

Impact of World Vision's Core Intervention Package on Maternal, Neonatal and Child Health in Zambia: *Insights from Qualitative Research*

Mubiana Macwan'gi PhD¹, Gachiri Kago Nanja Bsc.ED², Moyern Mungwala DiP³

¹Principal Investigator, University of Zambia, Institute of Economic and Social Research (Corresponding Author)

²University of Rwanda African Centre of Excellence for Innovative Teaching and Learning Mathematics and Science (ACEITLMS)

³University of Zambia, Institute of Economic and Social Research

Abstract: ***Introduction:** The Child Health and Nutrition Impact Study (CHNIS) on which results of this paper are based on a five-year (2012-2017) research collaboration between World Vision and the Johns Hopkins Bloomberg School of Public Health implemented in four countries; Cambodia, Guatemala, Kenya and Zambia. In Zambia, the study was conducted by the Institute of Economic and Social Research (INESOR) at the University of Zambia. **Objectives:** The study was designed to measure the impact of World Vision's maternal, neonatal and child health and nutrition programs on the health of mothers and children under five years. However, in this paper, only qualitative results from Zambia are presented. The purpose of the qualitative study was to describe the mechanism of operation of core intervention package (CIP), its effect on strengthening community structures and on the quality of community health worker (CHW) functioning. **Methods:** The study used a quasi-experimental (two-arm) before and after design. After a 36-month intervention period compared changes between the intervention and comparison in four Area Development Programs (ADPs) in Zambia. The study comprised of both quantitative and qualitative components. The qualitative component of the study which is the focus of this paper employed in-depth interviews (IDIs) and focus group discussions (FGDs). **Results:** Neighbourhood health committees (NHCs) contributed to the development of local partnerships to enhance the delivery of mother and child health services while citizen voice action (CVA) intervention successfully advocated and lobbied for community identified needs and rights. Further, implementation of targeted timed counseling (ttc) by safe motherhood action groups (SMAGs) promoted positive behaviors among women and other family and community members. Key behaviors observed include, early attendance of antenatal care (ANC) delivery at health facility (HF), exclusive breast feeding of young children up to six months, involvement of men in maternal and child health care such as escorting their spouses / partners to ANC and/or under five services and sourcing transport to HCs especially in cases of emergency. Other behaviors include adoption of personal and environmental positive behaviors such as washing hands before eating and after using a toilet and construction of dumping pits for disposing of household waste and dish racks to keep kitchen utensils clean and safe. More positive behaviors were observed in the intervention ADPs than comparison ADPs. For example, there was more awareness of maternal health and nutrition in the intervention than comparison ADPs. Further, use of traditional healing remedies was reported more in the comparison than intervention ADPs. The major barriers to maternal and child care are long distances to HFs, shortage of staff and lack and cost of public transport. **Conclusions:** The CIP implemented by World Vision (WV) in Zambia has impacted positively on community health systems and maternal and child health and nutrition knowledge and behaviors. The government and its partners should facilitate the construction of mother's shelters at health facilities to cut down on travelling long distances by expectant mothers and should scale up the implementation of CIP to sustain the observed behaviors, increase access and improve maternal and child health service delivery in the country.*

Keywords: Maternal, Neonatal and child health, Citizen Voice and Action (CVA), Neighborhood Health Committee (NHC), Timed and Targeted Counseling (ttc), Health Safe Motherhood Action Group (SMAGs), *Qualitative Research*, Zambia World Vision

1. Introduction

Zambia has a high burden of disease, which is mainly characterized by high prevalence and impact of communicable diseases, particularly, malaria, human immunodeficiency Virus (HIV) and acquired immunodeficiency syndrome (AIDS), sexual transmitted infections (STIs), and tuberculosis (TB), and high maternal, neonatal and child morbidities and mortalities. Data from the Zambia Demographic Health Survey (ZDHS, 2014 report) indicate that the infant mortality rate is 70 deaths per 1,000 live births, while the under-five mortality rate is 119 per 1,000 live births for the five-year period immediately preceding the survey. The neonatal mortality rate is 34 per 1,000 births. Thus, almost two-thirds of childhood deaths occurred during infancy, with more than one-quarter taking place during the

first month of life. Child mortality is consistently lower in urban areas than in rural areas. On the other hand, less than half of births in the five years before the survey was delivered in a health facility (48 percent) and half (52 percent) of births occurred at home.

The purpose of the Child Health Nutrition Impact Study (chNIS) was to evaluate the impact of World Vision's (WV) Core Intervention Package (CIP) on maternal, newborn and child health (MNCH). The Quantitative component of the chNIS study was to provide the context in which the community views the services being provided pertaining to maternal and child health in four selected Area Development Programs (ADPs). These are areas where World vision Zambia implements their various programs.

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The Core Intervention Package (CIP) comprises primarily of three intervention delivery models:

Timed and Targeted Counseling (ttc): The ttc project model implemented by SMAGs is designed to involve male partners and significant others in the family such as mothers-in-law/grandparents. At individual level, trained SMAGs deliver structured behavior change messages to mothers and other members of the household at household level using the home-based lifesaving skills (HBLSS) behavior change counseling methodology. This includes up to 11 visits, starting from early pregnancy and continuing through childbirth till the child is 24 months of age. SMAGs deliver messages through a scheme of home visits using storytelling, negotiation and dialogue counseling methods, based on the Home-Based Life-Saving Skills¹ method. SMAGs are volunteer groups based in the community that aim to reduce critical delays in decision-making at the household level about seeking life-saving maternal care at health facilities.

The focus of the intervention is on prevention of disease, preparation for health emergency and improved child nutrition. WVZ identifies that child health begins with pregnancy. Therefore, the key interventions for impacting child health outcomes start at the beginning of pregnancy. SMAGs are volunteer groups based in the community that aim to reduce critical delays in decision-making at the household level about seeking life-saving maternal care at health facilities.

Community Committees – COMM: At community level, the focus of the interventions is on community systems strengthening for health. The COMM is a pre-requisite structure for operationalizing the 7-11 strategy of World Vision Zambia (WVZ). The COMM comprises of key stakeholders from the community focused on Maternal, newborn, and child health (MNCH) and provides support, oversight and promotion of CHW programs. COMM will also provide an effective linkage and coordination among community stakeholders. In places where the Ministry of Health (MoH) does not have sufficient manpower, the COMM will provide supervision of the CHW. In other cases, COMM will play a supportive role by forming a key link between CHWs and communities. Community groups, known by various names across the world, such as Village Health Committees, Community Health Communities, and Neighborhood Health Groups, might be considered when identifying COMM. In Zambia COMM is called Neighborhood Health Committees (NHCs) and this is the term for the purpose of this work.

Citizens Voice and Action (CVA): CVA has the overarching objective of mobilizing citizens to improve accountability of the government health services. The local communities are empowered through information sharing about the health commitments of the government. Through a participatory approach, community groups monitor the quality and services at government health facilities with the help of a scorecard. Neighborhood Health Committees were selected as the group that leads CVA activities. If a different community groups leads CVA activities, the COMM will participate through provision of health-related issues into the CVA advocacy agenda. Through improved access, quality and accountability

of services, the CVA is expected to provide an 'enabling environment

2. Methods

The study used a quasi-experimental (two-arm) before and after design and after a 36-month intervention period compared changes between the intervention and comparison in four Area Development Programs (ADPs) in Zambia. Intervention ADPs, Luampa in Western province and Magoye in Southern province implemented a comprehensive core intervention package comprising of NHCs, ttc and CVA. The other two ADPs, Choongo and Nyimba only implemented NHCs and served as comparison ADPs.

In the Comparison ADPs, Choongo and Nyimba, NHCs / SMAGs were working under the MoH national program while in the intervention ADPs, the NHCs and SMAGs were trained and supervised by WVZ. World Vision Zambia empowers these groups with identified knowledge and skills gaps. The study comprised of both quantitative and qualitative components. The qualitative component of the study which is the focus of this paper employed in-depth interviews (IDIs) and focus group discussions (FGDs)

Data was collected by an inter-disciplinary team with prior experience in both quantitative and qualitative data collection. The survey team were trained in research ethics, approaching communities and conducting qualitative data collection. Throughout training the issues of quality comparison and participants rights was discussed. During the training, the tools were reviewed and translated into local languages before obtaining an ethical approval.

Focus Group Discussions (FGDs) were conducted to provide assessments of community experiences of health service provision related to maternal and child health. A total of 40 FGDs were conducted in all the four ADPs (10 in each ADP). The FGD were held with the following: pregnant women/mothers, grandmothers/elderly women, fathers/men and SMAGs. Each FGD comprised of between nine to thirteen members. The survey team comprised of two members, one was leading the interview using the FGD guide and the other was recording the discussions and taking notes. Well serviced recorders were used to record the interviews.

In-depth interviews (IDIs): IDIs with one or more of the following in each selected statistical enumeration area (SEA): NHC chair, SMAGS, village official, health facility manager, ADP manager. IDI were conducted using a well-structured guide. And data from FGDs and IDIs was transcribed and coded. Thematic analysis was done using Atlas.ti version 7.

3. Results

The results are organized into three sections a) Maternal Health Care and Nutrition, b) Child Health Care and Nutrition and c) Community Engagement.

3.1 Maternal Health and Nutrition

Antenatal Care (ANC)

This study shows that most pregnant women utilize

government rural health centers (RHCs) for ANC while a few seek ANC from government hospitals and health posts, private HCs and hospitals were not reported. The following statement emphasizes the use of government HFs, “pregnant women here in Kaleya attend ANC at the local clinic for monitoring of the growth of their pregnancies (FGD, Pregnant Woman, and Magoye ADP)

The major providers of ANC are SMAGS and TBAs. Health personnel such as nurses, midwives and clinical officers were reported to be utilized by few women. However, women, who reported receiving care from HCs and attended to by health workers generally expressed satisfaction as one female respondent from Magoye an intervention ADP emphasized; “The nurse at our clinic is very hard working, when we go for ANC, she takes time to interact with us, she also encourages us to eat balanced meals and not to miss antenatal care appointments, she also cautions us against overworking ourselves during pregnancy” (Munjile Woman FGD, Magoye ADP)...“The SMAGS encourages us pregnant women to go for VCT so that in case a mother is infected with HIV the nurse can give her treatment to prevent the child from contracting the virus HIV...they call it Prevention of Mother-to- Child Transmission (PMTCT)...” (FGD, Pregnant Woman, Magoye ADP)



SMAG member (far left) attending to pregnant women at an antenatal care clinic in the intervention ADP

Services provided during ANC visits include education on various health topics such as early health care seeking, HIV and TB testing, Prevention of Mother-to-Child Transmission (PMTCT), folic acid supplementation, de-worming, vaccination, and nutrition counselling. Further, SMAGS and health workers were reported as the main and preferred source of information and advice on pregnancy. SMAGs/NHCs encourage women to start attending ANC early. This has resulted in most women reporting that they attended ANC four times during their last pregnancy and few reporting four or more ANC visits.

“I encourage pregnant women to start going for antenatal care early ...at three months pregnant so that the health of the mother and growth of her unborn baby are checked and monitored. I also encourage pregnant women to go to the clinic and have themselves tested for HIV and counseling and treatment if positive” (IDI, CHW, Nyimba ADP). The CHWs’ report collaborates with that of community members as is indicated in these voices, “...SMAGs encourage us to start antenatal care early, so that we can get folic acid to

improve our blood levels and also get some tablets such as fansidar to prevent malaria because it can cause miscarriage ...” (Woman FGD, Magoye ADP) and “SMAGS have taught us many things, including the importance of saving money in preparation for labor in case of complications... SMAGS have also taught us the importance of seeking care from HFs immediately a pregnant woman notices any danger sign (FGD, Pregnant Woman, Magoye ADP).

Other reported sources of information and advice about pregnancy were spouses, extended family members (i.e., mothers, mother in-laws, and aunties), friends, and community leaders. One of the community leaders had this to say; “... If a pregnant woman refuses to go for ANC, we report the issue to the chief who punishes such women, by making them present a chicken or a goat to the chief” (IDI, Village headman, Chipembi, Nyimba)

The study also observed that, in general, use of traditional healing interventions during pregnancy was not common. FGDs also revealed that respondents from intervention ADPs did not report seeking ANC and related services from traditional healers as much as those from comparison ADPs. Statements from intervention and comparison ADPs highlight: “these days, pregnant women do not utilize traditional medicines because they know the importance of seeking care from the hospital ... the education from SMAGS has empowered the women with knowledge on health and pregnancy” (Woman, FGD, Luampa, intervention ADP)

On the other hand, negative traditional beliefs were prevalent in comparison ADPs as the Munjile village headman reported: “Due to traditional beliefs some pregnant women are given herbal concoctions at six to seven months so that they have quick delivery and avoid complications during delivery” (IDI, Headman, Munjile Choongo, Comparison ADP)and “Some still believe in traditional shrines and ancestral spirits, when a pregnant woman is sick, they seek spiritual and/or traditional means to drive away spirits ... even though it may be a condition that requires medical attention.” (FGD, CHC Member, Keemba Choongo, comparison ADP)

Labor, Delivery and Postnatal Care

Most women reported that they delivered their last child at a HF while a few reported that they delivered at home. All reported last births were normal deliveries, caesarean section births were not reported. Almost all FGDs mentioned lack of dedicated maternity wards and/or inadequate bed space at HCs as a major challenge as voices of respondents from underscored: “We have no labor ward, when a pregnant woman goes into labor, they remove a patient from a general ward from her bed and give it to a pregnant woman (FGD, Pregnant Woman, Mutilizi Nyimba ADP) and “Katunda HC, has a big catchment area and population but has inadequate inpatient wards and beds, sometimes, this results in admitting both general inpatients and pregnant mothers in the same ward” (IDI, Village headman, Luampa an Intervention ADP)

Those who delivered at HFs reported that they were assisted by a nurse and a few were assisted by a mid-wife. TBAs were reported not to be actively involved in deliveries as this statement indicate: “In the past, most women were assisted by

TBAs during delivery, but now due to HIV, TBAs no longer deliver babies as they do not have equipment to prevent transmission of the disease from mother to her baby during delivery. However, TBAs continue to educate and counsel women on important topics like the need for seeking early ANC from a HF ... they also refer women to HCs” (FGD, Pregnant Woman, Luampa ADP)

Results reveal that postnatal care is conducted at HCs and health posts and is provided by various providers’ nurses, midwives, clinical officers, SMAGS and TBAs. The services provided include, immunization, anthropometric measurements, blood pressure checkups, blood tests, health education as well as child care information. However, generally, postnatal care especially in the comparison ADPs, was not reported as much as other maternal services. In the intervention ADPS, community leaders had this to say: “SMAGs help women from pregnancy to deliver up to postnatal” (IDI, Headman Habeenzu, Kaleya Magoye ADP) ... “After delivery women should go back for postnatal review after 2 weeks of giving birth.” (IDI, Village Headman of Masoya Village in Mbanyutu Luampa ADP) and “Mothers bring the newborn babies for postnatal when the baby is 6 days old” (FGD, NHC member, Luampa ADP)

Maternal nutrition during pregnancy

Respondents’ knowledge about diet during pregnancy was assessed and results show general awareness about types of food pregnant women should eat. For example, in Magoye, an intervention ADP women reported that “A pregnant woman is supposed to eat adequate and balanced food to get nutrients for self and her unborn baby ... balanced diet comprises of all the three food components namely, energy giving foods, protective foods and body building foods ...”(FGD, Pregnant Woman, Magoye ADP). Another pregnant woman in Magoye ADP also echoed the importance of eating a balanced diet during pregnancy; “...a pregnant woman should eat food that protects her from diseases ... in our villages we have wild fruits called Ngayi and baobab fruits and oranges ...” (FGD, Pregnant Woman, Magoye). In addition, those from the intervention ADPs were more knowledgeable about why adequate and balanced diet is important for the health of both the mother and her unborn baby. Women reported that SMAGs/NHCs advise and encourage them to eat a balanced diet and to avoid certain foods with no nutritional value. They also reported that they are advised against taking alcohol during pregnancy as it is not good for the health of both the mother and the baby.

The most common type of food consumed by pregnant women across all the study communities is energy foods, mostly, nshima, a staple meal made of maize or cassava thick porridge often eaten with a source of some vegetables and/or some animal protein. Animal protein foods reported include beef meat, chicken and fish while a variety of vegetables were also reported and these include sweet potatoes, beans, ground nuts, greens, mostly indigenous vegetables. On the other hand, fruits were only mentioned in few FGDs in Nyimba, a comparison ADPs, the rest of respondents in the other study communities did not report fruits as part of their diet.

Despite the reported knowledge about the need for an adequate and balanced diet, most pregnant women reported that their food intake is less than what is recommended by SMAGs and nurses due to scarcity and high cost of food. Women from Luampa highlighted the challenges with food availability for pregnant women in this statement; “Herein Mbanyutu, life is difficult for pregnant women, they cannot afford to buy nutritious foods ... and the land is sandy and not good for growing maize, most people just grow and depend on cassava which is not nutritious ... sometimes a pregnant woman can spend three days without eating proper food ...they would just eat roasted cassava... or mundambi (an indigenous vegetable) (FGD, Pregnant Woman, Luampa)

Barriers to maternal health care

Barriers to maternal health service utilization are many, the major ones include long distances to and from HFs, shortage of health personnel especially midwives and long waiting time at HFs. Most women from both the intervention and comparison sites reported that health facilities were located far from their villages and that the distance barrier was compounded by lack of and/or high cost of public transport as illustrated in the following quote; “...assessing Kaleya RHC is a problem because of long distance to and from the facility, there is no transport and very few vehicles; one has to use an ox cart, it is very slow, by the time one reaches at the clinic, the sickness would have advanced.” (FGD, Pregnant Women, Magoye)

Community education is reported to have some positive impact on knowledge and health behaviors to the extent that men are now involved in maternal and child health care activities. Men support their partners by mobilizing transport and/or escort them to HCs; “Long distances hinder women from going to the clinic ..., but men are supporting their partners by mobilizing transport and escorting them to health centers, this helps” (Chair CHC Magoye_IDI_Magoye ADP)

Long waiting time at HFs was also reported as a major barrier to maternal health care and was mostly attributed to shortage of health personnel. However, long waiting time was reported more in the comparison than intervention ADP as the following statement underscores: “Often HC staff take a long time attending to ANC clients, one can be waiting in the queue from morning until the clinic closes” (IDI, CHW, Choongo ADP).



Women waiting to be attended to at the health center

Religious and / or spiritual affiliations were also reported to be barriers to maternal care. In Choongo, one of the comparison ADPs for example, traditional beliefs were reported to be a barrier to seeking maternal health care. On the other hand, in Magoye, an intervention ADP, women reported that traditional beliefs were not so much a hinderance to seeking maternal health care from HFs. This was attributed to intensive community education and counseling by SMAGS as stressed by women: *“Sometimes traditional beliefs hinder us from seeking care from HFs, for example, the belief that swollen legs during pregnancy means that one is carrying twins and should not worry because it will resolve after birth may lead to a pregnant woman not seeking care when she should”* (FGD, Pregnant Woman, Choongo a comparison ADP).

Further, reliance on traditional remedies was also reported as a contributing factor to delay in seeking maternal care. The statements below underscore the point, *“... Pregnant women believe that if they tell others about their pregnancy in the early stage, they may bewitch them and may lose their pregnancy”*, (IDI, CHW, Nyimba another comparison ADP)

3.2. Child Health, Care and Nutrition

Child Nutrition

Breast feeding is reported as a common practice in both the intervention and comparison ADPs. Newborn babies were exclusively breastfed up to six (6) months. Voices of FGDs and IDIs participants emphasize exclusive breast feeding: *“from the time a child is born up to when he/she is two (2) years, ... we need to consider the child’s nutrition, ... SMAGS teach us that immediately the child is born, he/she should start breast feeding and continue up to six months and that we should not give anything else even water...when the child is sick, we should not give anything but we should just take the child to the clinic for treatment”* (FGD with women/mothers, in Mukuyu, Magoye ADP). However, there are some beliefs that may affect initiation of breast feeding: *“Most mothers do not want to breastfeed immediately, they believe that the first milk that comes out is dirt and when children drink it, they will get sick”*. (NHC chair, Mtilizi, Nyimba comparison ADP)

Almost all the participants reported that young children are introduced to new foods after six months. The most common food that young children are introduced to is light porridge usually made of maize meal the main staple food in Zambia enriched with powdered groundnuts and/or small dry fish (kapenta). Other foods are introduced gradually and these include eggs and nshima (thick porridge of maize meal) served with soup (gravy) of family relish such as vegetables or animal proteins. Voices of women highlights; *“At six months, a child needs to start eating soft foods such as light porridge ..., when the child is about nine months the food begins getting a little heavier, other ingredients, mixed with groundnuts and other nutritious foods are given so that the child grows until when he starts eating regular adult foods”* (FGD with Women, Magoye ADP).

Common Childhood Illnesses and their Causes

Common childhood illnesses in the four ADPs include malaria, diarrhea, vomiting and pneumonia, all of which are preventable with current available evidence-based interventions. Other diseases experienced in the ADPs are presented in (Box1). Bilharzia was mainly reported in Luampa ADP, while malnutrition was commonly reported in Luampa and Choongo; constipation, eye diseases, tonsils were more reported in Magoye and colds were common in Choongo and fever in Nyimba. Polio was only reported in Choongo ADP and was attributed to children not being fully immunized. Information from IDIs with health staff and WVZ staff collaborated with the illnesses reported by women and mothers who participated in FGDs as one village headman and WVZ staff state respectively; *“The three common diseases that affect children in our villages are malaria, pneumonia and diarrhea”* (IDI, Village Headman, Luampa ADP) and *“The common illness affecting children is malaria due to non-utilization of mosquito nets by mothers”*(IDI, WVZ staff, Choongo ADP)

Box 1: Reported Common Childhood Illnesses in ADPs

Reported in all ADPs	Reported in selected ADPs
<ul style="list-style-type: none"> • Malaria • Diarrhea • Pneumonia • Vomiting • Coughing 	<ul style="list-style-type: none"> • Bilharzia • Constipation • Eye diseases • Malnutrition • Colds • Fever

The most common causes of childhood illnesses were attributed to poor personal and environmental hygiene as well as poor care for; and/or neglect of children by mothers / caretakers. Some specific causes reported include, exposing children to the cold, letting children drink dirty water and leaving young children with other (older) children and breast feeding without washing the breast. The following statements across all ADPs summarize the causes of childhood illnesses: *“...Usually, children get sick in our community due to carelessness of mothers, who do not observe good hygiene practices ... they keep children dirty and that leads to diseases such as diarrhea...”* (FGD, Pregnant Woman/Mother, Magoye ADP)

.....“...diarrhea usually affects our children because we parents sometimes, breastfeed babies without washing our hands after using a latrine...”(FGD, Pregnant Woman/Mother, Magoye ADP)... “...carelessness of mothers, some do not wash their hands after using the toilet...” (IDI, Village Headman, Choongo, ADP).

“Children get sick because we do not have clean drinking water, we share our water with pigs and goats because we draw from unprotected wells...” (FGD, Men/Fathers, Luampa)

Pneumonia was generally reported to be caused by exposure of children to the cold especially by not dressing young children warmly as these voices indicate: *“...the other disease that is common here is pneumonia and is caused by exposing children to the cold”*, (FGD with mothers at Kaleya HC) and *“When children accompany their mothers to the water streams they get bilharzias and it is deadly if not treated”* (FGD, men/fathers, Magoye ADP). Lack of food for children and poor feeding practices were also reported as causes of common childhood illnesses as emphasized by WVZ staff

:
 “Malnutrition is caused by having many children than one can care for, women here do not use birth control methods ... (IDI, WVZ Staff, Luampa ADP).

Further, some cultural / traditional beliefs were also reported to contribute to childhood illnesses. For example, diarrhea was also attributed to feeding practices that violates some cultural norms as the statement below states; “...getting pregnant while a woman is still breastfeeding, will make the nursing child get weak and become sick because of sucking the milk of the unborn child (FGD, Pregnant women/mothers from Mukuyu, Magoye ADP). In addition, eating of certain foods were also cited as one of the causes of some diseases as voices from Nyimba ADPs explains; “... a pregnant woman should not eat eggs, if she does, she will deliver a baby without hair” (FGD, Pregnant Mother/ Women, Magoye ADP)

Treatment of Common Childhood Illnesses

Various HF and community-based services offered to children were reported (Box 2). The most common HF based child health services included prevention of disease mainly through immunizations against childhood diseases, routine deworming, monitoring of child growth by assessing anthropometric measurements, vitamin A supplementation, general management of diseases (i.e., supply of drugs, administering of injections and observations of very sick children) and treatment of diarrhea by Oral rehydration salts/solution (ORS).

Apart from clinical management and immunizations of children, social support was reported as a common child health service. This was in the form of mothers sharing information about child nutrition and care, encouraging each other to take certain decisions such as when and where to seek care for their young children. In addition, mothers provided each other material and/or financial support such as lending each other transport money especially when a child gets sick during the night and the family cannot afford.

Box 2: Child Health Services Provided at Health Facility and Community Levels

HF level services

Assessment of child temperature
 Assessment of child weight
 Child immunizations
 Management of diseases, pneumonia, diarrhea, malaria
 Prescriptions and supply of medicines (Anti-biotics (Amoxyl, zinc tablets, coartem, ORS, drip of water)
 Bed rest for observations
 Referrals to hospitals “If the disease is too serious, they refer to the hospital” FGD with the women/mothers in Kaleya, Magoye ADP

Community level services

Home based management of diseases (i.e. use of ORS)
 Use of preventive services (i.e. use of ITHs to prevent malaria)
 Self-medication with various remedies
 Use of traditional and spiritual interventions
 Chlorination of water “but some community members refuse to use chlorine due to its smell” Nurse from Nyimba ADP.

The services received at HF were generally described positively especially in terms of interactions with health staff

as the following statements point to; “...If a child is sick of diarrhea and vomiting, immediately you reach here (HC), the nurse would give him ORS and measure temperature and weight ... if the child is too weak due to dehydration, they would put him on drip of water...” (FGD, Pregnant Women/Mother, Magoye ADP) and “if the child’s temperature is too high he would be put on bed rest for observation and they would prescribe and give medicines” and “If the disease is too serious they refer to the hospital” (FGD, Fathers/Men, Magoye ADP).

Overall, FGD and IDIs participants reported that in their communities they seek child care from conventional health providers such as nurses, midwives and clinical officers. Others are SMAGs and CHWs. Use of traditional and spiritual or religious providers were also reported as the quote below illustrates; “When children are sick, we take them to the clinic and we see the clinical officer who usually gives treatment. Use of traditional healers to attend to children’s diseases is reducing ...but there are some people who still believe in traditional herbs and take their children for prayers” (FGD, Pregnant Women/Mothers, Kaleya HF, Magoye ADP).

Quality of Care

Quality of care was assessed along three indicators patient-provider interaction, availability of resources and infrastructure. In general patient-provider interactions was reported to be good and although drugs were not always in stock, at the time of the study, they were reported to be available as the following voices of women observed: “... at the moment, medicines are available at the HC, when we take children at HF, they receive all the medicines prescribed for their illness”. (FGD with Pregnant Mothers/women, Kaleya Magoye ADP) and we also have a good number of nurses and a clinical officer here and most of the time, the treatment children receive is good”. (FGD with Pregnant Mothers/women, Kaleya Magoye ADP).

Against these positive attributes, gaps in the quality of care were reported in all ADPs. Availability of drugs was reported to be interment in all ADPS “...Sometimes there is a shortage of drugs ... children are always given panadol (paracetamol) for all diseases ...and they do not get better, the diseases re-occur”. (FGD with Pregnant Mothers/women, Kaleya Magoye ADP). Long waiting time for children to be attended to is a major problem for caretakers as the following statement illustrates, “You have to wait for some time for the nurse to attend to the child especially if you come when the clinic is closed, you have to go to the nurse’s home and call her and she may take time”. (FGD, Men/Father, Luampa ADP).

Discrimination of patients by staff was another challenge. Priority was reported to be given to those known by staff as voiced by women from Kaleya ADP, “...some staff only react or treat patients quickly if they know them, if you are not known, you have to wait”, (FGD with Mothers at Kaleya, Intervention ADP). Inadequate infrastructure for child care was also noted, specifically, lack of dedicated wards for children in some HCs resulted in mixing children and adult patients with potential to transmit infections, “...there is no children’s ward here and usually when a child is admitted, they share the same ward with adults”... young children tend

to get other diseases". (FGD with Pregnant Mothers/women, Kaleya Magoye ADP) and some gaps were observed in the community education process, women reported that there was no system to give and / or receive feedback on messages communicated by various providers. This statement affirms the concern; *"The NHC members come to teach us they do not care whether we have understood or not they just teach, teach, teach and then go back"* (Women/mothers _FGD, Nyimba comparison ADP).

Advice and sources of health information on child care

Several sources of advice and health information for child care were reported. The major source reported is SMAGS (World Vision people) in intervention ADPs and NHCs in comparison ADPs. Other sources of information were Traditional Birth Attendant (TBAs) Water sanitation and hygiene (WASH), Village headmen, and HF staff. The quotes below highlights women's voices on sources of information: *"The SMAGs are the biggest influence in terms of encouraging women to go to the clinic, they teach the women when to go for antenatal care and how to look out for the danger signs. (FGD, Fathers/Men, Munjile Magoye ADP) and "NHCs has a role of sensitizing the community in terms of health issues and importance of going to the clinic for treatment. This includes encouraging community members to set up pit latrines in their homes, have rubbish pits and keep their surroundings clean"* (NHC Chair Magoye ADP).

TBAs, though not expected to deliver, they are still active as we learnt from men in Choongo ADP. *"We have Traditional Birth Attendants (TBAs) who were trained and they are able to advise on whether the pregnancy complication is an ordinary one or probably signaling readiness to deliver"*. (FGD, Father/Man, Choongo ADP).

Health messages communicated to the community are making positive impacts, they are reported to promote positive community and individual behaviors as these voices reveal; *"... Because of NHCs' work, people in the villages observe cleanliness and they make sure that they go to the clinic each time they are not well"* (IDI, NHC Chair, Magoye ADP) and *"...We are seeing the husbands who never used to escort their wives to the clinic ... now doing so because they are seeing the need and we are seeing the mothers going to the HF for antenatal. There are early bookings and I can assure you it is really happening"* (IDI, WVI Worker, Magoye ADP)

Barriers to Care for Children under Five Years

Several barriers which affect access to child care in both the intervention and comparison ADPs were reported (Box3). Long distances to health facilities compounded by lack of public transport in the study sites was cited as major constraint affecting accessibility to child care.

" we travel 12km to 20km to reach the health facility" (FGDs, Pregnant women, Chipembe, Nyimba, Comparison ADP).

Further, although there was high consensus among participants that child care is free. Indirect costs related to transport to HFs, especially referral hospitals and food for admitted children and their caretakers were prohibitive. In addition, high costs related to buying high nutritious foods commended by SMAGS /CHWs or nurses limit access to child care as some men who participated in the study reveals;

"...Care for the under 5 may be free but there are a lot of costs attached to a sick child, when a child is admitted or referred to Luampa hospital, you have to spend on transport to go to the hospital and on food ...and the child may need a special diet especially for those suffering from malnutrition you need to buy good and nutritious foods such as fruits, meat, eggs and many more ..." (FGDs with CHWs at Mbanyutu) and *"... for children with diarrhoea, they will tell you to go and mix sugar and salt to make ORS, where will a poor person find money to buy these things,* (FGD, Men/Fathers, Luampa ADP)

Cultural beliefs can facilitate and/ or limit care seeking. Generally, participants both women and men reported that HF is their first choice of child care. However, some knowledge gaps about child care and nutrition exist in the study ADPs. For example, knowledge about insecticide treated mosquito nets (ITNs) is low, in general participants were reporting use of mosquito nets for prevention of malaria but very few reported use of ITNs. Inadequate knowledge about causes of malnutrition and belief in witchcraft were also reported to delay child health care. Some of the negative beliefs include: *"Parents delay taking their children sick with malaria especially those with convulsions and fit to clinics, they think that they have been bewitched, and eventually in the process children die"* (FGD with Pregnant women/mothers in Nyimba comparison ADP) ... *"Getting pregnant while still breastfeeding, will make the nursing child get weak and become sick because of sucking the milk of the unborn child"* (FGD with Pregnant women/mothers from Mukuyu, Magoye, Intervention ADP).

Decision making about the health of the child and/or when and where to seek care for a sick child involves many people. Although, the father usually makes such decisions other extended family members, parents, mother in-laws, aunts, grandmothers, friends, neighbors and/or even the community members and or SMAGS and NHC members are also involved. Consultations and expectations among and from so many people (stakeholders) can lead to delay in seeking care for a sick child: *"...even neighbors do decide when they see that the child is sick ... in most cases it is the father and he is the one who controls the family budget"* (FGD with Pregnant women/mothers, Kaleya, Intervention ADP).

The SMAGS were also reported to participate in decisions about care seeking for sick children. They encourage parents to seek care from HFs and in cases where parents do not accept their advice, they involve the headmen to intervene as these statements indicate: *"... SMAGS also make decisions about child care... though in some families it is difficult especially, where the husband and wife do not agree, for example in a case where a wife decides to go to the clinic and the husband opts for the traditional healer, this is common when a child is having convulsions, because the community believes that convulsions are usually as a result of witchcraft. In such a situation, arguments arise over where and when to seek care for sick children"*. (FGD, CHW_Magoye_ADP).

Lack of transport and resources were also reported to limit early decision making about seeking care for sick children as the following statement highlights;

“... If the clinic is very far and you have no transport and money for food in case the child is going to be admitted, it will be hard or you cannot make a decision to take a child to the clinic” (FGD with women/mothers at Kaleya, Magoye, Intervention ADP).

Other factors that delay decisions for child care include, lack of support for single mothers and married women when their spouses are away from home. Women’s financial and material dependency on their spouses / partners also makes it difficult to make decisions with financial implications. Beer drinking among women was also reported to contribute to child neglect.

Box 3: Common Barriers to Care for Under Five Children across ADPs

<p>Accessibility</p> <ul style="list-style-type: none"> • Long Distances to HFs • Lack of public Transport • Long Waiting time • Shortage of health workers • Services not offered during weekends • Under five services not offered daily • HFs not open 24 hours (closed at night) <p>Cost of Child Health Care</p> <ul style="list-style-type: none"> • Cost of food for admitted children and their caretakers • Cost of nutritious foods recommended for children • Cost of transport to HCs or referral hospitals 	<p>Socio-cultural</p> <ul style="list-style-type: none"> • Cultural beliefs • Inadequate knowledge about child care and nutrition • Use of herbal medicines / healing materials <p>Decision Makers in Seeking Care</p> <ul style="list-style-type: none"> • Dependency on husband / partner to make financial decisions • Extended family influence (in-laws and aunts) • Inadequate knowledge, lack of experience among young mothers • Lack of social support i.e., women staying alone • Beer drinking
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3.3 Community Engagement

Description of interventions implemented in the ADPs

This study focused on three core interventions, NHCs, ttc and CVA which were being implemented by WVZ in collaboration with the Zambian government. Figure 1 shows that one of the interventions, NHCs was implemented in all the four study ADPs, Luampa in Western province, Magoye and Choongo in Sothern province and Nyimba in Eastern province. On the other hand, ttc and CVA were implemented only in the two intervention ADPs, Luampa and Magoye, therefore, the other two ADPs, Choongo and Nyimba only implemented NHCs and served as comparison ADPs.

In the Comparison ADPs, Choongo and Nyimba, NHCs /SMAGs were working under the MoH national program while in the intervention ADPs, the NHCs and SMAGs were trained and supervised by WVZ. World Vision Zambia empowers these groups with identified knowledge and skills. Women in the study ADPs were also aware that some NHCs and SMAGs were trained while others were not, the statement below underscores this observation.

In our village SMAGs have not been trained yet... and we have not heard about the ttc program” (Women FGD from Keembe village in Choongo Comparison ADP)

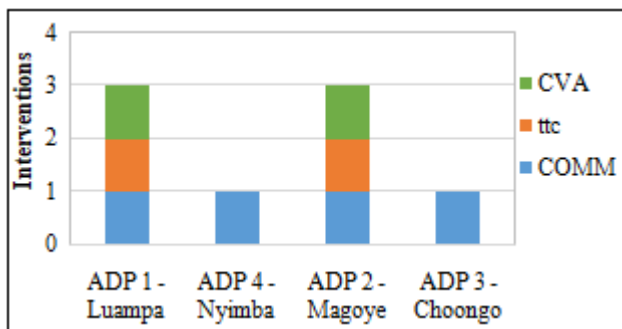


Figure 1: Components of CIP being implemented by WVZ

Neighborhood Health Committee (NHC)

Functions / Roles of NHCs

The results show that NHCs mainly facilitate establishment of health systems, coordination of health-related meetings and activities in the community such as the behavior change communication (BCC) activities by various volunteers; SMAGs and lay counselors. They develop action plans in collaboration with HCs and community in response to identified health issues and hold quarterly progress review and planning meetings, monitor and report on all health community activities.

Neighbourhood health committees play a key role of identifying pregnant women in the community and provide counseling on healthy lifestyles, birth planning, pregnancy complications readiness, and the need for ANC and skilled care at birth. One headman stated that: *“NHCs educate the community about environmental health issues, teach women about health and nutrition during pregnancy and encourage men to escort their partners to clinics and partners to go for HIV testing”* (Village Headman_IDI_Magoye ADP).

Neighbourhood health committees are mainly involved in community education focusing on prevention messages. They are trained to identify health and related problems in their communities such as cholera, diarrhea, maternal and child health. After identification, they give feedback to the District Medical Offices (DMOs) that later send a team to offer technical support.

“As a Neighbourhood health committees chairperson, I ensure that I coordinate all health-related health groups such as the TBAs, BCC, SMAGS Care givers and lay counselors in my catchment area we make quarterly action plans and review the progress being made. I sometimes request the office of the DMO provide us some trainings when need arises especially in cases of disease outbreaks” (NHC Chair Choongo ADP).

Selected Findings NHCs

- NHC are the main source of information, they educate women on various topics:
 - Exclusive breastfeeding
 - Eating a balanced diet during pregnancy
 - Importance of rest during pregnancy
- The NHCs have contributed positively to the communities as there is an improvement in sanitation and use pit latrines (toilets) as reported by the community members
- There is male involvement in ANC services and child care men mobilize resources for transport and escort their wives to the clinics
- The NHCs offers referrals, basic under-five services and first aid to mothers in the communities
- NHCs offers malaria prevention and treatment services and education about danger signs in pregnancy in comparison ADPs.

Contributions of NHCs

Overall, NHCs' activities contributed positively to at least three distinct but related public health areas, mainly facilitated the development of health systems, building of local partnerships, and promotion of community and individual health behavior. Specifically, NHCs, facilitated building of environmental health systems aimed at preventing diseases such diarrhea and malaria. For example, most households reported to have constructed dish racks for keeping their kitchen utensils clean and safe, dug rubbish pits for safer disposal of household waste and build pit latrines (toilets) to effectively dispose human waste; all with the effect of keeping the environment clean, safe and prevent diseases which often affect pregnant women and children. This quote stresses the point; "...NHCs ensure that women follow what they are taught at the clinic ... because of the knowledge NHCs are imparting in the community, there are some improvements in terms of good sanitation in the villages" (Village Headman, Choongo, Comparison ADP).

Further, NHCs were reported to have facilitated the establishment of local partnerships aimed at enhancing the delivery of maternal and child health care. Some of the partnerships reported include NHC partnerships with WVZ, Child Fund and the local clubs in the villages to promote hygiene in their communities as this statement notes. "...the NHC is in partnership with Child Fund and local clubs to teach the community about sanitation that they should have dish racks, rubbish pits and toilets in every family. World Vision also works with NHCs, they supplied pit latrine lids for all families who dug a pit for construction a pit latrine..." (Men_FGD_Choongo ADP).

Neighbourhood health committees were also reported to contribute to the improvements in the infrastructure especially building of mothers' shelters where pregnant women living far from HCs could come and wait for their time to deliver. This is in order to avoid home deliveries and facilitate early response to maternal complications. In Luampa, an intervention ADP, women had this to say proudly; "the mothers' shelter that you see here, we the community has contributed to its construction by helping out with providing sand, making blocks and cooking food for the builders." (FGD, Grandmothers, Luampa) and "...Neighbourhood health committees works in collaboration with the clinic, village headmen and even the chiefs around

the clinic, they hold meetings to encourage all pregnant women to deliver at clinics not at home..."(FGD_Magoye ADP).

Factors Influencing Implementation of NHCs

Many factors influence the implementation of NHCs activities. In a positive way is the "trust" of NHCs by the community. The NHCs are trusted and respected as local health workers in their communities because they are recognized by the headmen and the chiefs. Therefore, the community can listen to the NHCs and support their activities.

However, there are some challenges, NHCs reported that they have no funding for their planned activities and that they also lack transport to cover their large catchment areas. Lack of motivation is also another challenge that affect the work of NHCs. Since they are volunteers, they are not paid for their work or compensated for their time. This is a concern because the NHCs have got families to feed and also do work in their fields. One NHC member expressed frustration in the following statement; "...as a CHW, I am not at the same level as the health staff in terms of responsibilities at the clinic, but the NHCs do the work for nurses, they are the ones who prescribe and give medicines while the nurses are the ones who get paid, ..., I think this contributes to children's death, because NHCs who do not have much knowledge are the ones doing the work" (NHC_FGD_Choongo ADP).

Timed and Targeted Counseling

Timed and targeted counseling(ttc) is only implemented in intervention ADPs (Figure 1). As the name of the intervention divulges, ttc targets pregnant women and reaches them at specific times when they are expected to engage in defined key behaviors such as seeking ANC, going to deliver going for follow-up visits at HCs and seeking postnatal care. The major providers of ttc are SMAGs, they empower women with knowledge about pregnancy, nutrition and postnatal care and they also counsel and advise women to make appropriate decisions and engage in positive health care seeking behaviors.

Safe Motherhood Action Groups have a set of information they deliver to women in their communities following a laid down approach and they were reported to conduct their educational campaigns from women's homes. The following statement summarizes the approach as generally perceived by the community; "...SMAGs employ a lot of diplomacy to ensure that the pregnant woman opens up to the discussions, it is at this time they start advocating for utilization of antenatal services at the clinic and they do monitor to ensure that pregnant women comply with SMAGs' advice. SMAGs also ensures that mothers do not just go to the clinic for antenatal services but also postnatal services". (FGD with Men/Fathers, Munenga Magoye ADP).

The SMAGs education campaign was also reported to be enhanced by use of the mobile phone technology. As women voiced out in this statement.

"... SMAGs also move with books and a phone which showcase various complications, danger signs which women who do not go to the clinic experience ... Other books show the advantage of utilizing both antenatal and postnatal

services which are offered at the clinic... This acts as a motivation to follow their education” (Woman_ from Luampa ADP).

Figure 2 summarizes these key messages related to pre-pregnancy, pregnancy, delivery and postnatal period. Figure 2 also shows the circle of communication highlighting the key messages, target audiences, possible services to be utilized and expected outcomes. The target audience also includes spouse and extended family members. This is because in the study communities, a pregnant woman is part of the community and her decisions are influenced by significant others such as spouse, aunts and grandparents.

Some of the topics covered by SMAGs include; ANC, under 5 five, early care seeking behavior, nutrition for mothers and their children and exclusive breastfeeding. As highlighted in this quote; “SMAGs education campaign messages have also contributed to reduced infant mortality and maternal deaths. SMAGS counter various negative traditional beliefs and myths which were responsible for so many deaths before they came. As a result, so many mothers now prefer going to the clinic.” (Woman_FGD_ from Luampa ADP). The voice of the NHC chair from Luampa (Intervention ADP) also underscores the impact of NHCs: “Nowadays we do not have maternal deaths as a lot of women deliver from the clinic

and husbands accompany their wives for their early ANC bookings” (NHC Chair_IDI_Luampa ADP).

In addition to counseling, SMAGs also offer first aid care and refer cases with maternal and newborn complications for management at health facilities. They also facilitate access to maternal health services, including HIV/STI/TB screening; ANC; Postnatal Care (PNC); skilled birth attendance; and PMTCT by communicating a woman’s condition via phone to the health facility. As a result, when she arrives at the health facility, she is given priority and by escorting pregnant women in labor to the health facility so that they can be attended to timely.

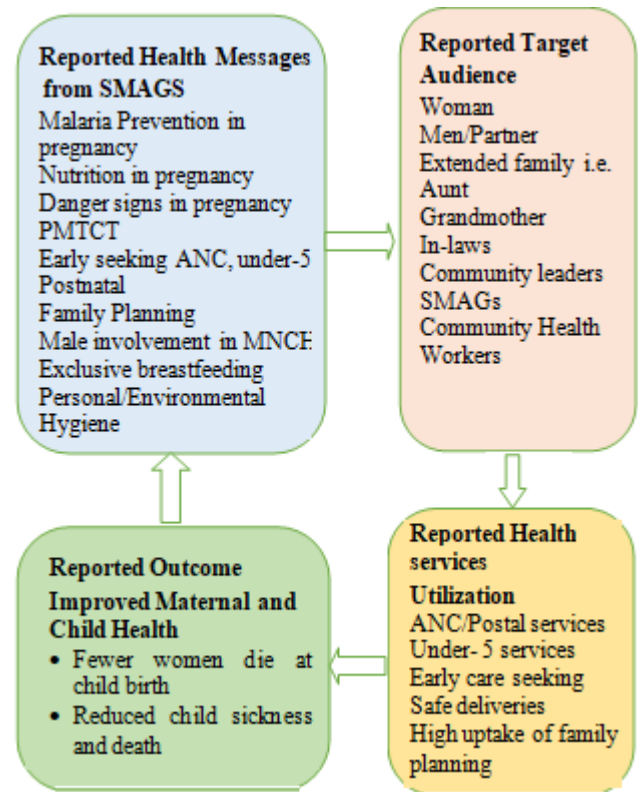


Figure 2: Outcomes of Communication between SMAGS and the Communities

Contribution of SMAGs

The results show that SMAGs program activities has increased access to ANC services, utilization of maternal and child health services and delivery at HF's deliveries. Most women in the intervention ADPs reported to have been accessing ANC services and delivered at a health facility as a result of the knowledge and encouragement from SMAGs. The women also reported that the help they received from the SMAGs during their pregnancies and labor. The women expressed to be freer to talk to the SMAGs than the nurses: “people have stopped seeking help from traditional healers because, they now know the importance of coming to the hospital... the SMAGs trained by world vision are helping, pregnant women are coming for ANC, and they are coming from as far as Mulwa which is almost 55KM but are coming for ANC” (Woman_FGD_ Luampa ADP).

And also, a woman from Magoye ADP, echoed the observation made from Luampa ADP: “SMAGS are renowned for their health education messages. They are very helpful, they simplify some of the topics we feel shy or uncomfortable to ask the nurses about, and they ensure that they keep track of us, and come to our aid whenever their services are required. They continue aiding when a baby is born up to when he or she is five years. The SMAGS offer lessons which contribute to lifestyle change and development” (...A woman from Magoye ADP)

Voices of women from Luampa and Magoye both intervention ADPs emphasized the importance of early seeking care behavior when a pregnant woman observes any danger signs during pregnancy and also male involvement in ANC services. *“Because now we deliver at the clinic, unlike before we were delivering from home things are good now a woman has to be with a partner when registering for pregnancy, so that the partner hears too, cares and prepares for both the baby and his partner”* (A Woman from Luampa ADP).

Selected Findings, SMAGs

- The SMAGs are having a positive impact in the communities because the community members reported an improvement in the maternal and child health.
- There is lack of motivation to these volunteers such as (SMAGs) in terms of monetary gains and this may affect the sustainability of the ttc program

Barriers to Implementation of ttc

The SMAGs are generally accepted by the communities but they face some challenges in the implementation of ttc due lack of transport to cover vast areas, SMAGs also lack incentives to compensate for the time they spend during their visitations and assisting the health workers at the health facility. Lack of labor wards in most RHC was another reported challenge; *“...the challenge is that SMAGs come from distant places but despite that they make every effort to see to it that pregnant women are attended to and given all necessary materials like mosquito nets at the clinic. I appeal to government to consider providing them with any possible means of transport”* (CHW from Munenga_FGD_Magoye ADP).

Citizen Voice in Action (CVA)

Roles and Responsibilities of CVAs

Citizen Voice and Action educates citizens about their rights and equips them with a structured set of tools designed to empower them to protect and enforce those rights. First, communities learn about basic human rights, and how these rights are articulated under local laws. For example, the right to health in a particular community, under local law might include the right to have vaccines available at a local clinic or the right for women to be attended to by skilled health personnel during delivery. Further, communities work collaboratively with government and service providers to compare the reality against government's own commitments these laws.

The results of the study show that the community understands the roles of CVAs as expressed by this village headman; *“According to what I know, the CVA are the ones who stand in between the clinic and the community in addressing concerns from both the community and the clinic. For example, if the community has a complaint concerning a particular nurse, they would take that complaint to the CVAs who would approach the nurse over the complaint and would channel the feedback to the community”* (Village Headman_IDI_Magoye ADP). And the NHC chair from Magoye ADP had this to say: *“CVA empowers community members through training to monitor the quality of health services found in their villages and communities”* (NHC Chair Magoye ADP).

Contribution of CVAs

Communities work with other stakeholders to influence decision makers to improve services. In Magoye, it was reported that the CVAs play an important role in improving the infrastructure of the health centers and the welfare of the health staff. CVAs provides an opportunity for community members to contribute and to ensure that government services are responsive to all. Results of the study show that CVA in the intervention ADPs successfully advocated for some of the issues that affected the community. In Luampa ADP it was reported that the CVAs advocated and managed to connect power at Nkenga RHC and the entire community is now benefitting. Such examples include, CVA advocacy work for restocking of drugs at HCs and connection of power to a HC in Luampa ADP as the following voices of community highlights:

“...some HCs rarely receive vaccines ... therefore, CVAs now speak for the community even on behalf of the HC staffs so that HCs receive vaccines to enable the children in their communities get vaccinated...” (IDI_Luampa ADP).

“... at Nkenga HC for example, there was no power but the CVA group after being trained they managed to lobby government through the district hospital...and advocated for the community to have power connected to their HC ...and in collaboration with their councillor, they succeeded in having power connected to Nkenga HC and their fridge is now working and it is because of the CVA action group ...” (NHC_IDI_Luampa ADP)... *“The CVAs lobbied for more staff to be brought here at Nkenga, so that manpower can be enough to provide adequate services to the pregnant women.”* (FGD, Grandmothers, Luampa ADP).

In addition, the community is empowered to lobby for solutions to the challenges HFs are facing such as low staffing levels, lack of accommodation for health workers, shortages of essential drugs and lack of mother's shelters. *“the community is now able to speak on behalf of the HC staff and it is effective when problems are taken to the district health office by the community... so CVAs are helping HC staffs and community... the relationship is good”* (IDI with CHW, at Magoye ADP).

Challenges Faced by CVAs

The CVAs are trusted and recognized people chosen to represent the entire community. They, however, lack funds to support their planned activities often times they just lobby for help from the government. The issue of shortage of drugs was reported frequently, more so in the comparison ADPs as this CHW narrates; *“Currently there are some essential drugs which are in short supply at the clinic. Lack of drugs puts us in an awkward position because we are compelled to refer even manageable cases to the hospital”* (CHW from Choongo ADP).

4. Key Findings and Discussion

Maternal Health, Care and Nutrition

This study has shown that the major provider of ANC services in all the four ADPs are SMAGS and TBAs. Other providers included: qualified medical practitioners such as Nurses, midwives and clinical officers. Most women expressed

satisfaction with the services received from providers. However, they expressed concern on the low staffing levels at health facilities. This is consistent with the findings of results of studies conducted in the country (Macwan'gi M. et.al, 2012).

The study also observed that most women attended ANC from government health facilities. The most common facility being rural health centers (clinics) and a small fraction from government hospitals and health posts. The type of ANC services provided included access to formal care, HIV/STI testing, PMTCT, Folic acid supplementation, De-worming, Vaccination, and Nutrition counseling. This is consistent with the government policy on the guidelines of accessing ANC (ZDHS report, 2014). The study on the other hand observed some gaps pertaining to timing of first ANC, some women attended their first ANC later than three months. It may be noted that for some women, late first ANC attendance was due to some negative cultural beliefs.

Further, the study observed that most women reported having delivered from the health facilities and few reported having delivered from home. This is, consistent with what was observed in the quantitative component of this study which reported that facility-based births increased to 83.4% from 24.7 in the intervention sites and increased from 21.4% to 65.3% in the comparison site. The change between baseline and evaluation was significantly greater in the intervention than comparison site. For all the sites during evaluation 75.1% had a facility based delivery.

The study observed that most women were helped to deliver by a nurse and some reported being assisted by the midwife. Postnatal care was reported to be carried out by nurses and Midwives and it was conducted at Health centers and health posts. The type of postnatal care reported included, immunization, anthropometric measurements as well as Child care information. This is also consistent with national guidelines on postnatal care (ZDHS Report, 2014).

The study also observed that most women were educated on the importance of eating nutritious balanced diets by SMAGs and health workers during pregnancy and after giving birth. The study further observed that some challenges for women to access recommended nutritious foods as households were food insecure due high cost of food and poor agricultural outputs. For example, in Luampa, malnutrition was mostly reported.

The study observed that most women got advice on pregnancy from SMAGs, husbands, mothers in-law, friends and family members. However, the reported preferred source of information were the SMAGs and health workers. This shows the indispensable nature for the community engagement that has been established through SMAGs to supplement low staffing levels at health facilities.

The observed barriers to maternal care were proximity to health facility, most women reported that the health facilities were located far from their villages. Other barriers reported included cost of transport, waiting time at health facilities due to low levels of staffing at health facilities and accessing referrals, lack of mother's shelters, cost of consumables such

as drugs, gloves and detergents. Mother's shelters have been seen as a proven workable intervention to reduce barriers related to traveling long distances to deliver. These observations are consistent with the study findings conducted in Malawi (Kambala et.al. 2011). Religion and spirituality were also reported to be barriers to maternal care. Some religious beliefs have been known to discourage blood transfusion and other health seeking behaviors related to maternal and child health. Blood transfusion could be important in women who could be anemic during pregnancy. This calls for appropriate packaging of health messages that community groups may deliver to counter such negative beliefs.

Child Health, Care and Nutrition

The study observed that exclusive breast feeding for the first 6 months is a widely accepted practice in both the intervention and comparison ADPs. This is consistent with national guidelines (National Breast-Feeding Policy, 1997) which promotes exclusive breast feeding of newborns up to six months and fits well into the Zambian culture which values breast feeding as a way of showing love and bonding the child to the mother.

The study also observed that young children are introduced to new foods after six months although they were some ambiguity regarding the exact months, stretching from six to nine months. The most common food that young children are introduced to is light porridge usually made of maize meal which is the main staple food in Zambia, enriched with powdered groundnuts and/or small dry fish (kapenta) for purposes of making it more nutritious.

Major causes of childhood disease are malaria, diarrhea and pneumonia, all of which are preventable by available evidence-based interventions. For instance, malaria could be prevented by using ITNs, but the study observed that there is low utilization of ITNs for under 5 at household level, whereas diarrhea can be prevented by observing proper hygiene and pneumonia can be prevented by keeping young children warm. But the study observed that common causes of childhood illnesses were poor hygiene and poor child care by mothers. In most cases children were exposed to cold and dirty water. Some mothers were also observed to breast feed their children without washing the breasts and /or washing hands after using a toilet.

The study observed that barriers which affect access to care by children under five years in both the intervention and comparison ADPs were accessibility; cost of childcare; socio-cultural; decision makers in care-seeking; influence of community on decision to seek care; and program factors. Under accessibility, long distances and lack of public transport were cited as major constraint to child care. Other barriers were: long waiting time at health facilities and shortage of health workers. However, the study observed that in some parts of the country, mother's shelters at some health facilities contribute to the reduction of some barriers related to long distances and travel (Macwan'gi et, al, 2012).

Community Engagements

World vision community interventions are effective in promoting individual and community desired behaviors to

improve maternal and child health in Zambia. For example, NHCs in intervention ADPs, facilitated building of environmental health systems and partnerships aimed at preventing diseases such as diarrhea and malaria, all with the effect of keeping the environment clean and safe to prevent diseases which often affect pregnant women and children. Most families in the study communities were making dish racks, rubbish pits and toilets as a result of the education messages they received from the SMAGs. The study also observed that SMAGs/NHCs are the main source of information in terms of educating women on various topics such as exclusive breastfeeding, nutrition and diet, and management of pregnancy

Further, CVAs in the intervention ADPs successfully advocated for some of the issues that affected the community like lack of electricity and shortage of drugs to benefit the entire communities. In addition, SMAGs in interventions sites, contributed to more positive behaviors such as attending ANC, HF deliveries, taking children to under 5 services and male involvement in maternal and child health activities compared to comparison sites. In addition, there was more awareness of maternal health and nutrition in the intervention than comparison ADPs. Further, use of traditional healing remedies was reported more in the comparison than intervention ADPs. These results underscore the fact that the world vision CIP is effective in increasing access to maternal and child care services as well as promoting positive health care-seeking behaviours.

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