach (geographic barrier) health structures
  - Poor conditions of hospital accommodation in HS (regarding in-patient)
  - Internal displacement
  - Unwanted pregnancy
  - Looting of the goods of households

The above list is not an exhaustive one, but just keeps note of a few regularly mentioned points.

All above mentioned barriers are closely linked to armed conflicts.

### Rule box 2 : Statements supporting the impact of SM

- The women in health areas where Safe Motherhood is operating recognize the positive impact of the programme on maternal health.
- The women in health areas where Safe Motherhood is operating think that the programme has a positive impact on knowledge and access to information about reproductive health.
- The members of solidarity groups use birth control in their couples thanks to products made available through the Safe Motherhood programme.

## 5.3 Identification of experience and perception of the project stakeholders regarding the value of the safe motherhood solidarity groups

### Medical professionals 'rating by SM members

When asked about good to very good professional performances, the respondents rated nurses best by far, then doctors closely followed up by midwives. Nurses are more present than doctors in the community, they are more available and a big proportion of female respondents of the survey declared having never been seen by her doctor.

Q: In general, women arrive at the hospital (regarding their pregnancy) only if there is a problem or in order to receive advice too?

A: The answers of BIRAMBIZO health Zone stakeholders are:

1° Sometimes they come to hospital after finding out that there is a risk for the pregnancy or when they are experiencing abdominal pains and feeling weak.

2° Other women, especially with teachings from MMR program, have discovered that they must not wait until they get problem to come to hospital. It is necessary to come to the health center from the conception so that we can daily keep an eye on her pregnancy and find out what problem can occur.

Stakeholders in Kayna health Zone in North Kivu were asked about the opinion of the nurses on the SM programme and stated that the nurse would like to see it last for a long time as they are taught new materials, and they are also reminded the knowledge and skills they got from school.

The same question was raised for TBAs, and the Director reported that TBAs also appreciated the programme, which was reflected by their presence to any training they are invited to by the programme. *There they are taught some knowledge and they share with us their experiences.*

### Financial aspect

Director of the Kayna health Zone in North Kivu and other stakeholders:

Q. About the economical aspects. Does the hospital see the impact of MMR in economical aspect? For example, are the women –members of solidarity groups- able to pay better for treatments and cesarean?

A. **Solidarity groups help significantly, though we can find people who can pay with their own funds.**

Q. Can you tell a specific story of members of solidarity groups?

A. They have known that for every pregnancy, you must go to the health center even if you have gone to see a T.B.A. **These days, even T.B.A's are sending pregnant women at the health center.** Another thing they are informed about is cleanness, breast feeding and family planning.

### Perceived quality of care

Has the Safe Motherhood program had any impact on the perceived quality of care offered in the maternities? Lack of decent conditions in the maternity is a major discouragement to women who see no advantage to walking hours to deliver in a filthy, ill equipped maternity when she could deliver comfortably at home. As a preparation for the programme, the SM project re equipped the maternities, to remove this barrier, and it is hoped through cost recovery facilitated by the SMSGs that the managers of the health centres will be able to maintain the standard of care.

The universal complaint was lack of medicines and basic equipment: the war was blamed in most cases. However, an interesting comment came from one MCZ:

*Q. Did these problems you're telling me about show up to the same extent before the conflicts?*

*A. It was even more acute before war. After war we got partners who were providing us with medicines and furniture in this health zone. Unfortunately, conflict is cyclical here: war came up once more and all that had been done was plundered, looted and destroyed.*

*So, we are stationary. If you take some steps ahead war comes and squashes all and so you return to the starting point and after all problems persist in the villages.*

The need for training was cited by everyone: for the most part, people trusted their health providers, even while wishing they could have more training. In the men's focus group in Kiyeye, they raised a serious objection to sending their wives to deliver at the health centre: they did not trust their discretion and refused male nurses in the maternity: *There is shame for our wives in being naked in front of (male) nurses. This leads us to trust the TBAs.* Some also complained of absenteeism: the woman may arrive at the health centre and find no one to help her. Insufficient and irregular payment of salaries saps the morale of the staff.

We note from the National Information System (SNIS) that the zones of Birambizo and Kayna reported 16312 deliveries, among which 912 (6%) were referred by Traditional Birth Attendants. In the Health Zone of Walikale, where the programme has worked for the last three years, 4682 deliveries were done in health centres, and 10% (474) were referred by TBAs. This is a beginning of good collaboration between Nurses in Charge and the TBAs.

Q: In your opinion what is the best way to convince a woman to come to the hospital?

A: The health center should have good treatment, good place, nice beds, and the women are asking them to have better conditions than theirs at home. If the conditions are the same the woman will not see the difference between the hospital and her place (home). (KI Kirotshe)

A. The conditions in which we give birth promote poverty and mortality. (Vunogho)

The second problem is that they come to the health center and meet nurses who are not trained enough and do not dispose of necessary supplies and medicines. It is a real problem for the community here. Sometimes the buildings of the health center are so dilapidated that they cannot incite you to think you will be cured in such a place." (KI Birambizo)

## 5.4 Identification of the SM constraining and facilitating factors

### Access: constraining and facilitating factors, barriers.

Equity of access is understood here to mean that the programme reduces the differences in the range and quality of care between rural and urban populations, between rich and poor, between minority and majority tribes in the region, and between educated and uneducated people. We were interviewing women and men in rural areas, mostly subsistence farmers, many of whom had lost everything in recent wars and were starting from zero to rebuild their livelihoods. This extreme poverty affects also the cost recovery systems of the health centres. Interethnic tensions are also felt very strongly in this region, because of the general perception of the cause of the war.

All of my successive pregnancies ended in the death of the babies. I was doing so much work, such as working on the field or carrying heavy burdens. (F, Kasando, Zone Kayna)

We do not have enough demographic information was collected to allow a cross tabulation of responses to socio-economic status. with Family Planning .

The main difference in equity of access is the rural - urban division of the population. Among focus group respondents, there is an idealisation of life in the city, where health centres are easily accessible. The rural citizens consider themselves poorly served, compared to city dwellers, who would never have to walk six hours in labour to reach a maternity, (as is the case for women from Ngungu travelling to Kirotsho hospital for a C-section). The war has also affected rural areas more than urban areas: one woman tells us that she needed a C-section, but her health centre had been looted in the war, and she had to walk many hours to reach the General Hospital. Comparing the distance barrier with the financial barrier, it is clear that a six hour walk is a bigger problem than 2\$ or 3\$ to pay at the health Centre.

The perceived benefit of maternity services is for the child: the MCZ of Birambizo notes that a mother will bring her baby for vaccination at whatever cost, but would not make that same journey for her own labour and delivery, which she expects to be normal.

Q: Is there work for men and women?

A: Mothers are doing all the heavy work because their husbands have off-loaded all their responsibilities into the hands of their wives. (F Kasando, Zone Kayna)

Rural livelihoods are particularly hard on women. As one man from Kiyeye commented, *The woman goes into labour when she is exhausted by work in the field.* The goal for many women through the SM solidarity groups is to make enough capital to be able to break into the small trading business, giving a better income and a less exhausting life. Safe motherhood groups

will be able to help them *fast forward* to this goal.

SMGs have enabled women from all social classes to access good quality maternity services, and pay for them; they are starting ante-natal consultations

much earlier than before. Members of SMSGs who give birth in the hospital always have enough money to pay their bill; Safe Motherhood has contributed to the leveling of economic inequities related to access to maternity services.

Q. Do you think every woman would like to come to the health center for delivery?

A. Yes (Every woman?) completely! Except these women who need to walk for 2 or 3 hours to reach a health center. They find easier for them to go into the bush and deliver there rather than pursuing the trip.

Q. Are you informed about MMR?

A. Yes, a bit!

Q. *Do you think women will come to the health center if themselves have the ability to pay?*

A. Yes, for we have noticed change in the health areas that received money from MMR program. I have not seen a single woman member of that program who has given birth from home; they are all giving birth in health centers and in better conditions. The change is easy notice.

Gender inequities have been sidelined rather than faced and dealt with. For example, many women state that if they absent themselves from the house, their eldest daughter has to stay home and do the housework and cooking. One man stated that his wife is less of a burden to him now, because the woman has earned the money for her maternity and she won't come asking him for the cost of delivery any more.

Key informants, the Médecins Chefs de Zone, have an imprecise view of services offered and needs that are met through the safe motherhood group. On the question of equity of access, the doctors say that language issue is not a problem; in reality, it is an issue, and requires the hospital to seek and retain staff who can speak one of the minority languages. In reality, language and ethnicity are real barriers to care in HCs as perceived by the women; in any responses the doctors seem out of touch with the concerns of SMG members: *I do not think it is an obstacle. It's only a little problem of communication but doesn't have any significance*, says one MCZ. It is likely that the MCZ's reliance on health education to get the message out is also misplaced: they have not fully understood the benefit and potential of the SMSGs as their primary allies in this work.

### Constraining factors

<b>Nudity</b>	<b>Focus Groups identified cultural constraining factors to the programme. For example, some men raised serious objections to sending their wives to deliver at health centres, as exposing their nudity in front of male practitioners working in the maternity, is totally out of order for them and would appear to bring shame to them. For this reason, many would rather resort to TBAs as their first choice.</b>
<b>Staffing</b>	Another stated constrain seems to be lack of staff in medical structures. Many people complained about either staff absenteeism or a more general lack of staff in their health centres. Why walking miles to be faced with no one to assist? A major item in staff absenteeism is a lack of motivation directly linked to poor and irregular salaries.
<b>Languages</b>	On the question of equity of access, a MCZ said that language issue was not a problem, but in reality it is. Hospitals need to seek and retain staff who can speak one of the minority languages. Languages and ethnicity are real barriers to care in HCs as perceived by the women; in any response the doctors seem out of touch with the concerns of SMG members: <i>"I do not think it is an obstacle. It's only a little problem of communication but doesn't have any significance"</i> , says one MCZ.
<b>Gender</b>	Culture and traditions can also constrain MMR as they have been used as tools that would remove autonomy from couples to make their own decisions about the matter of reproductive health and maternity. The widely spread tradition following which men are excluded from the whole maternity concept, especially the wife's labour and delivery, is one of the several gender issues the MMR programme faces. Another gender problem is the belief that women are to pay for all costs towards their maternity costs.
<b>Fatalism</b>	Fatalism is a way of coping with excessive traumatic events, like the death of one man in childbirth at her 8 <sup>th</sup> pregnancy; or death of a woman when no one of her family could give blood. <i>We tried our best to save her, but the Lord did His will</i> communicates that it is inappropriate to explore causes and take steps towards a different outcome in the future.
<b>Family pressure</b>	Family power and pressure over a woman or a couple: especially if this pressure

comes from an elderly and respected member of the family, for example an elderly mother in law who would communicate to a young pregnant woman that if she wants to prove her strength, she would deliver at home with no extra help. A MDZ (Médecin Chef de Zone) declares that we need to remove from their heads that it's strong women who do not need the help of a nurse to give birth.

## Facilitating factors

### Mobilisation of respected members of the community

<b>MEN</b>	The Majority of interrogated women think that men are involved and understand the purpose of solidarity group. Men would achieve this by getting involved in various activities, including: Fields Ploughing Helping with heavy fields works Giving advice to the women of SG Soap making
<b>TRIBAL ELDERS</b>	More than the half of interrogated women state tribal elders are involved in solidarity group, for example by: Allowing tax exoneration Ensuring security/ small conflicts resolution within the community Being advisers for SG
<b>RELIGIOUS LEADERS</b>	The majority of women state that religious leaders take part to SM solidarity groups, by being involved in the following: mobilisation campaigns in churches and mosque being advisers advocacy, mediation between SM SG and local authorities

Respected members of the community, especially religious and tribal leaders, can put forward new measures that can break or bend traditions. They have a very powerful and strategic role within their community. SM SGs including the Traditional Birth Attendants (TBAs), with the blessing of religious leaders, are making an impact and bringing change in this area of harmful traditions. Religious leaders are the only ones who can challenge tradition through their appeal to a higher authority. All groups in Kayna confirm the important role played by the church and mosque leaders in their success

### Community team/ communal work

**Team work** SMG enabled people of the community to work together towards the same goal, assisting each other; community participation is much reflected in their involvement.

*SMG contributes to the fraternity of people here, the number of members is only growing and they are working more and more*  
is a comment collected from one of the Focus Group, and illustrates the increasing collective work and support.

**Awareness of SM** The community's awareness and broad acceptance of SM programme is a facilitating factor well noticeable as highlighted by the Director of the Kayna health Zone, in North Kivu:

*Q. Do you think women would come to health centers if they had the ability to pay?*

*A. Yes, for we have noticed a change in the health areas that received money from MMR programme. I have not seen a single woman member of that program who has given birth from home; they all give birth in health centers and in better conditions. The change is easy to notice.*

### **Rule box 3 : A few key and encouraging figures related to SM**

The majority of men support their wives in the solidarity group activities for maternity insurance. The majority of members of solidarity groups recommend to their neighbours to join a solidarity group to have maternity insurance. The majority of members of solidarity groups make regular contributions to the maternity insurance fund in their area.

## **6. Analysis**

- a) The contribution made by the Safe Motherhood solidarity groups in improving the utilization of maternity services in Kayna and Birambizo health zones.

The large majority of female respondents were of childbearing age, and out of this group 45% are part of the SM Solidarity Groups. Most women from areas where the SM project is operating recognize a positive impact of the programme on maternal health and on knowledge and access to information about reproductive health. Another contribution is regarding family planning, where most respondents agree on a positive impact.

SMGs have enabled women from all social classes to access good quality maternity services, and pay for them; they are starting ante natal consultations much earlier than before. Members of SMSGs who give birth in the hospital always have enough money to pay their bills; Safe Motherhood has contributed to the leveling of economic inequities related to access to maternity services.

- b) The experience and perceptions of project stakeholders regarding the value of the safe motherhood solidarity groups.

In terms of availability of medicine and staff, costs reduction, information knowledge, financial availability, all stakeholders appreciate the value of solidarity groups. SM programme help women build up their own confidence. Women also mentioned in Focus Groups that the project does help reducing child and mother mortality.

General perception of medical structures is that they exist as last resort when there is an issue

- c) The constraining and facilitating factors in the operation of the safe motherhood programme as reported by the project stakeholders

Both factors are well known from the population, with the most constraining factors being socio-cultural; while the most facilitating factor is financial and social mobilisations via faith based organisations.

## **7. Discussion of Findings**

Solidarity group members utilize maternity services more than non-solidarity group members. They prefer to deliver in health structures and with health workers. Also detection and management of complications is easy and better.

Utilization, delivery in health structures and with health workers, detection and management of complications is better for maternity insurance members.

Solidarity group encourages equity in access to health care as there is no discrimination in the SG membership, the programme is open to any ethnic groups, any background, provided members fall into the childbearing age category.

Community empowerment is translated through the whole community team work and partnership. As they can afford paying for health care, women also send an encouraging signal to staff of medical structures, who in return get motivated to provide first class health care. Maternity Insurance, provided within the programme, helps towards a reduction of maternal death, and on the bigger picture will eventually empower the whole community. Vulnerability is reduced through an easier financial availability, a new sense of confidence and security through belonging to a group and through socio-economic help (IGAs).

Knowledge sharing, training and information allow the population to get a more appropriate understanding of health care. Social changes include education, family planning, and cultural change. The programme sees many environmental changes as, for example; women who used to give birth at home now visit health structures. Training of medical staff (including midwives and TBAs) are also a noticeable change brought up by the project.

The participatory mechanism of Solidarity Groups and their political capabilities have been improved through their close partnership with strong community leaders in their community, such as faith based leaders and tribal leaders. The voice of vulnerable groups is taken forward and being heard thanks to the weight of those specific leaders and their power, to affect the whole community and produce changes. Social determinants of health are affected through number and size of farmers, which brings in extra financial income that will assist with education and other sectors.

### **Safe Motherhood within CPHC**

Every day globally, 1500 women and more than 10,000 newborns die from complications related to pregnancy and delivery, and 98% of these deaths occur in developing countries. Most of them could have been avoided through proving care by qualified caregivers at delivery, and through management of life-threatening complications.

In the light of this situation, many initiatives have been taken throughout the world to resolve this difficult problem. Among them are the following:

- the 5th Millennium Development Goal (MDG5) aims to improve maternal health and reduce maternal mortality by 75% by the year 2015. And this can only be possible if complete primary health care is available and accessible to the whole population and particularly to women of childbearing age.

- In January 2005, the World Health Organisation established a department called : *Promoting Safer Pregnancy*, with the aim of reducing maternal, perinatal and neonatal mortality. Its primary objective is to ensure that every woman can have access to qualified care before during and after delivery, and emergency obstetric care in case of complications. <sup>(1)</sup>
- guidelines for supervision, availability and use of obstetric services have been laid down since 1996 by WHO, and revised in 2003 ; these guidelines propose a new approach based on surveillance of the process, all interventions whose aim is to reduce maternal mortality.

### **Social determinants of Maternal Mortality in rural Africa**

Poverty, marginalisation, inadequate housing, poor health systems are among the major factors contributing to bad health. In sub-Saharan Africa, where maternal mortality rates are the highest, only 40% of women deliver with the help of a qualified midwife, a nurse or a doctor. Moreover, we observe inadequate technical capacity to follow a pregnancy and conduct delivery, insufficient information within the community about reproductive health, and an inadequate number of health facilities for emergencies in gynaecology and obstetrics, and for neonatal emergencies. Financial constraints for pregnant women limit their access to basic health services.

One of the objectives of the Millennium Development Goals is to reduce by three quarters the maternal mortality rates of the 1990 by the year 2015. To date, progress has been very slow. In 2005, the worldwide rate of maternal mortality had only been reduced by 5%, from 430 to 400 for 100 000 live births. There has been no progress at all in sub-Saharan Africa, where the risk of maternal mortality is the highest. <sup>(2)</sup>

### **The availability of complete basic care**

The ideal is to have a complete service of primary health care access support at every level. This would contribute to the reduction of morbidity and mortality in lower areas. But this reason, the WHO Commission on the Social Determinants of Health, in its 2008 report, calls for universal healthcare, meaning:

- Creating healthcare systems on the principles of equity, prevention of illness and promotion of health.
- Setting up quality health services with a universal mandate, centred on primary health care.
- Reinforcing the leadership role of the public sector in financing the healthcare system, in order to ensure greater equity, and to guarantee universal access to care without financial considerations.
- Reinforcing and developing the capacity of health care staff to influence the social determinants of health.

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<sup>1</sup> [http://www.who.int/making\\_pregnancy\\_safer/about/department/fr/](http://www.who.int/making_pregnancy_safer/about/department/fr/), lu le 9 nov. 08

<sup>2</sup> [http://www.who.int/social\\_determinants/fr/index.html](http://www.who.int/social_determinants/fr/index.html), lu le 9 nov. 08

- Investing in national healthcare staff, with care to balance their density in rural and urban areas.
- Fighting against the brain drain by investing in the development and training of human resources, and negotiating bilateral agreements to regulate loss and gain of human resources.

(3)

### **Process of women's empowerment and its impact in rural Africa**

Women must be involved in matters that concern their fate, in order to reduce maternal mortality. A great deal of literature (can you quote it??) from the World Health Organisation and field experience prove sufficiently that there are good outcomes from acting on this awareness. However this requires a close relationship between the women and the healthcare services. The latter ensure good care of women; and on their side, women refer themselves and others to the health services in a timely manner so they can manage their episodes of ill-health themselves.

Such a goal is not easy to achieve in Africa, because a high percentage of women are illiterate, and specialist services are inaccessible both geographically and financially. Women should be trained and informed about prevention and promotion of maternal health. These four pillars are: family planning, antenatal care, a hygienic delivery, and essential obstetrical care. (4)

### **Microfinance – principles and practice in rural Africa**

The health insurance is a mechanism which can be used to reinforce delivery of healthcare, to make essential health services financially accessible and fairer. This is the result that has been observed in a case study conducted in Mali on *The influence of solidarity groups for health insurance on the uptake of priority health services in rural and urban areas*.

This result is replicated in the 2007 activity report of HEAL Africa for the program "*Maternité à moindre risque*" through the activities of solidarity groups for of childbearing age, for mutual obstetrical help. This program has been functioning in the health zones of Masisi, Birambizo, Kayna and Walikale since 2006 in North Kivu province in D R Congo. (5)

### **Health funding schemes in rural Africa**

Mechanisms to finance healthcare in Africa vary according to the country. The following schemes have been developed:

- *Funding through taxation* : people pay for health care services through paying their income taxes, value added taxes, property taxes, and capital gains taxes, and various taxes on articles and activities. This is the most appropriate mechanism, but it is the least used.
- *Direct payment by the patient* : for a few years now, many countries have adopted this system. It is very disadvantageous to the poor. .

<sup>3</sup> [http://www.who.int/social\\_determinants/fr/index.html](http://www.who.int/social_determinants/fr/index.html), lu le 08 nov. 08

<sup>4</sup> Guide pour une maternité sans risque, WHO/FHE/MSM/94.11 REV. 1

<sup>5</sup> Rapport annuel de programme Maternité à moindre risque, HEAL Africa, Nord-Kivu, DRC, 2007.

- *Socialised health insurance*: when healthcare financing is ensured by the Social Security system, employees, self-employed workers, businesses and the State are obliged to pay contributions to one that was several common funds, which are used in general to engage service providers, both public and private, under contract to offer a range of services. Since 2004, Kenya is attempting to follow this path..
- *community health insurance* : under this insurance regime, the management is characterised by strong community involvement, and contributions are not related to risk. This is the model which is being developed in North Kivu, DR Congo, set up by HEAL Africa through solidarity groups.
- *Private health insurance* : when the financing of care are is ensured by a private health insurance system, employers, associations, individuals and families pay their subscriptions directly to the insurance company will in their turn underwrite risks collectively through the whole group of subscribers.
- *Medical savings accounts* are individual, and reserved for the payment of medical care or healthcare. In general they are created to encourage the account holders to save for an expensive medical episode, to associate the beneficiaries of care to the control of costs, and mobilise funds to finance health systems. Only a few countries have experimented with this formula. <sup>(6)</sup>

Systems of financing will have to evolve over years to achieve universal coverage. Universal coverage means that every individual at the time when they need healthcare, has access to appropriate care at an affordable cost, be it promotional, preventive or therapeutic care or rehabilitation. It aims at equitable access, and protection against financial disaster by collectivising the risk.

### **Principles of social mobilization in rural Africa**

Any activity in favour of mothers and newborn babies must necessarily depend upon social mobilisation; otherwise it is doomed to failure. The social groups that are most frequently used are women's organisations, NGOs, community-based associations and faith based organisations.

This is the case for HEAL Africa, where we mobilise communities through community activists and the Nehemiah committees. These committees are made up of faith based leaders from all religious communities in the catchment area, where safe motherhood activities are proceeding. This approach aims at sustainability and local ownership of the activities.

### **Traditional Birth Attendants: their training and their potential role in CPHC**

In Africa home deliveries accompanied by traditional birth attendants are the norm. In some countries, deliveries performed by traditional birth attendants (TBAs) can account for between 30 to 60% of all deliveries.

This is the case of the Democratic Republic of Congo., The HEAL Africa program for safer motherhood, with overseas financing is directed towards reinforcing the capacity of these traditional birth attendants, with regard to deliveries of multipar mothers, rules of aseptic delivery, community diagnosis are the

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<sup>6</sup> (2) [http://www.who.int/health\\_financing/related/fr](http://www.who.int/health_financing/related/fr), le 09 novembre 08.

high-risk pregnancies, obstructed labour, and other themes. After training of TBA's, we record the impact of their involvement in the health system. As an example, in the health zone of Kayna, 7435 deliveries were performed by traditional birth attendants, in six months, and 314 4% of deliveries were referred to health centres.

In the health zone of Walikale, out of 1160 deliveries expected during five months, 762 deliveries were performed by traditional birth attendants that is to say 66%. Among the assisted childbirth, 178 were referred by TBA; that is to say 23%.

## **8. Strengths and weaknesses of the study design and research instruments**

### Strengths

- The protocol was approved by the audit ethic committee
- Data collection tools were both quantitative and qualitative and had been previously been put to test and used

### Weaknesses

- Language issues might have caused a loss of impact on the original tool as 3 languages were used: English, French, and Swahili (and in some cases other local languages)
- The Nvivo and SPSS software were mentioned in the protocol but only the SPSS was used during the study.

## **9. Conclusion**

The Safe Motherhood programme, through its approach of maternity insurance of Solidarity Groups, is a reply to the need for availability, accessibility, use and quality of maternal care.

## **10. Discussion of KTE (Knowledge Translation Exchange)**

### Triad experiences

Respect of the implementation was difficult because of conflicting responsibilities. Combining public health approach (researcher) and sociological approach (research-user) was beneficial. Difference of emphasis on qualitative and quantitative data. The research- user was more involved in monitoring progress against the time line. The researcher did the planning, testing of the questionnaire with the mentor and the medical anthropologist and train the field workers. The mentor reviewed the design of the questionnaire and the focus group guide lines to ensure that they meet the objectives of the study.

### Other dissemination activities and engagement of research users in the study

Communication to boundary partners will be organised so that the stakeholders can be informed about our findings through meetings, presentations, informative conferences.

Boundary partners to whom the information will be communicated are as follows:

- Government
- NGOs, Agencies
- Donors

- Academic community
- Community associations

Indications of any uptake of findings

Researcher and research user have different constituencies (public health policy makers, donor agencies). One group can influence policy and give permission, the other group can mobilise resources to implement policy.

### **11. Reflections on the capacity enhancement aspect of the project (Trainings, mentoring within team, with region)**

The research team benefited from a training which included two facets in South Africa: They were first trained on how to design a protocol, and the other facet of the training was about qualitative analysis techniques.

Heal Africa then commissioned an external consultant to provide SPSS training for six people involved in the Safe motherhood programme. This training session was conducted over a week and allowed a better understanding of data analysis.

### **12. Summary: How the findings contribute to a better understanding of CPHC, and/or contribute to advancing CPHC**

Policy will be affected when we have an evidence base. We require regular meetings to plan dissemination of findings and for publications. Stakeholders will respond better to a comprehensive approach (theoretical to practical).

### **13. Where to from here with the project?**

Our next step will now be to organise publication of results

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## **Survey to be administered to women members of solidarity groups and non-members of solidarity groups.**

**Instructions:** This survey aims to find out information about you, your health, and the health of your family, as part of a greater research project. There are several questions that require you to circle a number, according to your answer to the specific question. There will be specific instructions next to those questions, but in general, the scale will be 1 2 3 4 5, with one being the least severe and 5 being the most severe. Please ask survey administrators if you have questions regarding the format or content of the questions.

- 1) Name and post-name, first name
- 2) Age
- 3) Weight
- 4) Sex
- 5) Religious affiliation
- 6) Tribal affiliation
- 7) Circle one:      Single              Engaged              Married              Divorced              Widowed Other
- 8) What is your occupation?
- 9) Spouse's occupation?
- 10) Average household income
- 11) List all people who are dependent on you financially.
- 12) List all people outside of you and your spouse who contribute to your household income..
- 13) List your major expenses.
- 14) How far away is your house to the nearest health centre (in minutes and kilometers) by car? By foot?
- 15) How do you travel to the health centre?
- 16) List all animals you currently have and the number of each.
- 17) Who takes care of the animals?
- 18) Do you have electricity at home?

- 19) Do you have access to running water in your house?
- 20) Where do you get your water?
- 21) List all household valuables and next to the name of the person who purchased them.
- 22) Do you have a car?
- 23) Did you ever have a car?
- 24) Do your parents or your in-laws have a car?
- 25) Do you own your house?
- 26) Do you consider yourself more wealthy than your neighbours? Y / N
- 27) Do you consider your neighbours to be more wealthy than you? Y / N
- 28) In terms of wealth, in which quartile would your family fall among your neighbours?

0-25%	25%-50%	50%-75%	75%-100%
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- 29) How many children do you have?
- 30) What is the highest level of education you attained?
- 31) What is the highest level of education your husband attained?
- 32) What is the highest level of education your parents attained?
- 33) List your children's names, ages and current/past level of education.
- 34) Who pays for your children's education?
- 35) Are you currently pregnant? Y / N
- 36) What is the gestational age of your fetus in weeks?
- 37) How many times have you been pregnant before?
- 38) How many living children have you given birth to? List the gestational age and birth weight for each, as well as your age at the time of delivery.
- 39) List any complications you had during your past pregnancies or current pregnancy and treatment received, along with the cost of the treatment, if applicable.
- 40) List which of your pregnancies were attended by doctors, nurses or TBAs and the cost of the

service if applicable.

**41)** Briefly describe the kind of medical attention you received for your pregnancies (ie: did you go to a health centre? At what point during your pregnancy?)

**42)** Did you breastfeed your children?

**43)** List the names of your children next to the duration of time you breastfed them.

Please rate the following services if you have used them: (1= very poor; 2=poor; 3=normal; 4=good; 5=very good; N/A=not applicable)

- |  |   |   |   |   |   |     |
|--|---|---|---|---|---|-----|
| <b>44)</b> Doctors care :                | 1 | 2 | 3 | 4 | 5 | N/A |
| <b>45)</b> Nurses care:                  | 1 | 2 | 3 | 4 | 5 | N/A |
| <b>46)</b> Midwives care:                | 1 | 2 | 3 | 4 | 5 | N/A |
| <b>47)</b> TBAs care:                    | 1 | 2 | 3 | 4 | 5 | N/A |
| <b>48)</b> Mother's care:                | 1 | 2 | 3 | 4 | 5 | N/A |
| <b>49)</b> Relative's care:              | 1 | 2 | 3 | 4 | 5 | N/A |
| <b>50)</b> Husband's care:               | 1 | 2 | 3 | 4 | 5 | N/A |
| <b>51)</b> Quality of medicine received: | 1 | 2 | 3 | 4 | 5 | N/A |

**52)** How much does the antenatal consultation cost?

**53)** How much does prenatal consultation cost?

**54)** What is the cost of the delivery expenditure?

**55)** Are there other costs involved? If so, list what they are

**56)** What is the total cost of pregnancy, from start to finish, in your community?

**57)** If you were to have another child, would you go to a health centre?

**58)** Does conflict in your community affect access to health care? Y / N

**59)** List the other barriers to access to health care in your community.

**60)** List all places you get you information about health in order of importance.

**61)** Have you utilized the maternity insurance program?

**SUPPLEMENT FOR THOSE WHO WERE MEMBERS OF SOLIDARITY GROUPS**

**62)** What do you do as part of the solidarity group?

**63)** Describe the impact you think the solidarity group has had on women's health? Circle one.

Very negative                  Negative                  Neutral                  Positive Very Positive

**64)** Are men in the community involved in the solidarity groups?

**65)** Are religious leaders in the community involved in the solidarity groups?

**66)** Are tribal elders in the community involved in the solidarity groups?

**67)** Rate doctors, nurses, TBAs, midwives in order of importance for births in your community.

**68)** Describe the impact you perceive your membership in the solidarity group has had on your control over your reproductive health?

Very negative                  Negative                  Neutral                  Positive Very Positive

**69)** Describe the impact you perceive your membership in the solidarity group has had on your information about your reproductive health?

Very negative                  Negative                  Neutral                  Positive Very Positive

**70)** Would you recommend a friend who is not a member to become involved?

**71)** List all occasions and specific costs in which you utilized maternity insurance.