



**Salvation Army/Zambia (TSA), Salvation Army World Service Organization (SAWSO), and TSA Chikankata Health Services
Chikankata Child Survival Project (CCSP), 2005-2010**



**FINAL
EVALUATION
REPORT**

THE SALVATION ARMY WORLD SERVICE OFFICE

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The Final Evaluation Team consisted of Henry Perry (Team Leader), with the collaboration of the following people:

Anna Summer, MPH, Health Technical Advisor, SAWSO, Alexandria, VA
Claire Boswell, MHS, Headquarters Backstop and Project Technical Advisor, SAWSO,
Alexandria, VA
Phisher Simutwe, Monitoring and Evaluation Coordinator, CCSP
Ellias Hamatanga, Project Manager, CCSP
Mailon Dumbula, Field Supervisor, CSSP
Telford Hangoma, Field Supervisor, CSSP
Rannoh Kalinda, Field Supervisor, CSSP
Billy Mwiinga, Field Supervisor, CSSP

This report was prepared by:

Henry B. Perry, MD, PhD, MPH, Senior Associate
Health Systems Program, Room E8537
Department of International Health
Bloomberg School of Public Health
615 N. Wolfe St.
Baltimore, MD 21205
Tel/Fax: 410-502-5364
E-mail: heperry@jhsph.edu

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Acronyms and Abbreviations

AED	Academy for Educational Development
AIDS	Acquired Immune Deficiency Syndrome
AMSTL	Active Management of the Third Stage of Labor
ANC	Antenatal Care
ART	Anti-Retroviral Therapy
BCG	Bacillus Calmette-Guerin (vaccine)
CH&D	Community Health and Development (of Chikankata Health Services)
CHAZ	Churches Health Association of Zambia
CHS	Chikankata Health Services
CHW	Community Health Worker
CI	Confidence interval
CORE	Child Survival and Collaborations Resources (Group)
CPT	Care and Prevention Team
CSHGP	Child Survival and Health Grants Program
CCSP	Child Survival Project
DHMT	District Health Management Team
DHS	Demographic and Health Survey
DIP	Detailed Implementation Plan
DPT	Diphtheria, Pertussis, and Tetanus (vaccine)
GM/P	Growth Monitoring/Promotion
HIV	Human Immuno-deficiency Virus
IMCI	Integrated Management of Childhood Illness
IPT	Intermittent Preventive Treatment
IR	Intermediate Results
ITN	Insecticide-Treated Net
LQAS	Lot Quality Assurance Sampling
KPC	Knowledge, Practices & Coverage (Survey)
MNH	Maternal and Neonatal Health Project (JHPIEGO)
MOH	Ministry of Health
NGO	Non-Governmental Organization
NHC	Neighborhood Health Committees
NMCP	National Malaria Control Program
OVC	Orphans and Vulnerable Children
PAC	Post-Abortion Care
PD	Positive deviance
PDI	Positive Deviance Inquiry
PLA	Participatory Learning and Action

PMTCT	Prevention of Mother-to-Child Transmission
PVO	Private Voluntary Organization
Rapid CATCH	Core Assessment Tool on Child Health
RHC	Rural Health Center
SAWSO	The Salvation Army World Service Office
SO	Strategic Objective
TSA	The Salvation Army
TTBA	Trained Traditional Birth Attendants
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WRA	White Ribbon Alliance for Safe Motherhood

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Finally, a special word of appreciation is in order for the Salvation Army/Zambia, which has been working in Chikankata for more than six decades to respond to the enormous educational and health needs of the people of the project area.

Executive Summary

Project Description, Goals and Objectives

The Chikankata Child Survival Project (CSSP) is SAWSO's first experience with child survival programming in Zambia, linking community-based programming for child survival with a longstanding operation (since 1946) of the Salvation Army/Zambia (known as TSA, or The Salvation Army) Health Services in Chikankata (hereafter referred to as Chikankata Health Services, or CHS). CHS has been operating on a long-term basis a 200-bed hospital, formal training programs for nurses and laboratory technicians, and community-based programs for maternal and child health and HIV/AIDS. Also located in the same compound are schools for grades 1-12. The project operated in two Ministry of Health districts (Mazabuka and Siavonga) with a combined population of 124,613 people, including 53,521 direct beneficiaries (22,119 under-5 children and 28,474 women 15-49 years of age). Mazabuka and Siavonga Districts are rural areas, characterized by inadequate infrastructure and extreme poverty, with significantly high levels of maternal and child mortality. CCSP collaborates with the Zambian Ministry of Health (MOH) by serving all rural health centers and health posts within the Mazabuka and Siavonga Districts and coordinates its work with the maternal and child health advocates at the national level.

The Care Group methodology uses a paid Facilitator living in the area to teach a group of 10-15 Care Group Volunteers (CGVs) every two weeks a new health message which they then distribute to 10-15 Beneficiary Mothers who are neighbors. The CGVs are selected by communities in such a way that all households in the village with beneficiaries are included in the program. The health education messages focused on malaria, nutrition, maternal and newborn health, and immunizations.

The project had the following overarching goal: to reduce maternal and under-five mortality through innovative community-based behavior change strategies and improved health services. Specific objectives were as follows:

Result 1: Improved malaria prevention and treatment practices (40% of project effort)

Result 2: Increased immunization coverage in children (10% of project effort)

Result 3: Improved nutritional status of children and pregnant women (30% of project effort)

Result 4: Improved maternal and newborn care practices (20% of project effort)

Key Findings/Results

In spite of major challenges in project management (mostly due to turnover of HQ Technical Support Staff and project management staff in Chikankata), the project managed to achieve a strong field presence and achieve notable progress according to the direct observations of those who participated in interviews with the evaluation team – Beneficiary Mothers, CGVs, community leaders, and MOH staff. The field interviews revealed a strong appreciation for the empowering nature of the Care Group approach and an intense enthusiasm for continuing the

community-based activities following the formal termination of USAID funding. The project communities had had previous experience with NGO projects that provided handouts of various types. The focus of this project on education and empowerment of women and communities provided a new experience that created increasing enthusiasm and commitment at the community level – both because community residents began to see the project’s impact (in terms of better nourished children and fewer maternal and child deaths) and because they began to take ownership of the project and its achievements.

The increase in coverage of key child survival indicators was notable. Fifteen of 21 indicators showed improvements of at least 10 percentage points or more, although only seven of 21 end-of-project (EOP) goals were actually achieved. The most notable findings were for two high-impact indicators. There was an increase in the prevalence of exclusive breastfeeding among children 0-5m of age, from 43.8% at baseline to 85.1% at endline, and the usage of insecticide-treated bed nets (ITNs) increased from 21.8% to 56.2%. There was also a notable increase in care seeking from an appropriate source for children 0-23m with a febrile episode, from 22.5% to 45.8%, and in the percentage of mothers who reported taking at least 90 days of iron/folate supplements during their most recent pregnancy, from 24.5% to 57.2%.

Using the current version of the Lives Saved Tool (LiST) calculator (estimating the number of lives saved indirectly based on changes in population coverage of proven child survival interventions), the project saved an estimated 1,097 lives of children less than five years of age at a cost per life saved of \$1,391, a cost per DALY averted of \$46, and an annual cost per beneficiary (women of reproductive age and children) of \$7.92.

Main Conclusions and Recommendations

Given the lack of previous experience of the Chikankata Health Services with child survival programming and the turnover of HQ Technical Backstops and project managers on the ground in Chikankata, the achievement of the field team are quite impressive. A solid foundation has been established to build upon, and communities are now fully engaged in the process. The potential for continuing these community-based activities with a lower degree of paid supervisory support and integrating other community-based interventions in maternal and child health, family planning, HIV/AIDS, and tuberculosis is very strong. Given the growing appreciation for community-based programming for maternal and child health (including family planning) and for the prevention and control of HIV/AIDS, tuberculosis, and malaria, CHS should make a commitment to keep this work going, keep the current field staff from dissipating, seek funds to merge current community-based child survival programming with on-going HIV/AIDS activities in the communities, and seek additional funding for on-going program strengthening, expansion, and initiation of training programs to strengthen community-based programming more broadly in Zambia.

Overview of the Project

Project Goals and Objectives

The project had the following overarching goal: to reduce maternal and under-five mortality through innovative community-based behavior change strategies and improved health services. Specific objectives were as follow:

Result 1: Improved malaria prevention and treatment practices (40% of project effort)

IR 1.1: Increased insecticide-treated net use among pregnant women and children under five

IR 1.2: Increased appropriate care-seeking for danger signs

IR 1.3: Continued high coverage of intermittent preventive treatment in pregnant women

Result 2: Increased immunization coverage in children (10% of project effort))

Result 3: Improved nutritional status of children and pregnant women (30% of project effort)

IR 3.1: Improved child feeding practices

IR 3.2: a) Improved detection of malnutrition b) Improved community treatment of malnutrition

IR 3.3: Increased exclusive breastfeeding up to six months of age

IR 3.4: Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid)

Result 4: Improved maternal and newborn care practices (20% of project effort)

IR 4.1: Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth

IR 4.2: Improved quality of maternal and newborn care in health facilities

IR 4.3: Increased coverage of postpartum care

Project Location

The project is located in the country of Zambia, which is one of the least developed countries in the world, ranking 164th out of 177 countries on the Human Development Index.¹ Of the country's 12.3 million inhabitants, 64% live in less than \$1.25 per day.² The national level of education is quite low. According to the 2007 Demographic and Health Survey (DHS), only 12% of females age 6 and older had completed primary school and only 3% had completed secondary school.³ Traditional beliefs, especially those related to witchcraft and illness, are still common and quite strong. Traditional healers are abundant.

¹ United Nations Development Programme. Human Development Report 2009. Overcoming Barriers: Human Mobility and Development. New York: Palgrave Macmillan; 2009. Available from: http://hdr.undp.org/en/media/HDR_2009_EN_Complete.pdf.

² Ibid.

³ Central Statistical Office (CSO) MoHM, Tropical Diseases Research Centre (TDRC), University of Zambia, and Macro International Inc. Zambia Demographic and Health Survey 2007. Calverton, Maryland, USA: CSO and Macro International Inc.; 2009. Available from: <http://www.measuredhs.com/pubs/pdf/FR211/FR211%5BRevised-05-12-2009%5D.pdf>.

The project area includes two districts in Zambia's Southern Province, about 130 miles southwest of Lusaka. The area is rural with few roads, limited transportation, and almost no infrastructure. The CCSP area includes all of Siavonga District and the part of Mazabuka District that falls within Chikankata Health Services catchment area. Figures 1 and 2 provide a detailed map of the project area.



Figure 1. Map of Zambia and the Southern Province, Where the Project Is Located

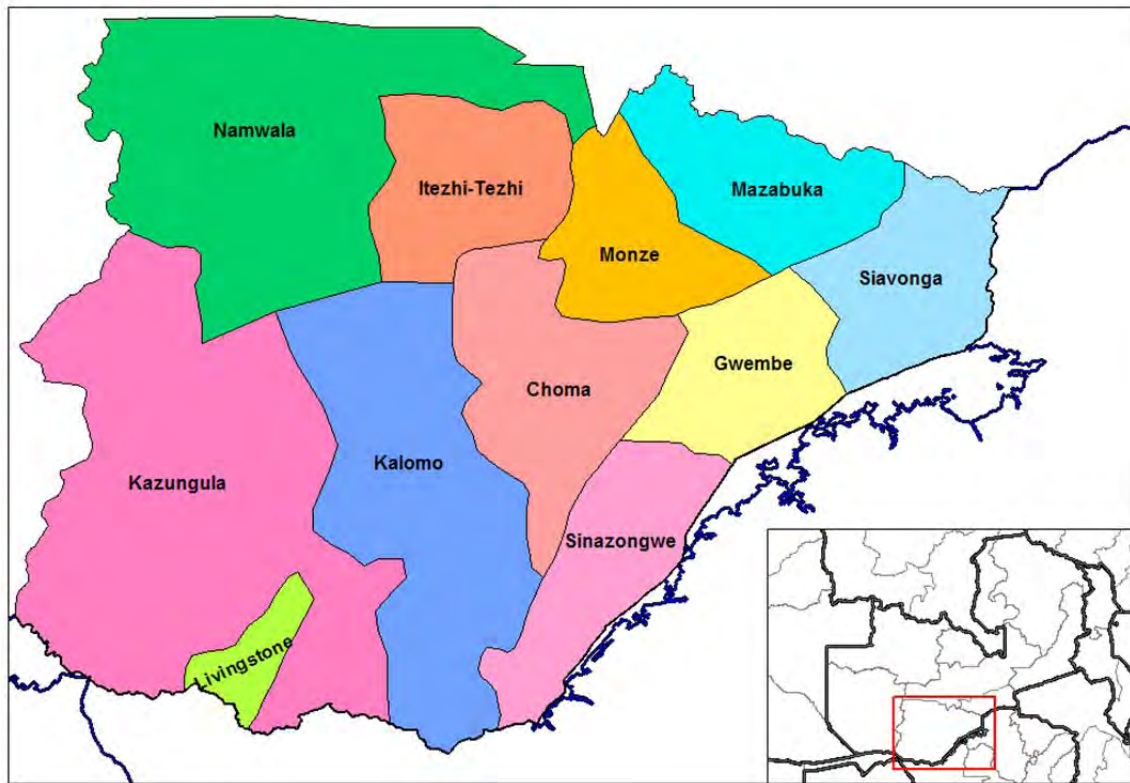


Figure 2. Map of the Southern Province of Zambia Showing the Project Area in the Mazabuka and Siavonga Districts (in the Upper Right)

According to official Ministry of Health data (from 2000) and the Chikankata Health Management Information System, the total population of the project area was estimated in 2005 to be 124,613. There are 298 villages in the project area, and these are organized into 57 communities with each under the traditional leadership of a senior headman.

Most households in the CCSP area survive on subsistence farming (maize, millet, groundnuts). A few have cash crops, such as maize, cotton, and sunflowers or work on commercial farms. The baseline Knowledge, Practices, and Coverage (KPC) survey found that only about 20% of mothers work outside the home earning money. Those mothers that do work outside of the home primarily work in agriculture or as shopkeepers/vendors. The 2001-2002 droughts and an outbreak of hoof and mouth disease among the cattle have made the economic situation critical for many people. According to an analysis of the government in 2000, almost half (48%) of the Southern Province is chronically food insecure. Men control most resources and are the primary decision-makers in the household and community. This control affects food purchases, health expenditures, and care-seeking practices.

Over 95% of the people of the Siavonga and Mazabuka Districts are Tonga. One-quarter (23.9%) of adult women have had no formal education at all, and fewer than half have completed primary school. This lack of access to formal education for women negatively impacts maternal and child health, as women lack confidence to navigate the formal health system and take a proactive role in partnering with health workers. Cultural practices of the Tonga that increase HIV transmission and diminish women's status include polygamy (30% of women in the province live in polygamous unions) and wife inheritance. *Lobola*, the bride price signifying the husband's ownership of the wife, not only diminishes women's status but also encourages promiscuity if young men cannot afford the offered price. Another cultural practice affecting health is the *kusonda*, or consultation with a traditional healer, to determine the cause of a loved one's illness or death. Also, people often blame pregnancy complications or difficult labor on unfaithfulness during marriage (either by the husband or wife). Many of the signs of severe malaria (convulsions) are believed to be caused by witchcraft and are treated by traditional healers. These beliefs can mean fewer people seek appropriate care or take appropriate action for illness.

The Southern Province, where the project is located, includes Zambia's second-largest city, Livingstone (although the city itself is not in the project area). The Province has an under-five mortality rate of 103 deaths per 1,000 live births, and this relatively low rate undoubtedly reflects the lower mortality rates in the city of Livingstone. For rural Zambia nationally, the under-5 mortality rate is 139, and for those with no education or primary education only, the under-5 mortality rate is 144-146⁴, so the project area most likely has an under-5 mortality rate in this range.

Health Conditions in Zambia and in the Project Area

Zambia has one of the lowest life expectancies in the world, estimated by UNDP to be only 44.5 years.⁵ Of course, the high prevalence of HIV/AIDS is one of the important reasons for this low life expectancy. The 2007 DHS estimated the national HIV prevalence to be 16.1% among women 15-49 years of age. According to the most recent estimates from the 2010 Countdown Report,⁶ the national under-5 mortality rate is 148 per 1,000 live births, down only marginally from 1990, when it was 172. (However, according to the most recent national Demographic and Health Survey, the under-5 mortality rate is 119.⁷) As shown in Figure 3, malaria is the leading single cause of death, followed closely by diarrhea, pneumonia and

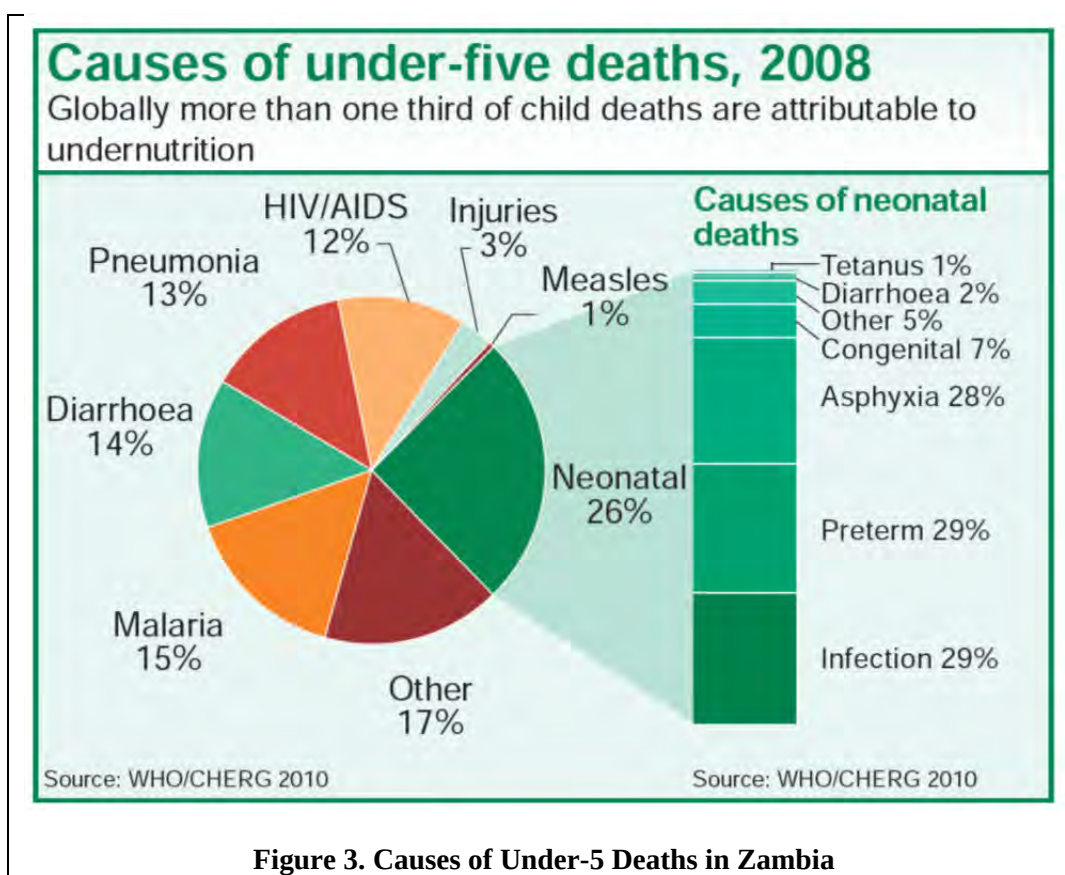
⁴ Ibid.

⁵ United Nations Development Programme. Human Development Report 2009. Overcoming Barriers: Human Mobility and Development. New York: Palgrave Macmillan; 2009. Available from: http://hdr.undp.org/en/media/HDR_2009_EN_Complete.pdf.

⁶ World Health Organization, UNICEF. Countdown to 2010 Decade Report (2000-2010) with Country Profiles: Taking Stock of Maternal, Newborn and Child Survival. Geneva: World Health Organization and UNICEF; 2010.

⁷ Central Statistical Office (CSO) MoHM, Tropical Diseases Research Centre (TDRC), University of Zambia, and Macro International Inc. Zambia Demographic and Health Survey 2007. Calverton, Maryland, USA: CSO and Macro International Inc.; 2009. Available from: <http://www.measuredhs.com/pubs/pdf/FR211/FR211%5BRevised-05-12-2009%5D.pdf>.

HIV/AIDS. As a group, neonatal conditions account for 26% of under-5 deaths. The estimated maternal mortality ratio nationally is 591 maternal deaths per 1,000 live births.⁸



Data from the Mazabuka and Siavonga MOH show that malaria is the primary cause for under-five consultations at all levels of the health system: 30% for the out-patient department of the hospital, 46% for Rural Health Centers (RHCs), and 22% for Community Health Workers (CHWs). It is also the leading cause of under-five admissions for Chikankata Hospital (53%). In Siavonga, MOH data estimate that each child has nearly two malaria episodes per year. Malaria is endemic and peaks during the rainy season (November to April). Mazabuka district data indicate that 12% of children under-5 are malnourished, but in Siavonga rates of malnutrition are twice that: 25% of children are malnourished.

The Southern Province has an HIV prevalence rate of 14.5% among women and men 15-49 years of age.⁹ CHS estimates that 12,000 orphans live in its catchment area, which is only one portion of the project area. The total fertility rate in the Southern Province is 6.7 and in rural Zambia it is 7.5.¹⁰

⁸ Ibid.

⁹ Ibid.

¹⁰ Ibid.

Health Services in the Project Area

Facility-based health services in the CCSP area include 15 Rural Health Centers (RHCs), three Hospital-Affiliated Health Centers (similar to RHCs, but located at hospitals), and three hospitals. None of these facilities are fully staffed because of difficulties in recruiting staff, and local CHWs man some of the more peripheral facilities. Three organizations manage these facilities: The Salvation Army (TSA), which runs Chikankata Health Services and oversees five RHCs; the Ministry of Health, which runs Siavonga District Hospital and 10 RHCs; and the Zambian Catholic Diocese of Monze, which runs the Mtendere Mission Hospital. CHS serves the part of Mazabuka district included in the CCSP area (59,000) as well as approximately 12,000 people in Siavonga. The Siavonga District Hospital serves about 36,000 people, but it lacks sufficient equipment and supplies. Mtendere, in Siavonga, is a well-equipped 145-bed hospital. It has a catchment area of 18,000 (although it also serves many outside its catchment area). Most services at the hospitals and RHCs are free, including all services for under-5s and pregnant women. In reality, most of the population lives three hours or more from the nearest health facility, and some live five hours away.

The health staffing situation in the CCSP area is critical. Standard staffing for an RHC includes a clinical officer, an environmental health technician, a nurse, and a midwife. However, none of the 15 centers in the project area are fully staffed. Lack of adequate housing and poor transport make it difficult to attract staff to rural areas. In fact, five of the nine health facilities in the Siavonga District do not have any staff and limited services are provided there by CHWs.

CHS provides clinical care, outreach, and training. Clinical care involves antenatal care (ANC); postnatal care; under-five services (immunization, growth monitoring, education); family planning; youth-friendly services (reproductive health services, counseling); outpatient screening, treatment, and admission; anti-retroviral therapy (ART); voluntary counseling and testing (VCT); prevention of mother-to-child transmission (PMTCT); tuberculosis treatment; laboratory services; pharmacy; and surgery. Outreach services include mobile clinics (offering antenatal/postnatal care, under-5 services, family planning and basic curative care); a school health program (education, immunization, screening, water and sanitation, and anti-AIDS clubs which include drama groups); and home-based care. For training, CHS offers a nurse-midwifery school, AIDS management training, and community volunteer training.

For community-based services, 62 Community Health Workers (CHWs) are recognized by the MOH to provide health education, treat malaria and eye infections, refer cases to health facilities, provide oral rehydration solution, recognize and refer pneumonia cases, and perform basic first aid. They have a small kit with medicines for the above conditions (including Coartem for malaria), and they treat patients in a small unofficial health post. They spend most of their time out in the communities, however.

Communities respect CHWs and use their services, but remuneration is still low for most. They are authorized to charge a small percentage of sales of commodities (such as bed nets and certain drugs). The actual number of CHWs in the project area – 1 CHW per 1,351 people – is well below the national standard of one CHW per 500 people. Furthermore, these are

concentrated in the Mazabuka district nearer the Chikankata Hospital with fewer in the Siavonga Health District. There is poor integration of the CHWs with the health facilities to which they are supposedly attached.

About 76 trained Traditional Birth Attendants (TTBAs) provide antenatal and postnatal care, attend deliveries, give health education, provide family planning counseling and services (pills and condoms), and encourage women to receive antenatal care and to deliver at a health facility. As with CHWs, turnover is low and community respect is high, but payment is rare, and the number of TTBAs in the project area is much lower in the Siavonga area of the project than in the Mazabuka area.

Community Health Workers have since the early 1980s been a part of the national strategy for primary health care. They are trained to treat basic illnesses and to provide health education and other preventive activities in their communities. CHWs are volunteers and do not receive payment from the government, but they are authorized to keep a small percentage of sales of commodities (such as ITNs and certain drugs). Many communities pay their CHWs with in-kind contributions and some are employed on commercial farms. Supervision of CHWs is generally the responsibility of the front line health workers, although logistical challenges make such supervision difficult. CHWs report to and receive their drug/supply kits from health centers, ideally on a monthly basis. Most supervision takes place during these visits, rather than in the community setting. NGOs providing rural health services work alongside the government to support training and supervision of CHWs.

Lack of transportation, distance, and poverty make it difficult for many people to access health facilities. A 1998 maternal mortality study carried out by UNFPA found that in 74% of maternal death cases someone had tried to transfer the mother to a health facility. However, the mother died because the facility was too far away, transportation was not available, or the patient or spouse refused. During focus group discussions held at the outset of the project, people cited cost of treatment, preference for traditional healers and self-treatment (either with herbs or chloroquine), lack of transport, poor quality of treatment at health facilities, and the long distance to health facilities as the main reasons they do not seek medical help for malaria. Approximately 25% of people in the CHS catchment area (and 40-50% of those in the Siavonga portion of the project area) live more than five kilometers from a health facility.

The project area population is generally homogenous, but communities that are located far from health facilities and/or connected by poor or nonexistent roads receive fewer services from the formal health system than those that live closer. Orphans and Vulnerable Children (OVCs) and people living with HIV are also especially vulnerable.

In addition to TSA's health programming in the Chikankata catchment area, CHS has a UNICEF-funded OVC support program; a USAID-funded HIV/AIDS program for prevention, OVC support, and home-based care; and a European Union HIV/AIDS program including community capacity building, prevention of HIV/AIDS, home-based care, and microfinance. The hospital has recently begun a PMTCT program with USAID funding through the Catholic

Medical Mission Board and an ART clinic with funding from the AIDS Healthcare Foundation, the Center for Infectious Disease Research in Zambia, and the government.

There are several other NGOs programs in the project area. Plan International works in four communities (having 8,700 people) and provides support in water (well construction) and sanitation, health education, school construction, microfinance, reforestation. CHS and Plan coordinate activities to support volunteers and maximize efforts and resources, e.g., combined volunteer trainings to avoid duplication and schedule conflicts. Other NGOs working in Mazabuka meet quarterly with the District Health Management Team (DHMT) to plan, coordinate activities, and share results. Harvest Help is a small local NGO doing agriculture, health, civic management, education, and HIV work in 13 communities along Lake Kariba. It supports 26 CHWs and TTBAAs and provides outreach services (through a clinical officer and two nurses) in these low accessibility areas.

Programs at the national level which are operating in the project area include the National Malaria Control Program and Church Health Association of Zambia (CHAZ) program for distribution of clean birth kits and ITNs. The USAID mission partners with Society for Family Health for social marketing of various products, including ITNs and Clorin (which is the brand-name for chlorine drops to add to drinking water); JSI/DELIVER; the Health Communication Partnership; and the Health Services and Systems Project.

Project Population

The project estimates a total population of the project area to be 124,613 with 50,593 beneficiaries (Table 1).

Table 1. Project Population Data

Population Category	Population estimates based on data available at the time of writing of the Detailed Implementation Plan (2005)
Total population	124,613
Estimated number of women of reproductive age (WRA)	28,474
Number of children <5 years of age (U5C)	22,119
Total number of beneficiaries (U5C + WRA)	50,593

Technical Interventions and Cross-cutting Strategies

Table 2 lists the eight interventions areas along with the corresponding level of effort (LOE) and end-of-project (EOP) objectives for each. Almost all of the project interventions involved community-based health promotion and health education, including encouragement of mothers to utilize existing services available at health facilities and outreach sites.

Table 2. Interventions, Level of Effort (LOE) and End-of-Project Objectives

Intervention	LOE	End-of- Project Objectives
Malaria	40%	
IR 1.1		Increased ITN use among pregnant women and children under five • Increase from 21.8% to 60% the proportion of children 0-59 months who sleep under ITNs every night • Increase from 20% to 60% the proportion of pregnant women who sleep under ITNs every night • Increase from 52.1% to 75% the proportion of nets that are re-treated at least once a year
IR 1.2		Increased appropriate care-seeking for danger signs • Increase from 10.5% to 80% the proportion of children under five with fever (suspected malaria) who receive treatment with SP or Coartem within 24 hours at an appropriate health facility or by a trained CHW
IR 1.3		Continued high coverage of IPT in pregnant women • Maintain above 70% the proportion of pregnant women who receive IPT during pregnancy
Immunizations	10%	
IR 2.1		Increased immunization coverage among children
		• Increase from 35.2% to 70% the proportion of children 12-23 months who are fully vaccinated by the first birthday • Increase from 54.6% to 80% the proportion of children 12-23 months who have received a measles vaccine
Nutrition	30%	
IR 3.1		Improved child feeding practices • Increase from 27.2% to 50% the proportion of children who eat foods rich in Vitamin A, protein, and iron everyday • Increase from 21.1% to 50% the proportion of children 12-59 months who eat semi-solid food at least four times each day • Increase from 3% to 30% the proportion of children 0-23 months who receive increased fluids and continued feeding during illness
IR 3.2		(a) Improved detection of malnutrition, and (b) Improved community treatment of malnutrition • Increase from 69.4% to 90% the proportion of children 0-59 months who are weighed at least bimonthly • At least 80% of children who complete Hearth achieve and sustain adequate (200 grams) or catch-up (400 grams) growth per month after the Hearth session • Increase from 87.4% to 95% the proportion of children 0-59 months who have an appropriate weight for their age (above -2 standard deviations)
IR 3.3		Increased exclusive breastfeeding up to six months of age • Increase from 43.8% to 70% the proportion of children 0-6 months who are exclusively breastfed
IR 3.4		Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid) • Increase from 37.3% to 75% the proportion of children 6-59 months who receive semi-annual doses of Vitamin A • Increase from 24.5% to 50% the proportion of pregnant women who take iron/folic acid supplements
Maternal and neonatal health	20%	

Intervention	LOE	End-of- Project Objectives
IR 4.1		Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth • Increase proportion of births attended by a health professional or TTBA from 51.4% to 70% • Increase from 55.8% to 70% the proportion of home births that use a clean birth kit • Increase from 0% to 90% the proportion of communities that have established emergency funds and transport • Increase to 70% the proportion of obstetric/neonatal emergencies that are referred in a timely and appropriate manner • Increase to 70% the proportion of newborns who are placed with the mother at birth • Increase from 43.8% to 75% the proportion of newborns who are immediately breastfed
IR 4.2		Improved quality of maternal and newborn care in health facilities • Increase to 90% the proportion of health facilities that have at least one professional who competently performs infection prevention and active management of third stage of labor actions • Increase to 95% the proportion of maternal and newborn emergencies at RHCs that are referred according to protocol
IR 4.3		Increased coverage of postpartum care • Increase from 18.7% to 50% the proportion of mothers who have a postpartum check-up by a health professional/ TTBA • Increase from 6.3% to 50% the proportion of mothers who receive a postpartum dose of Vitamin A during the first two months after delivery

The project devoted the first year to malaria activities only and then in the second year expanded its work to nutrition and immunizations. In the third year of project activities, the maternal and newborn care interventions were introduced. In years four and five of the project, all of the educational modules received by the Care Group Volunteers were repeated. The interventions were delivered mostly through the Care Group strategy, described further below in the next section.

The Positive Deviance (PD) Hearth Model (referred to hereafter as PD Hearth) was used to rehabilitate malnourished children.¹¹ A one-week training was provided to 41 participants on this (including representatives of the MOH, NGOs and well as project staff) by an external expert on this (Donna Sillan, MPH) in 2007.¹² PD Hearth had the two-fold purpose of changing a mother's behavior and rehabilitating her child. The PD Hearth approach involves mothers, families, and neighborhoods in rehabilitating their own malnourished children by using local food and local know-how. The first goal of this approach is to convince mothers that the symptoms their children display are actually related to a lack of proper nutrition and not to

¹¹ The Hearth model involves calling together groups of mothers of malnourished children and helping them to learn what locally foods are nutritious (from "positive deviant" mothers in the community who have well-nourished children) and then spend two weeks in daily educational sessions in which mothers bring these foods and prepare them as a group for their children. For further information, see <http://coregroup.org/component/content/article/84> (accessed 2 August 2010).

¹² Donna Sillan, 2007. *Positive Deviance/HEARTH Training of Trainers (PD/HEARHT/TOT)*, Salvation Army World Service Office (SAWSO), Chikankata, Zambia, Mary 7-12, 2007.

spiritual influences, as was traditionally believed to be the case. The second goal of this approach is to not only rehabilitate the participating children but also reduce the prevalence of childhood malnutrition in the community and to energize the mothers and community to take broader, sustained action against malnutrition and poor health. The PD Hearth intervention takes place once growth monitoring (carried out by health center staff) has identified moderately or severely malnourished children. Mothers of these malnourished children were invited to participate in the two-week-long PD Hearth Program. Facilitators and Care Group volunteers had been previously trained in PD Hearth protocols developed by the project. The positive deviance inquiry (PDI) involves a set of exercises to help local mothers discover the practices of mothers of positive deviants (children in the villages who are well-nourished). These include not only nutritional practices but also child care practices. As part of this inquiry, mothers of malnourished children worked with the staff to prepare recipes of nutritious locally available foods. Then, the mothers would come each day with these foods and prepare these recipes. Included in the protocol were weighing the child at the beginning and the end of the cycle, de-worming, administration of vitamin A, and promotion of handwashing and appropriate breastfeeding.

The mother brings her child six days per week for two weeks to a daily session of practice and supervision in the village. Mothers are expected to bring food and/or other materials to these group sessions. Children were weighed at the beginning and at the end of the two-week-long PD Hearth session. If they showed an improvement in nutritional status (moving from severe to moderate malnutrition or from moderate to mild malnutrition, or gained at least 400 grams, or showed continued weight gain) then they graduated from the program. Otherwise, they repeated the cycle again.

The major cross-cutting strategy was the Care Group methodology, as described further in the next section.

The second major cross-cutting strategy was improved strengthening services at the health care facilities in the project area. This consisted of quality of care assessments, training, and logistical support. A facility quality of care assessment was carried out in 2006 (see Appendix 18).¹³ Only one-half to two-thirds of the facilities met minimal standards for staffing, infrastructure, and drugs/supplies (only 28% of the health facilities had ITNs on the day of the assessment, for instance), and one-quarter to three-quarters met minimal standards for processes (health information system, training, supervision, and quality assurance). Quality of services was very poor, particularly for treatment of suspected cases of malaria: very few children received Coartem, which is the MOH policy.

The project provided considerable training to MOH staff working at health facilities in the project area, particularly in malaria, immunization, nutrition, maternal and newborn care, counseling skills, and quality assurance. In 2009, the project provided a one-week course on emergency obstetrics and newborn care followed by 12 days of practical training for 18 facility-based staff in the project area. The project also provided refresher training to the CHWs and facilitated training for an additional 50 CHWs who were trained by MOH district trainers. In

¹³ Health Facility Assessment Report, September 2006. Chikankata Child Survival Project.

addition to providing health center staff with the same training that it gave the Supervisors and Facilitators on the health messages for the Care Groups, the project also provided the health center staff with training on immunizations. The project also provided some of the health centers that had no transport capabilities with logistical support for immunization outreach sessions. This usually involved a Supervisor taking an MOH vaccinator on his motorbike to an outreach session.

A third cross-cutting strategy was the provision of training to CHWs and TTBA's. The project provided refresher training to the CHWs and the TTBA's in the project area on malaria, nutrition, immunizations, and safe motherhood/neonatal care.

Project Design

The overall project strategy was to reach every woman of reproductive age and mothers of children 0-59 months of age with targeted educational messages that will lead to health-promoting behaviors and to improved care-seeking behavior. These behaviors would then lead to measurable improvements in the coverage of key child survival indicators and to reductions in maternal and under-5 mortality.

Care Group Strategy

The Care Group model as implemented by the project is shown in Figure 3. The Care Group approach was originally developed 15 years ago in Mozambique by Dr. Pieter Ernst, working with World Relief in Gaza Province. The Care Group structure in the project area made it possible to carry out the following activities:

- Select Care Group Volunteers, each trained to communicate educational messages to 10-15 other women and mothers in their immediate neighborhood;
- Organize these Care Group Volunteers (called Care Givers) into Care Groups with 10-15 members each to receive training and supervision from Facilitators;
- Teach paid Facilitators to train and supervise Care Group Volunteers to become behavior change agents;
- Employ a team of Supervisors to train, manage, and supervise Facilitators and to problem solve within the project area;
- Establish regular communication links among Care Group Volunteers, community leaders, staff at health facilities, MOH directors and staff, and the Project Management Team;

The Facilitator met every two weeks with each Care Group. Each Facilitator had 7-8 Care Groups under his/her responsibility. The project utilized five Supervisors, 21 Facilitators, and approximately 1,700 Care Group Volunteers (in 158 Care Groups) for a population of 124,613 people (Figure 4). The Facilitators were all long-time residents of the villages where they worked and lived in the area where they worked.

Each Supervisor supervised four Facilitators (except for one who supervised five). The Supervisors in turn were supervised by a Project Supervisor. The project also had various other staff based at the Chikankata project (Health Education Coordinator, Adult Services Coordinator, and the Monitoring and Evaluation Coordinator). The project had access to one or more vehicles when needed (that are part of the CHS fleet). Each of the five Supervisors had a motorbike, and each of the Facilitators had a bicycle provided by the project.

Organizational Chart
SAWSO Chikankata Child Survival Project

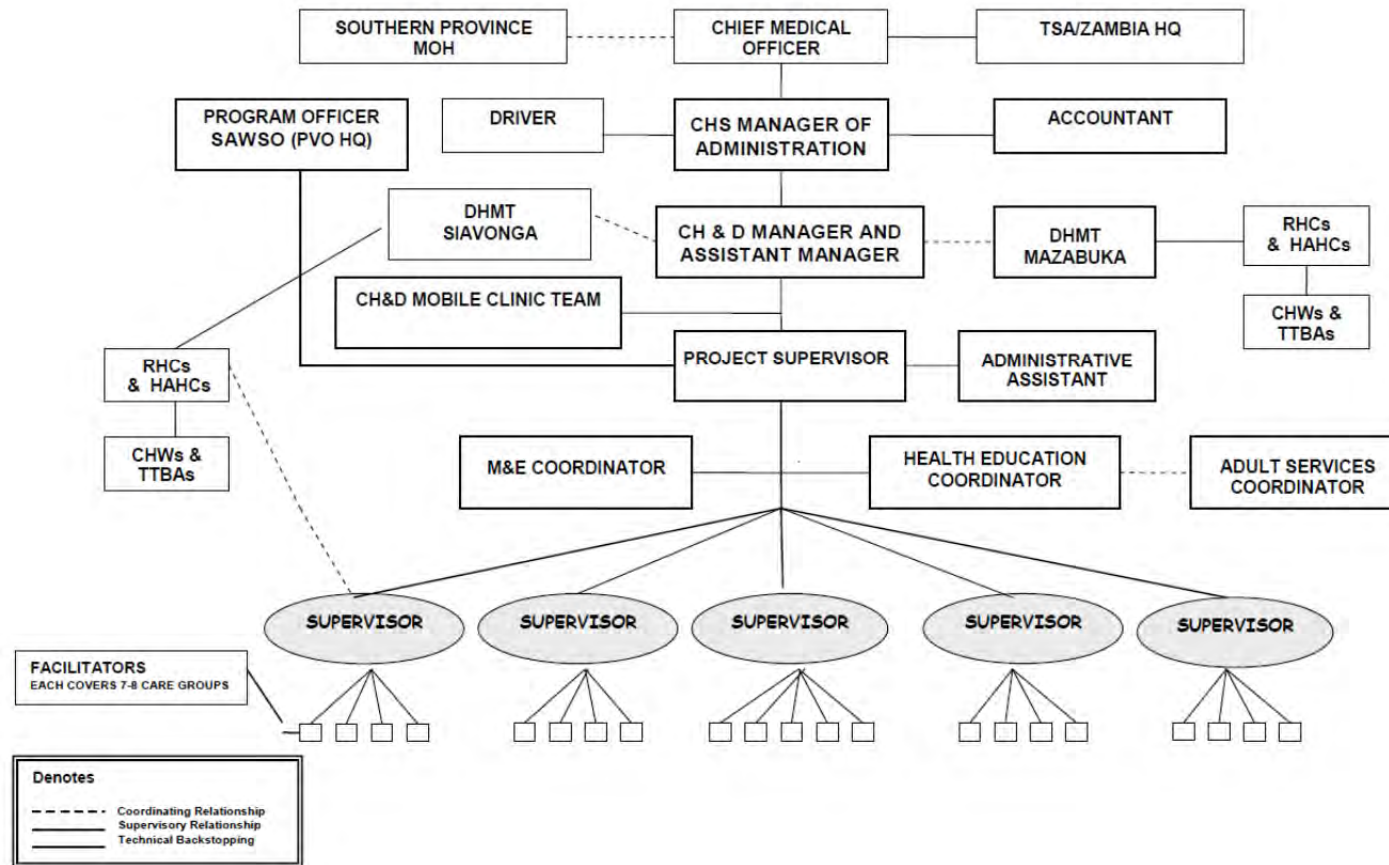


Figure 4. The Care Group Model Utilized in the Project

The Care Group methodology is gaining increasing interest, and its effectiveness in reducing under-five mortality in other settings has been reported elsewhere.¹⁴

At the outset, the project leadership recruited five Supervisors from the area who then assisted with recruitment of 21 Facilitators from the area. They then began to work with local community leaders and the formal Neighborhood Health Committees (NHCs) and Care and Prevention Teams (CPTs) in each community to identify Care Group Volunteers and to map the communities (Figure 5).

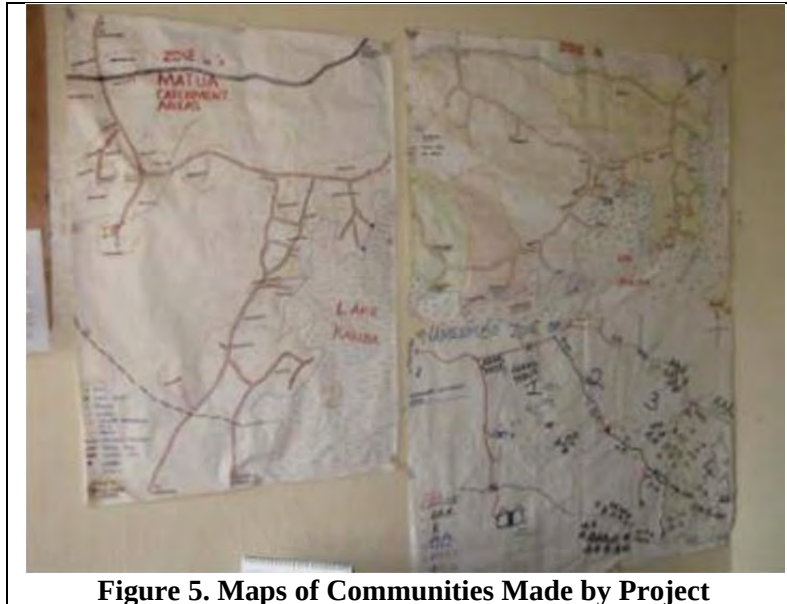


Figure 5. Maps of Communities Made by Project

The 21 Facilitators were also trained to serve as interviewers for the baseline KPC survey. Then, with the help of local community leaders, the Facilitators conducted a census of all women of reproductive age and mothers of children aged 0-59m and registered them. Then, these women, in collaboration with the Facilitators and community leaders, selected Care Group Volunteers.

Then, the Supervisors and Facilitators met together to learn four training modules, one for each of the project's technical interventions. The Supervisors and Facilitators met together for a week or so to learn the material for each module. It took about 30 months to complete the entire educational cycle.

¹⁴ Edward A, Ernst P, Taylor C, Becker S, Mazive E, Perry H. Examining the evidence of under-five mortality reduction in a community-based programme in Gaza, Mozambique. *Trans R Soc Trop Med Hyg* 2007 Aug;101(8):814-22.

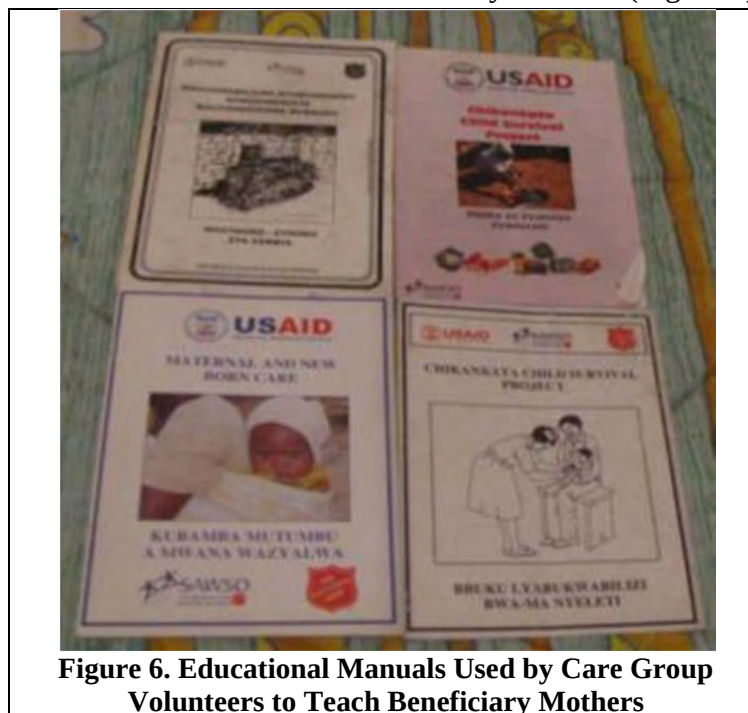
Perry H, Sivan O, Bowman G, Casazza L, Edward A, Hansen K, Morrow M. Averting childhood deaths in resource-constrained settings through engagement with the community: an example from Cambodia. In: Gofin J, Gofin R, editors. *Essentials of Community Health*. Sudbury, MA: Jones and Bartlett.; 2010. p. 169-74.

Every two weeks, each Care Group met with its Facilitator for two hours. (Occasionally, the meetings lasted three hours). Care Group Volunteers usually had to walk no more than 30 minutes to attend a Care Group meeting. At that time, the message learned during the previous two weeks was reviewed. Then, they learned a new health message.

Then, over the next two weeks, the Care Group Volunteers then met with the 10-15 Beneficiary Mothers for which they were responsible. During home visits, the Care Group Volunteer used a training booklet with pictures describing the message being given.¹⁵ She visited all the Beneficiary Mothers in their homes, but they occasionally met as a group as well.

Principal Messages Employed

The health education messages focused on malaria (transmission, importance of ITNs and IPTp, signs and symptoms of malaria in children, and the importance of early care seeking from a trained provider); nutrition (including exclusive breastfeeding for the first six months of life, continued breastfeeding with appropriate complementary feeding for children 6-23 months of age, and rehabilitation of malnourished children with local foods); promotion of maternal and newborn health (importance of ANC and early access to ANC, danger signs of pregnancy, clean delivery with birth kits for home deliveries, promotion of facility births, immediate breastfeeding and placement of the newborn with the mother, exclusive breastfeeding and postpartum care), and immunization promotion (why immunizations are important, the immunization schedule, and side effects of immunizations). These are all contained in the educational materials used by the Care Group Volunteers in their visits with the Beneficiary Mothers (Figure 6).



¹⁵ An example of this is shown in Annex 14. A complete copy of these educational modules (in Portuguese) is available from Food for the Hungry.

Partnerships

The project worked in partnership with the MOH, particularly at the district level with the District Health Management Teams (DHMTs) and with the health center staffs. District-level MOH staff were fully informed about the project's goals, objectives, and operational strategies. The project met quarterly with each DHMT and provided an update on project activities. The project promoted the utilization of MOH services at Expanded Program on Immunization (EPI) outreach sites and at the health centers.

Collaboration with USAID and Its Mission in Mozambique

The project maintained frequent contact by phone and email with USAID staff in Lusaka. Ashley Gelman of the USAID Child Survival and Health Grants Program Office in Washington, DC, visited the project with local USAID mission officials in April. Nazo Kureshy, Director of the USAID Child Survival and Health Grants Program was scheduled to come on that same trip but was unable to travel because of flight cancelations across caused by a volcano eruption in Iceland. In addition, one of the USAID Zambia mission staff officers (Dr. Mack) visited the project site twice. Dr. Jim Ricca, of the USAID-supported Child Survival Technical Support Project with ORC/Macro in Washington, DC, visited the project to carry out a baseline health facilities assessment.

Data Quality: Strengths and Limitations

The project staff members collected their own household survey data and this was analyzed by Claire Boswell. Household interviews were conducted by Facilitators and Supervisors under close supervision by the HQ backstop. Questionnaires were translated from English to the local language (Tonga) and interviews were carried out in Tonga.

By the end of the project, the Facilitators had had extensive experience in carrying out and recording the results of household interviews. The project learned to provide good training for the Facilitators and to give clear instructions before going to the field to collect information.

There could possibly be several biases entering the findings. One is that the data collectors themselves (the Facilitators) might have been biased by obtaining and recording answers that were more favorable for the project that might have actually been the case. The second bias is that respondents may have been biased by providing responses that they thought the interviewer (or the project) wanted to hear. (This bias could have also been operating to some degree in the focus group discussions.) But the question must also be asked – if an independent interviewer unassociated with the project arrived to conduct the same interview, would that person obtain information of better quality than that which the Facilitators obtained? Without knowledge of the local language and some kind of trusted connection with the communities, it is hard to envision that outside independent interviewers could have obtained better data. In addition, many of the questions are such that it is hard for either the interviewer or the respondent to know the desired or preferred response is.

It should also be pointed out that except for the mini-KPCs carried out in 2007, 2008, and 2009, Facilitators were always assigned to areas not in their normal supervisory jurisdiction for household interviews. This certainly helped to reduce any potential for bias.

Project Results

Progress toward Quantitatively Defined Objectives

Overall, the progress in achievement of quantitatively defined end-of-project targets was considerably less than had been hoped for. However, the timing of the endline survey relative to the baseline survey likely affected the results negatively, as we shall see. The impact of timing is evidenced in the sharp rise in coverage during mini-KPCs (conducted at the same time of year as the baseline) with a subsequent slight drop at endline.

As shown in Table 3, only seven of 21 end-of-project (EOP) targets were achieved, and among these seven, only four of the seven changes from baseline were favorable and statistically significant. Overall, only six of the 21 indicators demonstrated a change that was statistically significant and favorable. One indicator (vitamin A coverage) showed a statistically significant worsening (from 37% at baseline to 10% at endline). However, the reason for this was beyond the project's control and will be discussed below. Fifteen of the 21 indicators showed an absolute increase of more than 10 percentage points.

Table 3. Results from Final KPC Survey – July 2010
Chikankata Child Survival Project¹⁶

Result 1: Improved malaria prevention and treatment

Indicators	Baseline January 2006		Mini-KPC 2007	Final July 2010			Target
	Mean	95% C.I.	Mean	Ns	Mean	95% C.I.	
IR 1.1 Increased insecticide-treated bed net use for pregnant women and children under five							
% of children 0-23 months who slept under an ITN the night before	21.8	15.7-27.9	66.2	111/190	56.2*	47.4-64.5	60%
IR 1.2 Increased appropriate care-seeking for danger signs							
% of children 0-23 months with a febrile episode that ended during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began	10.5	4.0-16.9	25.0	N/A	N/A	N/A	65%
% of children 0-23 months with a febrile episode that ended during the last two weeks who sought care from an appropriate source within 24 hours after the fever began	22.5	14.8-30.2	N/A	56/116	45.8*	34.9-57.2	N/A
% of children with cough and fast/difficult breathing in the last two weeks who were taken to a health facility or received antibiotics from a trained CHW	81.3	73.4-89.1	N/A	95/107	89.4	80.9-95.5	N/A
IR 1.3 Increased coverage of intermittent preventive malaria treatment in pregnant women							
% of mothers of children 0-23 months who received IPT for malaria during their last pregnancy (confirmed by maternal health card)	83.8	78.9-88.9	94.9	167/190	87.7	81.2-92.7	At least 70%

¹⁶ Data was collected in five supervision areas using LQAS. All means are weighted by population of supervision areas.

*Change from baseline is statistically significant.

Result 2: Increased immunization coverage in children

Indicators	Baseline January 2006		Mini-KPC Feb 2008	Final July 2010			Target
	Mean	95% C.I.		Sample	Mean	95% C.I.	
% of children 12-23 months who are fully vaccinated by the first birthday (BCG, DPT3, OPV3, and measles)	35.2	25.8-44.7	55.5	53/95	54.6	42.0-66.3	70%
% of children 12-23 months who have received a measles vaccine	54.6	44.6-64.5	75.6	70/95	73.7	62.2-83.9	80%

Result 3: Improved nutritional status of children and pregnant women

Indicators	Baseline January 2006		Mini-KPC Feb 2008	Final July 2010			Target
	Mean	95% C.I.		Sample	Mean	95% C.I.	
IR 3.1 Improved child feeding practices							
% of children 6-23 months who ate a vitamin A-rich food, a high protein food, and an iron-rich food in the last 24 hours	27.2	19.7-34.6	25.0	52/139	40.4	30.7-50.5	50%
% of children 12-23 months who ate semi-solid food at least four times in the past 24 hours	21.1	13.4-28.8	36.7	30/90	32.2	21.6-44.9	50%
% of sick children 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	3.0	0.0-5.9	N/A	16/149	10.5	5.2-17.4	30%
IR 3.2 a) Improved detection of malnutrition, b) Improved treatment of malnutrition							
% of children 0-23 months who were weighed at least once in the past two months	69.4	62.8-76.1	69.4	136/187	73.8	65.7-81.0	90%
% of children 0-23 months who are above -2 standard deviations for weight for age	87.4	82.3-92.5	88.9	148/183	80.9	74.4-86.3	95%
IR 3.3: Increased exclusive breastfeeding up to six months of age							
% of infants 0-5 months who received nothing except breast milk in the past 24 hours	43.8	34.4-53.3	67.9	85/100	85.1*	74.5-92.2	70%
IR 3.4: Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid)							
% of children 12-23 months who have received a dose of vitamin A in the past six months	37.3	27.6-47.0	50.2	11/95	9.7*	4.1-19.5	75%
% of mothers of children 0-23 months who report taking at least 90 days of iron/folic acid supplements during her last pregnancy	24.5	18.0-30.9	66.3	109/187	57.2*	48.5-65.6	50%

Result 4: Improved maternal and newborn care practices

Indicators	Baseline January 2006		Mini-KPC Feb 2009	Final July 2010			Target
	Mean	95% C.I.		Sample	Mean	95% C.I.	
IR 4.1 Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth							
% of mothers of children 0-23 months whose last birth was attended by a health professional	44.2	37.0-51.4	48.4	100/190	52.6	45.3-59.9	50%
% of mothers of children 0-23 months who did not give birth in a health facility whose birth was attended by a TTBA	13.4	7.0-19.7	43.0	21/91	23.9	14.1-35.4	30%
% of home deliveries in which a clean birth kit was used	55.8	46.8-64.8	75.6	64/91	71.6	59.8-82.2	70%
% of mothers of children 0-23 months whose child was placed immediately with her after birth	15.3	9.9-20.7	57.3	117/189	62.7*	53.9-70.6	60%
% of children 0-23 months who were breastfed within one hour of birth	43.8	36.4-51.2	41.3	139/185	71.6*	63.4-79.2	75%
IR 4.2 Improved quality of maternal and newborn care services in health facilities							
IR 4.3 Increased coverage of postpartum care							
% of mothers of children 0-23 months who had at least one postpartum check-up after the birth of her last child (by a health professional or TTBA)	18.7	12.9-24.5	64.0	110/190	56.4*	47.7-64.7	50%
% of mothers of children 0-23 months who received a postpartum dose of Vitamin A during the first two months after delivery (card confirmed)	6.3	2.6-10.0	22.1	52/190	26.8*	19.5-34.8	50%

Malaria Prevention and Treatment (40% Effort)

The percentage of children 0-23m who slept under an ITN the night prior to being interviewed increased from 21.8% at baseline to 56.2% at endline. This was a statistically significant increase that fell just short of the EOP target of 60% (Figure 7). However, the endline survey was carried out in July, at a time of low malaria incidence for the Mazabuka portion of the project area, while the baseline and mid-term surveys were carried out at a time of peak malaria incidence (January and February, respectively). Thus, if the endline survey had been carried out in January or February, we would have likely seen a higher usage of ITNs. The percentage of children with fever whose parents sought care for them from an appropriate source within 24h showed a healthy and statistically significant increase of 23.3 percentage points. No EOP target was established for this indicator.

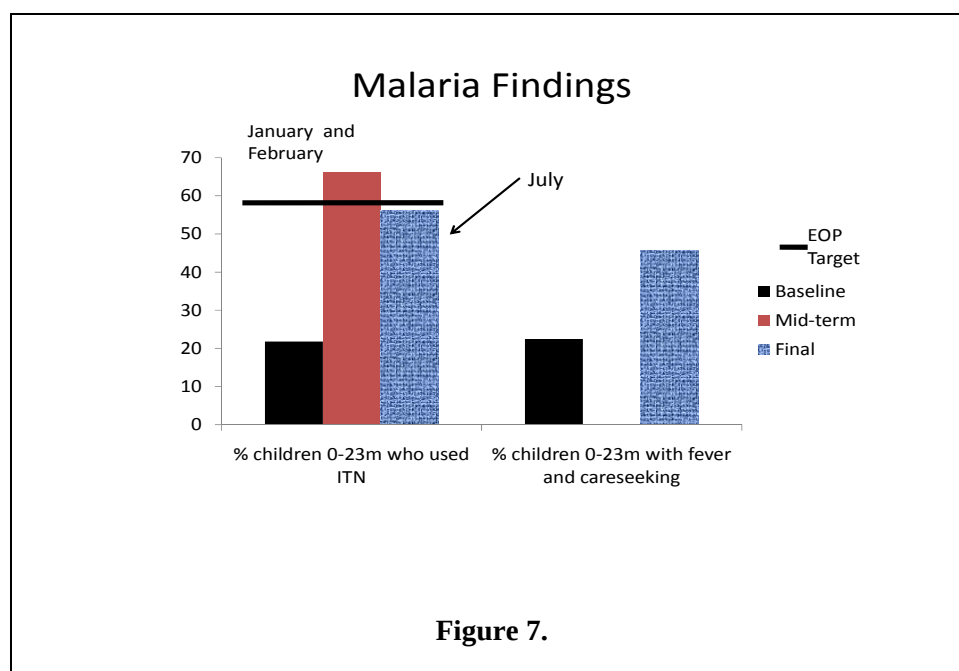


Figure 7.

The percentage of mothers of children 0-23m of age who had received intermittent preventive therapy for malaria during their previous pregnancy (IPT_p) remained high and surpassed the goal, which was to keep it above 70%. The baseline, mid-term and endline values were 83.9%, 94.9% and 87.7%, respectively. Overall, the data indicate that ITN use increased 2.6 times over baseline, appropriate care seeking for children with symptoms of pneumonia doubled, and IPT_p remained at a high level.

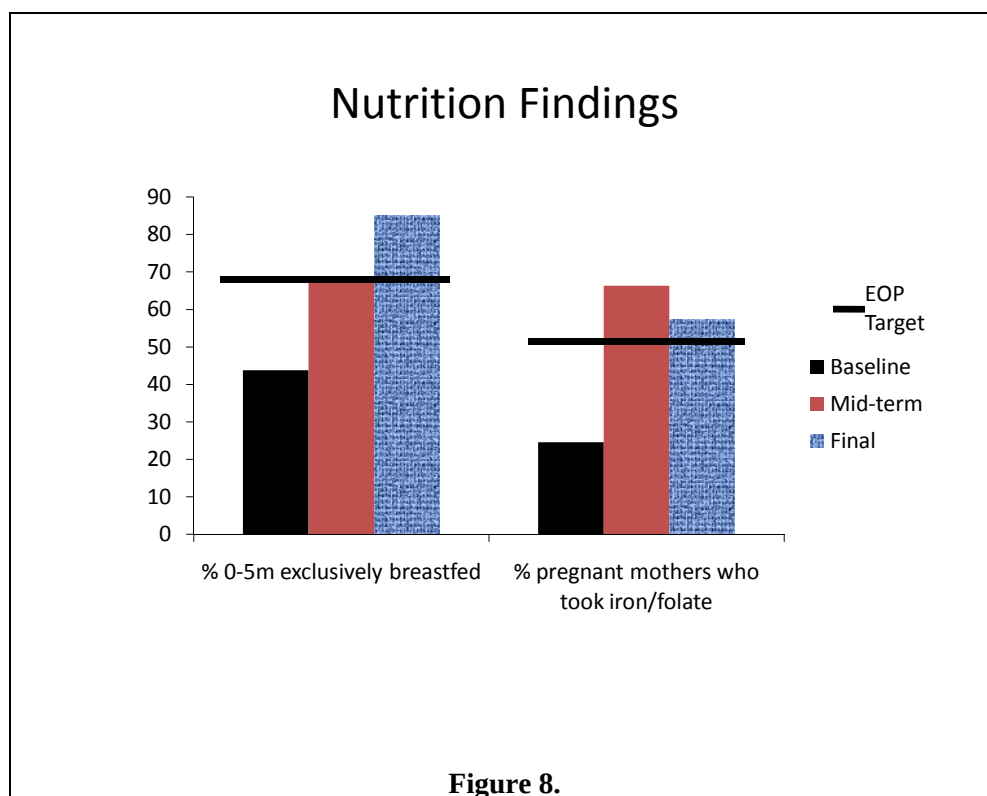
Nutrition Improvement (30% Effort)

There was modest improvement in child feeding practices, but none of the indicators for this showed statistically significant improvement and none reached the EOP target (Table 3). The frequency of weighing (which is performed at the health facility) does not appear to have changed. The percentage of children who were not malnourished actually declined from 87.4%

to 80.9%. (That is to say, the percentage of malnourished children increased from 12.6% to 19.1%.) The timing of the surveys could explain some of this difference, however. When the baseline and mid-term surveys were carried out (in January and February, respectively), food was relatively plentiful in the poorer and more food-insecure area of Siavonga, and, according to the field staff, rates of childhood malnutrition are generally lower than in July, which is Siavonga's hungry season with higher rates of malnutrition. (Hungry season is opposite in Mazabuka, which generally has lower rates of food insecurity than Siavonga).

The coverage of high-dose vitamin A declined substantially, from 37% at baseline to 9.7% at endline ($p < .05$). This decline is explained by the fact that the MOH distributes vitamin A during Child Health Weeks which are held every 6 months, normally in December and June. Unfortunately, there was more than a 6-month delay for the most recent Child Health Day. It was supposed to have been held in June, but in fact had not been held by the time of the endline KPC survey in July, and the previous Child Health Day had been in December, so not surprisingly very few mothers reported that their child had received vitamin A in the previous 6 months.

The two highlights of the nutrition findings concern exclusive breastfeeding and consumption of micronutrients during pregnancy (Figure 8). The prevalence of exclusive breastfeeding doubled, from 43.9% at baseline to 85.1% at endline ($p < .05$), exceeding the EOP goal of 70%. In addition, the percentage of mothers who reported taking at least 90 days of iron/folic acid supplementation during their most recent pregnancy doubled from 24.5% to 57.2% ($p < .05$), exceeding the EOP target of 50%.

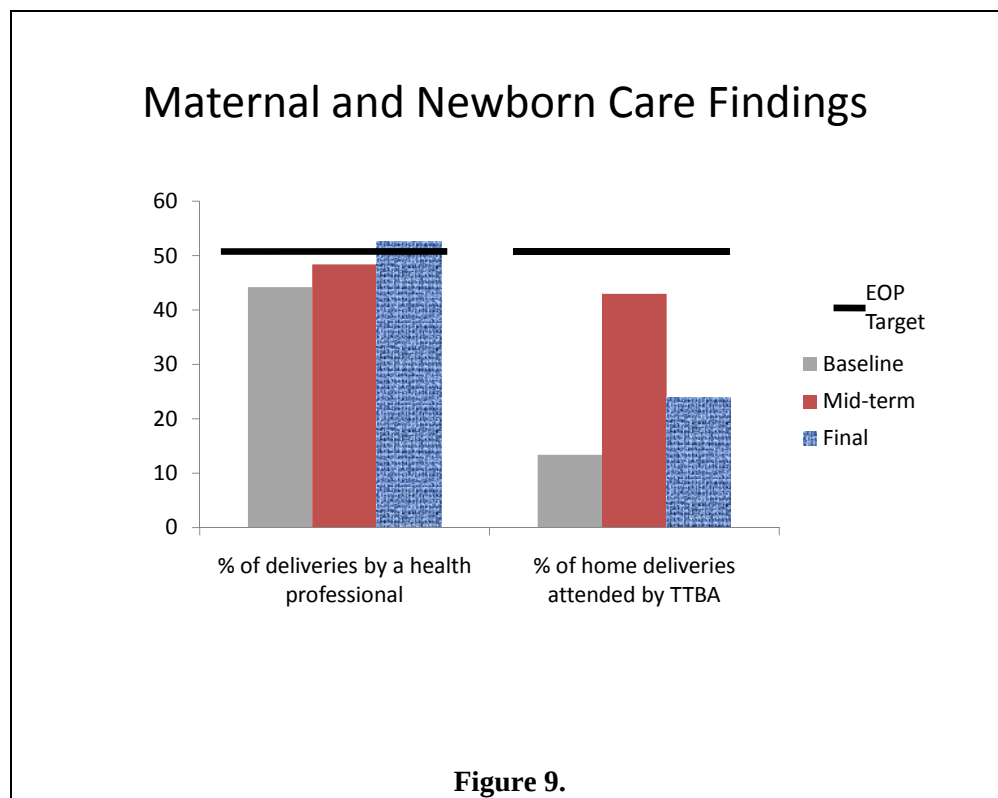


Improved Maternal and Newborn Care Practices (20% Effort)

Six of the seven indicators for maternal and newborn care showed increases of at least 10 percentage points, four of the seven showed statistically significant increases, and the EOP target was achieved for four of the seven. Three indicators of safe delivery – attendance at birth by a health professional, home delivery by a trained traditional birth attendant, and use of a clean birth kit for home delivery – all showed healthy increases (Table 3 and Figures 9 and 10).

The project established two indicators for immediate neonatal care: placing the child with the mother immediately after birth and initiation of breastfeeding within one hour after birth. In both cases, there was a statistically significant improvement in the coverage of these two indicators (Table 3 and Figures 10 and 11). The former quadrupled in coverage (15.3% to 62.7% and exceeded the EOP target of 60%) and the latter increased by over half (from 43.8% to 71.6%) and just missed achieving the EOP target of 75%.

Finally, there was a marked improvement in the coverage of the two indicators related to post-partum care: percentage of mothers with a post-partum checkup and percentage of mothers who received vitamin A during the post-partum period. In both cases, there was at least a three-fold increase in coverage, both statistically significant. The former surpassed the EOP target (Table 3 and Figure 11).



Maternal and Newborn Care Findings (cont.)

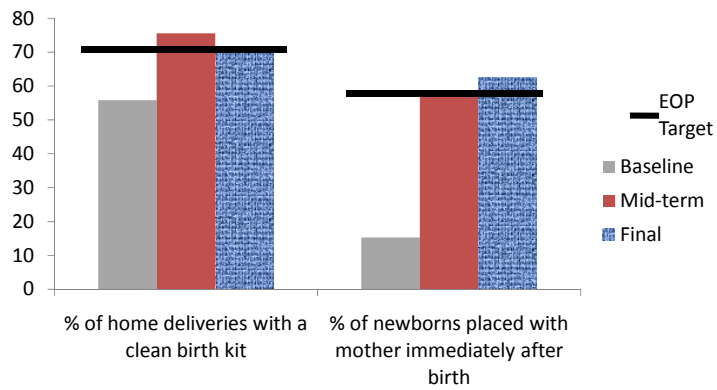


Figure 10.

Maternal and Newborn Care Findings (cont.)

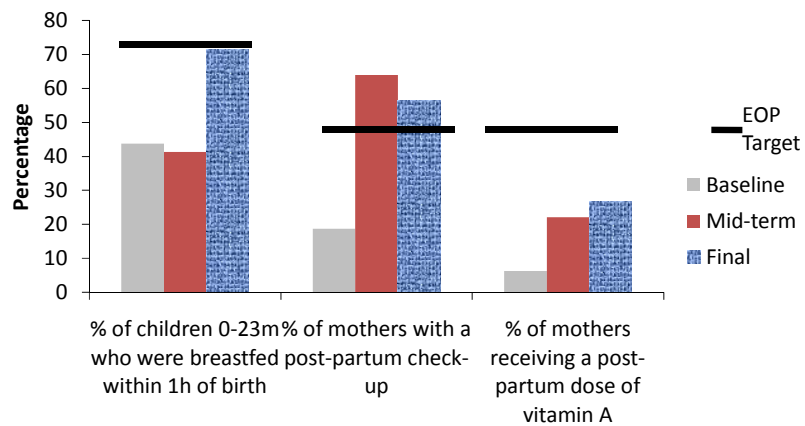


Figure 11.

Increased Immunization Coverage (10% Effort)

The project included two indicators of progress on this aspect of the project: childhood immunization coverage and childhood measles immunization coverage. In both cases, there were notable increases of about 20 percentage points in coverage, but in neither case was the difference statistically significant nor did the project achieve its EOP target for that indicator (Table 3 and Figure 12). Although it was not a project indicator, maternal tetanus toxoid (TT) immunization coverage was measured as one of the Rapid CATCH indicators (discussed further below), and this demonstrated a statistically significant doubling of coverage from 19.2% to 38.3%. While the project focused on increasing community demand and participation and on training MOH staff, the sad fact is that because of the lack of any staff whatsoever at a number of government health centers, vaccination was only carried out once a month at these facilities. So demand creation can only go so far when there is such limited capacity to respond to that demand.

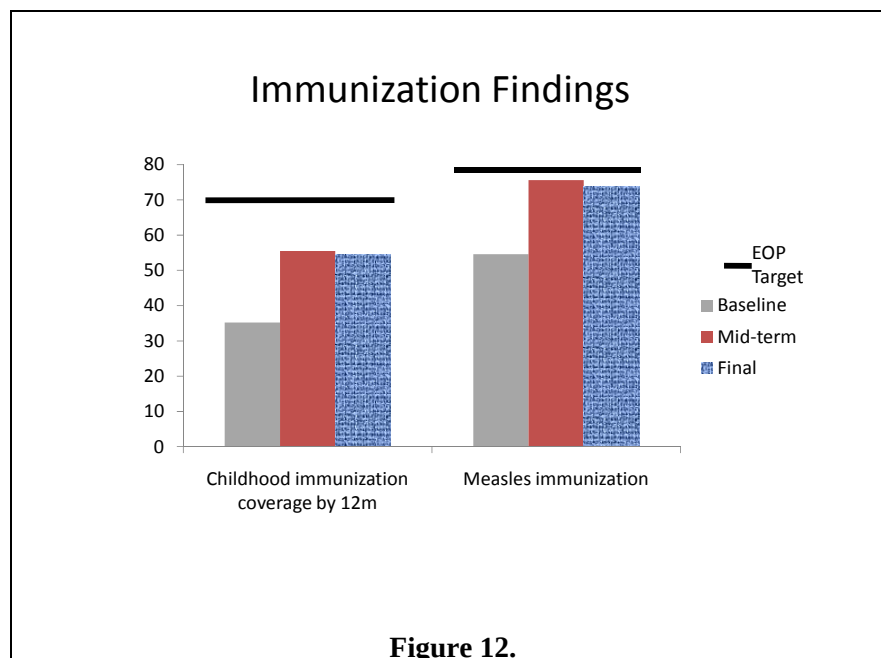


Figure 12.

Progress in Quantitatively Defined Indicators That Were Not Project Objectives

Table 4 presents the findings for progress in RapidCATCH (Core Assessment Tool on Child Health) indicators, that were not project objectives but which the Child Survival and Health Grants Programs requires measurement for reporting to the US Congress. Two of these demonstrated statistically significant improvements: maternal TT immunization coverage (increasing from 19.2% to 38.3%) and percentage of mothers who know two danger signs (74.9% to 87.5%). The other indicators were essentially unchanged (birth spacing, handwashing, and appropriate feeding of infants 6-9m) except for knowledge about risk reduction of HIV infection, which increased by 8 percentage points.

Table 4. Rapid CATCH Indicators

	Baseline January 2006		Final July 2010		
Rapid Catch Indicators	Mean	95% C.I.	Sample	Mean	95% C.I.
% of children 0-23 months who were born at least 24 months after the previous surviving child	79.3	68.2-90.5	57/74	76.8	62.7-86.6
% of mothers with children 0-23 months who received at least two tetanus toxoid injections before the birth of their child	19.2	13.5-24.9	72/190	38.3*	30.0-46.8
% of mothers with children 0-23 months who cite at least two known ways of reducing the risk of HIV infection	62.9	55.8-70.0	133/190	70.9	62.4-78.1
% of mothers with children 0-23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated	10.9	6.5-15.4	24/190	12.6	7.8-19.6
% of mothers of children 0-23 months who know at least two signs of childhood illness that indicate the need for treatment	74.9	68.9-80.8	164/190	87.5*	81.1-92.7
% of children 6-9 months who received breast milk and complementary foods during the last 24 hours	95.1	90.9-99.3	84/88	94.9	86.8-99.0

Qualitative Evidence of Progress in Achievement of Project Objectives

The Final Evaluation Team, working with the field staff, carried out approximately 30 different focus group discussions (FGDs), described in greater detail in Annexes 11-13. FGDs were carried out with Beneficiary Mothers, Care Group Volunteers, and community leaders. The communities to be visited were chosen more or less randomly in consultation with the evaluation team leader. In addition, we interviewed approximately five MOH personnel at three health centers. We did not interview either of the MOH District Directors for the two districts where the project is working. A summary follows for the themes that emerged from these FGDs and interviews.

The findings from these interviews were extremely positive. There were three overarching themes that emerged from these. First, there were many comments made that the number of maternal and child deaths had declined. Secondly, Care Group Volunteers, Beneficiary Mothers, and community leaders made many comments indicating that they had become empowered in various ways as a result of the project. Thirdly, respondents expressed in various ways that there was a gradual recognition of the power and the sustainability of the Care Group approach. We will review each of these themes below.

Comments Made about Fewer Child and Maternal Deaths

The Final Evaluation Team was surprised by the number of times participants in FGDs mentioned that the number of child and maternal deaths had declined. To back up these claims, respondents cited a number of different reasons for why they thought this was the case. First of all, there were many comments made indicating that the number of childhood deaths from malaria had declined. Reasons for this mentioned by focus group participants included greater

use of ITNs, improved recognition of signs and symptoms of childhood malaria, earlier care seeking at health centers, and in some communities, drainage of standing water.

Many comments were made by focus groups participants indicating that they thought that children were better nourished than they had been previously. Reasons given for this included immediate breastfeeding after birth, exclusive breastfeeding during the first 6 months of life, better knowledge of and use of locally available nutritious foods, frequent feeding of children (4-5 times per day) for infants after reaching 6 months of age, rehabilitation of children using the Hearth program, and increased utilization of growth monitoring at health centers. Respondents indicated that mothers were better able to recognize danger signs in sick children and were more willing to seek early care at health centers. Finally, comments were made that improved childhood immunization coverage had led to decreased childhood mortality.

Reasons cited in the FGDs for why there were fewer maternal deaths included greater utilization of antenatal care (ANC) services and obtaining them earlier in pregnancy, greater awareness of pregnancy-related danger signs and increased care seeking from health centers when danger signs are present, more births occurring in health facilities, and more mothers receiving post-partum care. Comments were made indicating more mothers are using ITNs and are obtaining intermittent treatment of malaria during pregnancy. Finally, focus group participants mentioned that there are now more women aware of, interested in, and using family planning.

Comments Made about Empowerment of Women and Communities

The Final Evaluation Team heard many comments to the effect that the teaching provided by the Facilitators had led to empowerment of the Care Group Volunteers and that the teaching of the Beneficiary Mothers by the Care Group Volunteers had produced empowerment of the Beneficiary Mothers and increased teamwork in the communities. There was an increased sense of caring for one another and awareness of the needs of the mothers in the communities. Finally, there was a strong sense expressed in many different ways of ownership of project activities, that there was a desire to see community activities continue after the project's external financial support ended, and that the Care Group Volunteers and Beneficiary Mothers had the capacity to continue project activities, as well.

Comments Made about the Power and Sustainability of the Care Group Approach

The Final Evaluation Team was surprised by the number of comments made in FGDs indicating their strong appreciation for the Care Group approach. Commonly, focus group participants stated that they were initially disappointed that the project did not have any "handouts" to provide them, since so many other projects in the communities had functioned in this way. However, this initial disappointment did not deter their participation, and gradually they begin to see that the project was improving the health of mothers and children and at the same time improving the capacity of communities to improve their health in the long-term. Thus, an awareness of the power and the sustainability of the Care Group approach gradually become

apparent, leading to a remarkable degree of enthusiasm for the project and its approach at the time of the final evaluation.

Other Findings from Focus Group Discussions

Interviews with MOH staff indicated that they appreciated the value of the project's Care Group approach and that the project had been able to develop good working relationships with the MOH. A number of the Care Group Volunteers mentioned that they would have appreciated a little more in the way of incentives and expressions of appreciation. The project provided them with a skirt one year and a T-shirt the following year throughout the project. While they realized that they could not expect much, small items such as soap would have been greatly appreciated. For instance, several Care Group Volunteers mentioned that they felt badly about visiting other home without having bathed and washed their clothes since they did not have any soap, but if the project had provided this for them, they would have been very happy. Finally, in different ways, various respondents mentioned that a stronger involvement of men in project activities would have been helpful. (The project field team did make an attempt to do this, but this did not take place until the final year of the project.)

Evidence Related to Lives Saved and Cost Effectiveness

Here we present the evidence related to indirect estimates of declines in under-5 mortality and number of lives save as a result of changes in coverage of key child survival indicators.

Using the LiST Tool, which produces an indirect estimate based on changes in coverage of key child survival interventions, the project saved a total of 1,097 lives of children 0-59 months of age as a result of an estimated 11.5% mortality decline (Table 5). Details about the LiST tool and how these estimates were obtained are contained in Appendix 14.

Table 5. Estimates of Lives Saved Using the LiST Tool

Number of beneficiaries	Estimated number of lives saved
50,593 (28,474 WRA and 22,119 children <5y)	1,097

Cost-Effectiveness

With these mortality estimates in hand, we can now estimate various indicators of cost-effectiveness (Table 6). The cost per life saved is \$1,391, the cost per DALY averted is \$46, and the annual cost per beneficiary is \$7.92. Further details about these calculations are contained in Appendix 14.

Table 6. Corrected Estimates of Cost-Effectiveness of Project Using the LiST Tool*

Estimated number of lives saved	Project costs (USAID only)	Cost per life saved	Cost per DALY averted*	Total cost per beneficiary per year (USAID and PVO match)
1,064	\$1.48	\$1,391	\$46	\$7.92

These mortality impact estimates are reinforced by the evidence of marked increases in coverage of several key interventions that are known to reduce under-5 mortality, most notably ITN use and the practice of exclusive breastfeeding for infants during their first 6 months of life. The repeated comments from participants in the FGDs that the number of children dying has declined markedly since the project began its activities also reinforce these conclusions. In summary, even though the project faced many challenges in its implementation and the achievement of many of the EOP targets was not met, the project nevertheless made major progress in important key areas, leading to estimates of cost-effectiveness that are quite favorable to many other USAID-supported child survival projects.

Discussion of Results

Contribution toward Objectives

The project made important progress in reaching its objectives, although this progress was not as great as had been hoped for at the outset. The progress in increasing the coverage of key indicators was solid and modest, but the FGDs suggested a stronger contribution toward the objectives than did the quantitative measurement of key indicators. The changes in practices related to malaria prevention and treatment and in exclusive breastfeeding were quite impressive and are likely to continue far beyond the end of the project since they concern behavior change and there is wide recognition, based on our findings from the FGDs, that people are aware that these changes are leading to fewer deaths from malaria and from malnutrition. The improvements in usage of ITNs might have been even more impressive if the endline survey had been conducted during January or February, when the baseline and mid-term surveys were conducted when malaria is much more common. Similarly, there would likely have been no increased in rates of childhood malnutrition if the endline survey had been conducted during the same season as the baseline survey, when the prevalence of malnutrition is apparently less.

How Were These Results Achieved?

Many elements were essential for the achievement of the above results. Among them, the most important were the Care Group model, the quality of the field team, and the engagement of communities and women as partners.

The Care Group Model¹⁷

Because of the demonstrated success of the Care Group Model in previous child survival projects, the approach has spread to many other settings around the world (Table 7). Evidence

¹⁷ A full description of the Care Group model as developed by World Relief has been written: Laughlin, M. and World Relief Health Team (2004). *The Care Group Difference: A Guide to Mobilizing Community-Based Volunteer Health Educators*. Baltimore, MD, World Relief. It is available at http://www.coregroup.org/storage/documents/Diffusion%20of%20Innovation/Care_Manual.pdf.

for its effectiveness in reducing under-5 mortality has been reported in a peer-reviewed journal¹⁸ and highlighted in the 2008 UNICEF State of the World's Children report.¹⁹ The achievements of the current project once again demonstrate the robustness and resilience of the Care Group model in a wide variety of different contexts. The growing number of organizations using the Care Group model in an increasing number of countries is a testimony to the effectiveness of the approach.

Table 7. Diffusion of the Care Group Model to Other Organizations and Countries

Organizations that Have Implemented the Care Group Model		Countries Where the Care Group Approach Has Been Implemented		
Africare	Medical Teams International	Bolivia	Haiti	Rwanda
American Red Cross	Salvation Army World Service Office	Burundi	Indonesia	Uganda
Catholic Relief Services	Samaritan's Purse	Cambodia	Kenya	Zambia
Concern Worldwide	Save the Children	Democratic Republic of Congo	Liberia	
Curamericas Global	SurfAid	Ethiopia	Malawi	
Food for the Hungry		Guatemala	Mozambique	

The Care Group model is effective because it is a simple and straightforward way of engaging local people in their health problems, relying on peer-to-peer education among women, ensuring that every household is engaged, and empowering women and community leaders to improve their health in such an effective way that the improvements are apparent to everyone.



Figure 13. Phisher Simutwe with Anna Summer, Project HQ Backstop

The Quality of the Field Staff

In spite of turnover in HQ technical advisors and long gaps without strong local project leaderships and management, it became readily apparent that the field team of 21 Facilitators and five Supervisors was quite strong, deeply engaged in and committed to the project's work, and effective. Within this group, one person emerged as a very strong and effective leader: Phisher Simutwe (see Figure 13). As his talents gradually came to be recognized, he was promoted to Supervisor and then to project M&E coordinator. When the project experienced periods without an official Project Manager, he became the *de facto* project manager. He performed so well in this role that when subsequent managers were appointed, they only needed to serve 50% of their time on the project.

¹⁸ Edward A., Ernst P., Taylor C., Becker S., Mazive E., Perry H. 2007. Examining the evidence of under-five mortality reduction in a community-based program in Gaza, Mozambique. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 101:814-22.

¹⁹ UNICEF, 2008 (*Tracking Progress in Maternal, Newborn and Child Survival*. New York, UNICEF). This is available at: <http://www.countdown2015mnch.org/reports-publications/2008report>.

Mr. Simutwe had grown up in a village near Chikankata and attended Salvation Army schools on the Chikankata compound. Previously, he had held various jobs but with the salary he received as a Facilitator he began to take distance learning courses from the Open University of Zambia in development. His natural ability became apparent to all, and his knowledge and leadership skills began to grow during the life of the project. His leadership and the cohesion of the field team have been important elements in the achievement of the project.

Engagement of Communities and Women as Partners

The enthusiasm of local women and community leaders for the project and its work was palpable in our field visits during the final evaluation. Everyone seemed to recognize that the purpose of this project, unlike the others they had been exposed to, was not give them handouts but to empower them to improve their own health with resources readily available to them – knowledge and skills provided by the project initially but then passed from mother to mother, locally nutritious foods, and the existing MOH facility-based health services. (This theme is explored more fully in the discussion of the qualitative findings and in Annex 13.)

The project promoted the engagement of community leadership groups in project activities. These included Care and Prevention Teams (CPTs) and Neighborhood Health Committees (NHCs). NHCs were introduced by the MOH several decades ago to provide democratically-elected leadership at the community level to promote health. CPTs were established by the Chikankata Health Services (CHS) in the late 1980s when it began its Home-Based Care Programs (for persons with HIV/AIDS). The CPTs had a broader community involvement than the NHCs, including CHWs, TTBA, Home-Based Care Volunteers, and community representatives.

The project carried out a baseline assessment of these groups at the outset of the project (in 2007) and a final assessment at the end of the project in 2010.^{20,21} These assessments used a methodology developed for the Concern Worldwide Child Survival Project in Bangladesh. There were 31 CPTs and 12 NHCs that participated in the final assessment. Each group was interviewed using a standard protocol. The assessment concluded that at the end of the project all but two of the groups were functioning in at least a satisfactory manner and 40% were performing well (scoring in the “good” category). Overall, there was strong progress in the functioning of these community leadership groups during the course of the project even though none scored in the “very good” category at the end of the project.

Existing Facility-based Health Services

The progress made in improving malaria prevention and treatment, immunization coverage, and provision of antenatal care and facility-based births would not have been possible if there had not been services available for the project to refer patients to. Many of these services

²⁰ Chikankata Child Survival Project. 2007. *Neighborhood Health Committees (NHCs)/Care and Prevention Teams (CPTs)*.

²¹ Chikankata Child Survival Project. 2010. *Capacity Assessment Report for Community Groups: Neighborhood Health Committees (NHCs)/Care and Prevention Teams (CPTs)*.

are provided by the MOH, of course, but the Chikankata Health Program provided many of them as did the Mtendere Mission Hospital and its health centers, run by the Catholic Diocese of Monze.

Quality of the Positive Deviance Hearth Model

In early 2010, Mr. John Mumba carried out an assessment of the PD Hearth intervention.²² He interviewed 20 Facilitators and 100 Care Group Volunteers. Unfortunately, he found that the protocols were not carefully followed (and the staff did not have a laminated hard copy of these), and he reported that in no cases had a positive deviance inquiry (PDI) been carried out. (However, Donna Sillan, a PD Hearth Consultant, came out to the project in Year 2 and carried out a PDI.) Each Facilitator had established five PD-Hearth sites, and there was a lot of enthusiasm for this approach among the Care Group Volunteers and community members, including the men. The assessment found that often the mothers had no food to bring to the PD Hearth sessions. He also noted that the Care Group Volunteers were somewhat discouraged because they had not received any incentives for more than two years.

Other Contributing Elements

Other elements also made important contributions to the project's achievements, but space limitations prevent a full discussion of them. Among these is the overall framework for the project established by the USAID Child Survival and Health Grants Program.

The Influence of the Local Context on Outcomes

What features of the environment contributed to or inhibited progress made by the project? In one sense, the firmly entrenched traditional beliefs regarding causes and treatments of life-threatening conditions – together with high levels of illiteracy – made it more difficult to promote health behaviors and practices. On the other hand, the people in the project area seem to be ready to accept the possibility that their long-held traditional beliefs are no longer appropriate for the world in which they now find themselves.

The dispersion of the population and the lack of transportation is a particular challenge, both for the project staff and for the people themselves. Obtaining transport to convey seriously ill patient to health facilities was a major challenge. Fortunately, the project was able to provide motorbikes for its Supervisors and bicycles for its Facilitators.

Given the national high prevalence of HIV infection in adults aged 15-49 years of age (16%), it is fortunate that the project was able to engage the Care Groups at least to a limited extent in addressing the problems of HIV/AIDS, mostly through promotion of voluntary counseling and testing (VCT) for pregnant women and their partners at the time of ANC at health centers. Continuing the project with a linkage of the now-existing Care Groups with the considerable amount of community-based HIV/AIDS programming in the villages, together with

²² John Mumba, 2010. PD Hearth Assessment Report, January 25th – February 5th, 2010.

expansion into community-based detection and treatment of tuberculosis, would be a logical next step if funding were available.

Role of Key Partners

The Chikankata Hospital and the MOH were key project partners. Other collaborators included the Churches Health Association of Zambia, the Zambia National Malaria Control Program, the Mtendere Catholic Mission Hospital, Plan Zambia, and Harvest Help.

The Salvation Army/Zambia has been working in the country (and the colony before independence) since 1924, and the Chikankata Health Services (CHS) have been in operation since 1945. As such, CHS has been working hand-in-hand with the MOH for more than six decades and has well-established, trusting relationships with the communities in the project area.²³ The CHS grassroots presence at the village level provided the foundation for the project to work towards better use of, demand for, and community ownership of health care services, consistent with Zambia's decentralization policies. CHS also has extensive HIV/AIDS programming in the area. One of these is the treatment of 3,800 AIDS patients with anti-retroviral medication. It has another program for orphans and vulnerable children (OVCs), and one is a home-based care program. The child survival project provided an opportunity for CHS to further strengthen these activities into maternal and child health activities and strengthen an integrated approach to services.

The MOH has established a good program of health care services at its Health Centers in the project area. Having said that, it is nonetheless unfortunate that the MOH could not be a more active participant in project activities. MOH staff members were rarely available to participate in project activities (or they expected a per diem fee that the project did not have the funds to pay). Furthermore, a high turnover of MOH staff in all districts made it difficult to build personal relationships. Having said that, it must be noted that the Child Health Days which are carried out twice annually have been a strong benefit for children by massive de-worming, vitamin A distribution, immunizations, and promotion of exclusive breastfeeding and other healthy nutritional practices.

There were other NGOs working in the project area: Plan Zambia (in Mazabuka District), Total Control of the Epidemic (TEC), and RAPIDS (a new HIV project that works with adolescents in the Siavonga District to promote early voluntary counseling and testing, formation of community committees to oversee the care of OVCs, and addressing human rights issues related to HIV). None of these were key project partners, however. Plan Zambia worked with the project to distribute ITNs and implement the PD Hearth Program.

Overall Design Factors that Influenced Results

The project had a solid design and perhaps one might say that without such a solid design, the results might not have been as positive as they were. The turnover of HQ technical

²³ One of the Facilitators reported during the Final Evaluation that "When we tell local people we are from Chikankata Hospital, they say, 'You are welcome!'"

support staff together with the turnover of project leadership in Chikankata could well have been fatal to most projects, but in this case the strong project design together with a strong field implementation team (and leadership that emerged from within the implementation team) led to a project that was reasonably successful.

Implication of Findings

Progress toward Sustained Outcomes

What is the potential for the achievements of the project to continue now that the project has ended and funding has stopped? The new knowledge acquired by local people in the project area and their changed attitudes will persist for at least some time into the future. One of the strengths of projects using the Care Group model is that a previous assessment in Mozambique, as we mentioned earlier, demonstrated that the Care Group members continue their work in visiting households and supporting mothers for at least four years after the formal project ended.

In this project area, the Care Group project has created new community norms, particularly malaria prevention and treatment, nutrition, maternal and neonatal health, and utilization of immunization services. The community members who spoke about this issue in our focus group discussions at the time of the Final Evaluation indicated that they felt there would be some continuation of Care Group activities once the project ends.

Contribution to Replication or Scale Up

This project appears to have kept a rather low profile in terms of connections in higher levels of the MOH. However, at USAID there appears to be a strong interest in learning from this project for a broader scaling up activity of community health programs in Zambia that USAID will be supporting in the near future. Our final debriefing at USAID in Lusaka with Dr. Randy Kolstad and Dr. William Kanweka on September 9 provided the Evaluation Team with the opportunity to discuss how Care Groups might be incorporated on a larger scale in Zambia.

Attention to Equity

The very fact that the Care Group model ensures that every household in the project population is reached with basic education ensures that at least some degree of equity is achieved, even if it is not optimal. Of course, the full meaning of equity involves giving more attention and resources to those in greatest need, not simply ensuring equal attention and resources for everyone. Growth monitoring makes it possible to provide special attention to malnourished children and another way of addressing equity issues. Thus, using the Hearth Model to rehabilitate malnourished children is one of the important mechanisms of the project for achieving equity since it involves a special program of nutrition education and support for mothers and caretakers of malnourished children.

Role of Community Health Workers

The Facilitators are community-level paid workers whose role was to teach health messages to the Care Group Volunteers in Care Groups and support them in their work at the household level. If, by the term “worker,” we mean paid health personnel, then Facilitators are Community Health Workers who were essential to the project’s success. And, of course, the Care Group Volunteers, who worked 4-5 hours a week or so and who received no remuneration, were also essential to the project’s success. The project worked hard to support the existing CHWs who were present before the project began, and it trained an addition 50 of these. Finally, the project also worked to provide continuing education and support for the trained traditional birth attendants in the area as well. Without Community Health Workers, the project could not have achieved what it did.

Contribution to Global Learning

There are a number of interesting and important lessons here for global learning. Of course, this is yet another example of the increasing number of organizations implementing the Care Group model in new settings. The approach is effective in the Zambia setting, and there is strong local enthusiasm for Care Groups in large part because of the local ownership that the approach builds along with the empowerment of women and community leaders.

The importance of strong and consistent technical support from afar in the form of a HQ Backstop and the importance of strong implementation team leadership on the ground are obvious to all of us. The challenges that SAWSO and the Salvation Army/Zambia faced with turnover of HQ support staff in the US and with lack of strong project leadership in the field (as a result of turnover of this leadership and periods of absent leadership) contributed to the less-than-hoped for improvements in coverage of key child survival interventions. On the other hand, the “vacuum” of local project leadership created the opportunity for strong leadership to emerge from within the implementation team that otherwise might not have.

Conclusions and Recommendations

This project has provided Chikankata Health Services (CHS) with an excellent opportunity to build capacity in community-based child survival and maternal health programming. A strong base of operations is now in place in terms of a field implementation team and in terms of good working relationships/partnerships with the MOH at the district level and with other organizations in the project area involved in maternal and child health. Even though the project’s achievements in terms of progress in expanding coverage were less than hoped for, strong and solid progress was made in improving key indicators. Furthermore, strong enthusiasm for the project among the partners, within the communities, and among the Care Group Volunteers and Beneficiary Mothers were achieved, and this can serve as a strong foundation for future programming and expansion. The field implementation team is now seasoned and enthusiastic, so hopefully they can continue to make use of these skills moving forward.

CHS now as an excellent opportunity to further integrate more closely its community-based maternal and child health services with its community-based HIV/AIDS programs. Now that funding for the child survival project is coming to a close, we hope that the more generously funded HIV/AIDS programs will be able to absorb some of the CCSP activities.

ANNEXES

Annex 1. Results Highlights

 Edwin Hamilenga, Community Health Worker	 Phisher Simutwe, <i>De Facto</i> Child Survival Project Manager
Edwin Hamilenga is a Facilitator for the project who has been a Community Health Worker (CHW) for the past 25 years in his local community, Nadzwe. He was a locomotive operator until 1987 when he was 30 years old. His community chose him then to be a CHW as part of a national program that the government of Zambia was implementing at that time, and he trained at the Chikankata Hospital for one year. During the first six months he trained at Chikankata five days a week, and the second six months he was supervised by the Chikankata Hospital staff.	Phisher Simutwe joined the project as a Facilitator as well. However, those who worked with him soon noted his strong leadership skills and his remarkable intelligence. He was promoted to the position of Supervisor. Then, as the project needed stronger leadership at the implementation level, Phisher became Monitoring and Evaluation Coordinator. Then, as he continued to show a remarkable grasp of the technical issues as well as the operational issues involved in moving the project forward, and as others naturally looked to him for leadership, Mr. Simutwe became the <i>de facto</i> project manager during the final two years of the project.

These two men represent the remarkable potential in the project area for strengthening the human resources necessary for improving the health of mothers and children. The both exhibit remarkable commitment to their people and capacity to learn to benefit their people. The project has provided both with a remarkable set of new skills and knowledge for community-based approaches to improve the health of mothers and children that will stay with them for years to come. This is capacity building at its finest.

Annex 2. Changes to the Project since Completion of the DIP

The only changes to the implementation following the approval of the DIP were some minor changes regarding the ITN strategy. Re-treatment efforts were dropped because of the MOH's distribution of long-lasting ITNs. In addition, the planned revolving funds for purchasing ITNs were not started because the government policy changed, leading to the provision of free ITNs in rural areas.

Annex 3. Program Goals, Objectives and Indicators

Goal

To reduce maternal and under-five mortality through innovative community-based behavior-change strategies and improved health services.

Objectives

Result 1: Improved malaria prevention and treatment practices (40% of project effort)

IR 1.1: Increased insecticide-treated net use among pregnant women and children under five

IR 1.2: Increased appropriate care-seeking for danger signs

IR 1.3: Continued high coverage of intermittent preventive treatment in pregnant women

Result 2: Increased immunization coverage in children (10% of project effort))

Result 3: Improved nutritional status of children and pregnant women (30% of project effort)

IR 3.1: Improved child feeding practices

IR 3.2: a) Improved detection of malnutrition b) Improved community treatment of malnutrition

IR 3.3: Increased exclusive breastfeeding up to six months of age

IR 3.4: Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid)

Result 4: Improved maternal and newborn care practices (20% of project effort)

IR 4.1: Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth

IR 4.2: Improved quality of maternal and newborn care in health facilities

IR 4.3: Increased coverage of postpartum care

Indicators

Result 1: Improved malaria prevention and treatment

Indicators
IR 1.1 Increased insecticide-treated bed net use for pregnant women and children under five
% of children 0-23 months who slept under an ITN the night before
IR 1.2 Increased appropriate care-seeking for danger signs
% of children 0-23 months with a febrile episode that ended during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began
IR 1.3 Increased coverage of intermittent preventive malaria treatment in pregnant women
% of mothers of children 0-23 months who received IPT for malaria during their last pregnancy (confirmed by maternal health card)

Result 2: Increased immunization coverage in children

Indicators
% of children 12-23 months who are fully vaccinated by the first birthday (BCG, DPT3, OPV3, and

measles)
% of children 12-23 months who have received a measles vaccine

Result 3: Improved nutritional status of children and pregnant women

Indicators
IR 3.1 Improved child feeding practices
% of children 6-23 months who ate a vitamin A-rich food, a high protein food, and an iron-rich food in the last 24 hours
% of children 12-23 months who ate semi-solid food at least four times in the past 24 hours
% of sick children 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks
IR 3.2 a) Improved detection of malnutrition, b) Improved treatment of malnutrition
% of children 0-23 months who were weighed at least once in the past two months
% of children 0-23 months who are above -2 standard deviations for weight for age
IR 3.3: Increased exclusive breastfeeding up to six months of age
% of infants 0-5 months who received nothing except breast milk in the past 24 hours
IR 3.4: Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid)
% of children 12-23 months who have received a dose of vitamin A in the past six months
% of mothers of children 0-23 months who report taking at least 90 days of iron/folic acid supplements during her last pregnancy

Result 4: Improved maternal and newborn care practices

Indicators
IR 4.1 Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth
% of mothers of children 0-23 months whose last birth was attended by a health professional
% of mothers of children 0-23 months who did not give birth in a health facility whose birth was attended by a TTBA
% of home deliveries in which a clean birth kit was used
% of mothers of children 0-23 months whose child was placed immediately with her after birth
% of children 0-23 months who were breastfed within one hour of birth
IR 4.2 Improved quality of maternal and newborn care services in health facilities
IR 4.3 Increased coverage of postpartum care
% of mothers of children 0-23 months who had at least one postpartum check-up after the birth of her last child (by a health professional or TTBA)
% of mothers of children 0-23 months who received a postpartum dose of Vitamin A during the first two months after delivery (card confirmed)

Annex 4. List of Publications and Presentations Related to the Project

None

Annex 5. Project Management Evaluation

The following report represents in part a self-assessment by the project implementation team based on a discussion held by Anna Summer, Headquarters Backstop, with the project implementation team. Part of the information was obtained from the project leadership and management staff.

Planning

No comments pro or con were made about this. The collaboration with the MOH was important for project functioning.

Supervision of Project Staff

There were frequent (and often unscheduled) visits from the Supervisors out the communities where the Facilitators were working with the Care Groups. This was very helpful.

Human Resources and Staff Management

The instability of project leadership and project management was the project's greatest weakness. Among other things, it led to inconsistencies in management and lack of follow-up in certain areas. For instance, there was a lack of technical support in following up the PD-Hearth activities.

There were officially two Technical Backstops during the life of the project. However, during the final two years of the project the official Technical Backstop worked very part-time with the able assistance of full-time associate who was not officially the Technical Backstop.

The Chikankata-based project leadership team underwent marked turnover during the life of the project. There were four project managers, and at the end of the project the Monitoring and Evaluation Coordinator had become the *de facto* project manager because of his outstanding leadership. Because of his solid performance, the two Project Managers appointed in the latter half of the project only needed to devote 50% of their time to the project.

The DIP called for a Health Education Coordinator and an Adult Service Coordinator. The person originally hired to be Health Education Coordinator left in the second year and a strategic decision was made not to fill this position since the training activity had been well-developed and was underway. The Adult Services Coordinator position was never filled – partly because of difficulties identifying the best strategy for working with men (which took until the final year of the project to resolve) and because of difficulties in recruiting a qualified candidate.

Among the original 21 Facilitators, only three left. And, among the original five Field Supervisors, all were still working with the project at the time it ended.

The delegation to the Facilitators to develop their own action plans was seen as a very positive step, giving them ownership and responsibility for the activities in their catchment areas. The project staff members were most grateful for the salaries they received, which made it possible for them to build homes, pay school fees, and engage in distance learning activities. The Facilitators had no other job opportunities outside of the

work with the project, so this income was deeply appreciated. The project field staff appreciated the opportunities they had to learn new information about health and to learn how to work with other organizations and with community networks. They said they had been exposed to trainers and consultants with a lot of knowledge and experience, and this was very helpful for them. The provision of certificates to the Facilitators after the completion of each training module was greatly appreciated by them. The field staff had the opportunity to visit new places in the project area they had never been to before. As part of their employment benefits, they received free medical care at the Chikankata Hospital (and their families received care at half the normal fee), and the staff greatly appreciated this. They felt that their experience with the project would put them in a good position for employment in future projects.

Financial Management

After the project was funded, it was discovered that the salary scales in the original proposal were higher than for other employees in the Chikankata Health Service, so they all had to be scaled back, leading to some budgetary savings. In addition, the SAWSO office in Arlington, VA, cut back on travel for the HQ Technical Backstop, producing other savings. Because of this and the presence of unfilled managerial positions, the project had unspent funds at the time of the final evaluation and was requesting USAID for a no-cost extension.

Logistics

The provision of motorcycles and bicycles for the Supervisors and Facilitators, respectively, were essential for project function. The Facilitators needed more assistance with repairs for their bicycles than the project provided them (such as providing them with spare parts when they needed them rather than requiring them to purchase them with their own money), and they would have liked very much to have been able to participate in the selection of the type of bicycle they used (in order to select one best suited for their own terrain). Other important logistical support which was very much appreciated by the project implementation team was the cooking supplies provided for the PD-Hearth sessions. The project purchase of ITNs during the first year was critical since the health facilities were poorly supplied with them at that time. (This later improved and it was no longer necessary for the project to continue to provide ITNs.)

Information Management

No comments pro or con were made about this.

Technical and Administrative Support

The project should have had a Field Office in Siavonga. The Field Office in Chikankata was too far from Siavonga, and this made it difficult to maintain close contact with the activities in Siavonga District.

The provision of training materials in the local language (Tonga) for use with the Care Groups and for the Care Group Volunteers to use was essential. The Supervisors and Facilitators received excellent training, and the annual refresher training provided to CHWs and TBAs was quite important. The training for TBAs and CHWs was quite

good, as was the training in emergency obstetrics and neonatal care and the training for PMTCT provided by MOH staff.

Other Issues Identified by the Team

Care Groups

The Care Group model was important for the success that the project achieved. The fact that the Care Group Volunteers worked with their neighbors facilitated the work as well.

Engagement with the Community

The engagement of the Care and Prevention Teams and the Neighborhood Health Committees helped to facilitate project activities, as did the many linkages with the rural health centers (RHCs). The RHC staff members were included in all the trainings, they were briefed quarterly on project activities, they participated with project staff members in meetings with the communities, and the project promoted RHC utilization in its day-to-day work in the communities. This led to a strong and effective partnership between the RHCs and the project.

During the last year of the project, a pilot activity was initiated in five communities to provide pre-arranged transport for patients with emergencies, with priority given to pregnant women. Donkeys were provided to the communities, and the community provided a cart. The process is managed by the local communities, and offspring of the donkeys are provided to other communities. The enthusiasm of the communities for this was growing rapidly even though there was skepticism at first about its value. Some of the project staff felt this activity should have been initiated earlier.

Another activity which started during the last year was the establishment of Men's Fellowship Groups. This had been planned to begin during the first year of project activities, but there was initial resistance to the idea. However, during the last year the project selected influential members of major leading churches and brought them together for a training of trainers course and then they returned back to their communities to provide health education for men in the community. This was implemented only in the Mazabuka District. The project staff felt that this activity could have helped the project a lot if it had been implemented earlier.

Motivation of Care Group Volunteers and Mothers

The Care Group Volunteers could have used more incentives beyond the very few that they received (a shirt or a skirt once a year – and even this was delayed at times). If they had had access to income-generating activities (e.g., goat keeping, poultry production, savings groups), this would have been greatly motivating to them, as would have been certificates after the completion of training in the various modules. If the mothers of malnourished children participating in the PD-Hearth Program had received a certificate at the completion of the program, there would have been stronger motivation to complete the entire program.

Annex 6. Workplan Table

8. Child Survival Project Work Plan: September 30, 2005 – September 29, 2010																					
Activities	Personnel	Year One				Year Two				Year Three				Year Four				Year Five			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
General Management																					
Hire Staff	SAWSO, CH&D Manager, CHS Manager Admin.	X																			
DIP Preparation and Workshop	Project Supervisor, SAWSO		X	X																	
Community Orientation	Supervisors, Facilitators	X																			
Train staff and partners in the Care Group Methodology	Project Supervisor, HEC			X																	
Recruiting/selection of Care Group volunteers	Supervisors, Facilitators			X																	
Refresher training for existing CHWs and TTBA's, initial training for new ones	CH&D Manager					X				X				X				X			
Establish village-based men’s groups	Adult Services Coordinator					X															
Facilitators meet with Care Groups bi-weekly	Facilitators			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Supervision of Facilitators	Supervisors		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Support monthly NHC meetings, provide refresher training	Supervisors, Facilitators, Project Supervisor			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Participate in quarterly DHMT meetings	CH&D Manager	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Support monthly CPT meetings	Facilitators, Supervisors		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Task Force Meeting	All	X		X		X		X		X		X		X		X		X		X	
Give Annual Volunteer Incentives	Facilitators				X				X				X				X				X
Monitoring and Evaluation																					
Train Staff in Baselines	SAWSO, M&E Coordinator		X																		

8. Child Survival Project Work Plan: September 30, 2005 – September 29, 2010																					
Activities	Personnel	Year One				Year Two				Year Three				Year Four				Year Five			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Census and Community Mapping	CH&D Manager, Supervisors, Facilitators		X	X																	
KPC Survey/ Anthropometric Survey	SAWSO, CSP Team		X																	X	
Qualitative Research	SAWSO, CSP Team			X		X			X												
Health Facility Assessment	CSTS+, CSP Team, DHMT, other partners				X																
Org Capacity Assessment and capacity development plan– CHS	Consultant, SAWSO, CHS				X																
Organizational Capacity Assessments and capacity development plans – CPTs/NHCs	Consultant, SAWSO, CPTs, NHCs				X	X	X	X	X												
Develop monitoring forms for Care Groups	M&E Coordinator, Project Supervisor		X	X																	
Modify existing health facility data forms to incorporate essential project data	M&E Coordinator with DHMTs																				
Compile and analyze Care Group and Hearth data	Facilitators, Supervisors				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mini-KPC surveys	Supervisors, Facilitators					X				X		X		X		X		X			
Mid-term Evaluation	Consultant, CSP Team												X								
Final Evaluation	Consultant, CSP Team																			X	
Result 1: Improved malaria prevention and treatment																					
IR 1.1 Increased insecticide-treated bed net use for pregnant women and children under five																					
IR 1.2 Increased appropriate care-seeking for malaria danger signs																					
IR 1.3 Continued high coverage of intermittent preventive malaria treatment in pregnant women																					
Procure ITNs, train and set up ITN revolving funds in health facilities and CPTs	Project Supervisor, CHAZ				X	X															
Develop behavior change strategy for	Project Supervisor, HEC			X																	

8. Child Survival Project Work Plan: September 30, 2005 – September 29, 2010																						
Activities	Personnel	Year One				Year Two				Year Three				Year Four				Year Five				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
malaria																						
Develop curriculum for staff and Care Groups	HEC, Project Supervisor			X																		
Train staff	HEC			X																		
Train health workers in malaria messages and malaria in pregnancy	Project Supervisor, CH&D Manager				X																	
Develop/procure education materials for Care Group volunteers	HEC				X																	
Train Care Groups	Facilitators				X								X									
Train men’s groups	Adult Services Coordinator				X																	
Develop malaria dramas through school-based groups	HEC, CHAZ				X																	
Support re-treatment activities at health facilities and communities	Supervisors, Facilitators				X				X				X				X				X	
Mini-KPC Survey for Malaria Indicators	Project Supervisor, M&E Coordinator					X																
Result 2: Increased immunization coverage in children																						
Qualitative Research, assessment of immunization services	Project Supervisor with DHMTs				X	X																
Coordinate activity plans with RHCs to support outreach activities	Supervisors and Facilitators				X																	
Develop/procure materials for health workers/health facilities	Project Supervisor, HEC					X																
Train health workers	HEC, CH&D Manager					X																
Train staff	HEC					X																
Train Care Group Volunteers	Supervisors and Facilitators					X																
Train CPTs and NHCs	Supervisors and					X																

8. Child Survival Project Work Plan: September 30, 2005 – September 29, 2010																						
Activities	Personnel	Year One				Year Two				Year Three				Year Four				Year Five				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
	Facilitators																					
Train men’s groups	Adult Services Coordinator					X																
Mini-KPC for Immunization Indicators (jointly with Nutrition Indicators)	Project Supervisor, M&E Coordinator									X												
Result 3: Improved nutritional status of children and pregnant women																						
IR 3.1 Improved child feeding practices																						
IR 3.2 a) Improved detection of malnutrition, b) Improved treatment of malnutrition																						
IR 3.3: Increased exclusive breastfeeding up to six months of age																						
IR 3.4: Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid)																						
Identify distant communities for CHW-led GMP; help CHWs set up monthly sessions	Supervisors, Facilitators					X																
Develop curriculum for staff and Care Groups	HEC				X	X																
Train staff	HEC						X															
Train health workers	CH&D Manager, Project Supervisor						X															
Train Care Groups	Facilitators						X							X								
Train men’s groups	Adult Services Coordinator						X							X								
Conduct PD inquiry; develop Hearth sessions	Project Supervisor with CSP team							X						X								
Conduct Hearth cycles	Facilitators, Supervisors, Care Groups								X					X	X							
Mini-KPC for Nutrition Indicators (jointly with Immunization Indicators)	Project Supervisor, M&E Coordinator									X												
Result 4: Improved maternal and newborn care practices																						
IR 4.1 Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth																						

8. Child Survival Project Work Plan: September 30, 2005 – September 29, 2010																							
Activities	Personnel	Year One				Year Two				Year Three				Year Four				Year Five					
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
IR 4.2 Improved quality of maternal and newborn care services in health facilities																							
IR 4.3 Increased coverage of postpartum care																							
IR 3.4 Increased coverage of modern contraceptive methods																							
Develop curriculum for staff and Care Groups	HEC								X														
Health worker training	Consultant									X	X												
Train staff	HEC									X													
Train Care Groups	Facilitators										X						X						
Train men’s groups	Adult Services Coordinator										X						X						
Establish clean birth kit revolving funds	Project Supervisor, CHAZ									X													
Review and revise referral protocols if necessary	Project Supervisor, CH&D Manager with DHMTs									X	X												
Work with CPTs/establish emergency funds and transport	Supervisors, Facilitators									X	X												

Annex 7. Rapid CATCH Table

Rapid CATCH Indicators		BL Value	MT Value	Final Value
1	Percentage of children age 0-<24m who were underweight (-2SD from the median weight-for-age, according to the 1978 WHO/NCHS reference population)	12.6	11.1	19.1
2	Percentage of children age 0-<24m who were born at least 24 months after the previous surviving child	79.3		76.8
3	Percentage of children age 0-<24m whose births were attended by skilled health personnel (Doctor or nurse)	44.2	48.4	51.5
4	Percentage of mothers with children 0-<24m who reported receiving at least two tetanus toxoid injections before the birth of their youngest child	19.2		38.3*
5	Percentage of children 0-<6m who were exclusively breastfed during the past 24 hours, based on dietary recall	43.8	67.9	85.1*
6	Percentage of children 6-<10m who received breast milk and complementary foods during the last 24 hours, based on dietary recall	95.1		94.9
7	Percentage of children age 12-<24m who are fully vaccinated before the first birthday	35.2	55.5	54.6
8	Percentage of caretakers with children age 12-<24m who recalled that their child received a measles vaccine ²⁴	54.6	75.6	73.7
9	Percentage of children 0-<24m who slept under an ITN the previous night	21.8	66.2	56.2*
10	Percentage of caretakers with children 0-<24m who cited at least two known ways of reducing the risk of HIV infection	62.9		70.9
11	Percentage of caregivers of children 0-<24m who report washing their hands with soap/ash at the four critical times	10.9		12.6
12	Percentage of caretakers with children 0-<24m who know at least two childhood illness danger signs for seeking care immediately	74.9		87.5*
13	Percentage of children 0-<24m who were offered increased fluids and continued or increased feeding during illness	3.0		10.5

* Denotes statistical significant ($p < 0.05$)

²⁴ The survey measured card-documented measles vaccination, not maternal recall.

Annex 8. Final KPC Report

**Final Knowledge, Practices, and Coverage Survey
July 2010**

Chikankata Child Survival Project
The Salvation Army World Service Office

Mazabuka and Siavonga Districts of Southern Province, Zambia

COOPERATIVE AGREEMENT # GHS-A-00-05-00033-00

START DATE – September 30, 2005

END DATE – September 29, 2010



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EXECUTIVE SUMMARY

A Knowledge, Practices, and Coverage (KPC) Survey was carried out in the five supervision areas of The Salvation Army/Zambia Chikankata Child Survival Project in the Mazabuka and Siavonga Districts in the Southern Province of Zambia, from July 10-15, 2010. Organizations conducting the survey included The Salvation Army/Zambia Chikankata Health Services, The Salvation Army World Service Office (SAWSO), and The Mazabuka and Siavonga District Ministries of Health.

The objectives of the survey were as follows:

1. To assess progress towards objectives
2. To identify areas requiring further investigation during qualitative final evaluation
3. To determine how well program priorities were established
4. To plan for any future follow-up programs
5. To evaluate the success of the approach for application in other programs
6. To share with partners, especially the MOH, regarding remaining priorities (by intervention and supervision area)

The training and survey were accomplished from July 6-15, 2010. Computer analysis was completed in August and this report was prepared in September.

The Chikankata Child Survival Project is a partnership between TSA/Zambia Chikankata Health Services, SAWSO, and the Mazabuka and Siavonga District Ministries of Health, with funding from USAID and SAWSO. Other collaborators include Harvest Help/Zambia, the Churches Health Association of Zambia, Plan/Zambia, Mtendere Catholic Mission Hospital, the Zambia National Malaria Control Program, and World Vision/Zambia. The program serves a population of 124,613.

Major findings included the following:

- Exclusive breastfeeding increased dramatically from 43.8% to 85.1%.
- Immediate breastfeeding climbed from 43.8% to 71.6%.
- ITN use for children under two increased from 21.8% to 56.2%.
- Immediate care-seeking for fever increased from 22.5% to 45.8%.
- Nearly 63% of children were reported to have been placed with their mothers immediately following birth (up from 15.3% at baseline).
- Vaccination by first birthday jumped from 35.2% to 54.6%.
- More than twice as many mothers (24.5% vs. 57.2%) reported taking at least 90 days of iron supplements during her last pregnancy.
- Use of clean birth kits for home deliveries reached 71.6%, up from 55.8% at baseline.
- Delivery by a skilled birth attendant increased from 44.2% to 52.6%.
- Postpartum coverage by a health professional or TTBA tripled from 18.7% to 56.4%.

INTRODUCTION

The Salvation Army World Service Office (SAWSO), in partnership with The Salvation Army/Zambia, is implementing the USAID-funded Chikankata Child Survival Project (CCSP), in the Mazabuka and Siavonga Districts of the Southern Province of Zambia. The CCSP goal is to

reduce maternal and under five mortality among 72,025 direct beneficiaries (44,112 children under five and 27,913 women of reproductive age). Original proposed program results and objectives are as follows:

Result 1: Improved malaria prevention and treatment practices (40%)

- IR 1.1: Increased insecticide-treated net use among pregnant women and children under five
- IR 1.2: Increased appropriate care-seeking for danger signs
- IR 1.3: Increased coverage of intermittent preventive treatment in pregnant women

Result 2: Improved nutritional status of children and pregnant women (40%)

- IR 2.1: Improved child feeding practices
- IR 2.2: a) Improved detection of malnutrition b) Improved community treatment of malnutrition
- IR 2.3: Increased exclusive breastfeeding up to six months of age
- IR 2.4: Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid)

Result 3: Improved maternal and newborn care practices (20%)

- IR 3.1: Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth
- IR 3.2: Improved quality of maternal and newborn care in health facilities
- IR 3.3: Increased coverage of postpartum care
- IR 3.4: Increased coverage of modern contraceptive methods

The CCSP began on September 30, 2005 and ends on September 29, 2010. In July 2010, the CCSP partners conducted a baseline Knowledge, Practice, and Coverage (KPC) Survey as a part of the project's final evaluation activities.

PURPOSE OF THE SURVEY

The KPC Survey is a vital tool in planning the project's activities and strategies for the next five years. The objectives of the survey were as follows:

1. To assess progress towards objectives
2. To identify areas requiring further investigation during qualitative final evaluation
3. To determine how well program priorities were established
4. To plan for any future follow-up programs
5. To evaluate the success of the approach for application in other programs
6. To share with partners, especially the MOH, regarding remaining priorities (by intervention and supervision area)

PROCESS AND PARTNERSHIP BUILDING

The staff from the CCSP invited representatives from its partners to participate in the data collection, tabulation, and analysis. Members of The Salvation Army/Zambia's Chikankata Health Services, the Siavonga District Ministry of Health, and the Mazabuka District Ministry of Health participated in the training and conducted interviews. Others, such as Community Health Workers (CHWs), headmen, and Rural Health Center staff, assisted the survey team in mapping communities for random selection of households.

METHODS

Questionnaire – The team used the same questionnaire from the baseline survey to facilitate comparison. Minor changes were made to adjust for changes to indicators, such as eliminating questions on ITN retreatment, and small improvements were made to correct earlier errors and translation problems. The questionnaire was divided into two separate questionnaires, one for mothers of children 0-11 months and one for mothers of children 12-23 months. All questionnaires included questions on growth monitoring, Vitamin A supplementation, management of illness, acute respiratory illness (ARI), and malaria. Questionnaires for mothers of children under two also included all of the Rapid Catch questions and questions on breastfeeding, nutrition, prenatal care, and postpartum care, and all children were weighed. Mothers of younger children were also asked more detailed questions about breastfeeding, and children 12-23 months were assessed for immunization status, de-worming, and food frequency. Both questionnaires for 0-11 months and for 12-23 months included 72 questions and lasted approximately 45 minutes. The survey team also over-sampled using four mini-questionnaires to ensure large enough sample sizes for calculating key indicators. These questionnaires included only necessary questions to assess exclusive breastfeeding (0-5 months), complementary feeding (6-9 months), fever care-seeking, and ARI care-seeking. (See sampling section for more detail.) Interviews were conducted orally in Tonga. Questionnaires are included in Attachment 2.

Indicators – The survey measured indicators for breastfeeding, nutrition, immunizations, sick child management, ARI, malaria, hygiene, prenatal care, postpartum care, child spacing, and HIV/AIDS. The table in Attachment 3 defines the indicators measured by the survey, organized by intervention area.

Sampling – The survey team used lot quality assurance sampling (LQAS) for selection of survey respondents. The project area was divided into five supervision areas or zones based on catchment areas of health facilities. Each zone had 19 surveys for each universe (mothers of children 0-11 months and mothers of children 12-23 months). Additionally, surveyors conducted over-sampling by administering mini-questionnaires for key sub-groups (mothers of children 0-5 months, mothers of children 6-9 months, mothers of children 0-23 months with fever in the last two weeks, and mothers of children 0-23 months with fast/difficult breathing in the last two weeks.) This over-sampling ensured that the sample size for these sub-groups was large enough to calculate key indicators with an acceptable margin of error.

The CCSP team used recently-updated project census data on village/community size for the entire project area in order to complete sampling frames. Houses were selected from the household list kept by each village headman using a random number table. In sampling mothers, surveyors randomly selected houses and interviewed mothers based on the age of their children (0-11 or 12-23 months) until the 19 surveys were completed for that age group and zone.

Every set of questionnaires began with its own randomly selected starting point (household). A starting point was identified for each set of questionnaires and an interview was conducted in each randomly selected household where a person from one of the defined population groups was present and agreed to be interviewed. If no one from the defined population groups was found, data collectors went to the closest house, and continued in that manner until the set of questionnaires was completed. If more than one qualified respondent from the same population

group was present in a household, the surveyors chose the informant at random. Surveyors never conducted the same type of interview with two respondents in the same household. After each set was completed, survey teams assessed whether or not they had data on the four key sub-groups (0-5 months, 6-9 months, fever in last two weeks, and fast/difficult breathing in last two weeks). If any one of the sub-groups was missing, surveyors continued to the next house to administer the appropriate mini-questionnaire until the sub-group requirement was filled.

Overall, the sample included 95 mothers of children 0-11 months, 95 mothers of children 12-23 months, 49 mini-questionnaires of mothers of children 0-5 months, 58 mini-questionnaires of mothers of children 6-9 months, 37 mini-questionnaires of mothers of children 0-23 months with fast breathing, and 25 mini-questionnaires of mothers of children 0-23 months with fever.

Training – The training participants included all of the CCSP staff, staff from the Chikankata Mobile Clinic Team, and one representative each from the Siavonga and Mazabuka District MOHs. The training lasted a total of three days (July 6-8). Participants reviewed knowledge and skills in the following areas:

- Uses of surveys
- Random sampling
- Using LQAS in surveys
- Identifying interview locations
- Selecting households and respondents
- Review of the survey questionnaires
- Interviewing techniques
- Weighing children
- Developing the data collection plan

The SAWSO Health Technical Advisor and a consultant (the former SAWSO Health Program Officer) co-facilitated the workshop. The training was based on the manual, *Assessing Community Health Programs: Using LQAS for Baseline Surveys and Regular Monitoring*, written by Joseph J. Valadez and published by TALC.

Data collection – Interviews for mothers of children 0-23 months took about 45 minutes. Mini-questionnaires lasted only about 5-10 minutes. Data collection lasted seven days (July 9-15). The primary constraint was the long distances that were covered (large project area).

To ensure high quality data collection, each survey team consisted of two to three interviewers and one supervisor. Supervisors observed each interviewer's first few interviews, and after being satisfied that they were conducting surveys well, simply reviewed completed questionnaires in the field. In many cases, interviewers worked in pairs after supervisor observation to further ensure quality data collection. If a questionnaire had incomplete data, interviewers returned to the respondent to verify and complete the interview.

Data analysis – A consultant analyzed the data in Epi-Info version 3.5.1 (2008).

RESULTS

Annex 1 summarizes results from the survey, comparing them with revised CCSP targets for listed indicators. Annex 4 summarizes results from the LQAS analysis, identifying priority supervision areas.

Results by Question/Intervention

(For a discussion of results and their implications, please see page 9.)

Background Information

Background information was gathered for mothers of children 0-23 months. Average maternal age was 27.3 years. Ninety-five children were 0-11 months, and 95 were 12-23 months of age.

Of the 190 respondents, over one fourth (26.3%) said they had not attended school at all, and half (53.7%) had attended less than six years.

Nearly 96% of mothers answered that they prefer to speak Tonga, indicating a high level of cultural homogeneity in the beneficiary population. Three percent of mothers said Nyanja, 1% said Bemba, and 0.5% said English.

More than three quarters (76.8%) of fathers live with their children, and two thirds (66.7%) of mothers reported that their husbands/partners are head of the household. Almost 14% of mothers said they were the head of household, and nearly 20% reported another relative or person.

Most mothers (64.7%) do not work outside the home, and those that do perform a variety of jobs. An approximately equal percentage of mothers (7.5-8.6%) said they do harvesting, selling foods, work as a shopkeeper/vender, and have a salaried job. Two mothers (1%) reported doing handicrafts, and three (1.6%) reported working as a household servant. For the 35% of mothers who do work outside the home, almost a quarter said older children care for their child, and 40% said they themselves care for the child (take him/her with her).

Breastfeeding

Nearly all the 190 mothers (98%) reported that they had ever breastfed their child. Over 92% reported to be currently breast feeding the child. Nearly 72% reported breastfeeding within the first hour of birth (an increase from 44% at baseline).

Of the 90 mothers of children 0-11 months who answered questions about colostrum, nearly 99% said they breastfed in the first three days, and only 3% reported giving the child something else before breast milk (a decrease from 18% at baseline). Of those who gave something else first, one said other milk and one said infant formula. No mothers reported giving plain water or water with sugar/salt, as in the baseline.

One hundred mothers of children under six months were asked questions to determine if the child was being exclusively breastfed. Mothers were asked what liquids the child drank and what food he/she ate the day before during the day or night. Responses are as follows:

Liquids:

- 100% – breast milk
- 9.0% – water
- 3.0% each – formula, fruit juice, and liquid traditional medicine
- 1.0% – other liquids

Foods:

- 6% (6) – porridge
- 2% (2) each – grains (such as maize meal, rice, etc.), pumpkin/carrots (other orange vegetable), other fruits/vegetables, eggs
- 1% (1) each – commercially prepared baby food, potatoes/roots, green leafy vegetables, fish, beans

A large majority (85.1%) of the children under six months were reported to be exclusively breastfeeding (no other liquid or food besides breast milk in the past day and night), a significant increase from baseline (43.8%).

Nutrition

Eighty-eight mothers of children 6-9 months of age were asked questions to determine the complementary feeding rate. Nearly 95% (84) of mothers reported that the child was currently breast feeding and had received semi-solid or solid food the day before.

Responses of mothers of children between 6 and 23 months of age (139 in total) were analyzed to determine how many children received key nutrients such as Vitamin A, protein and iron. Nearly two-thirds of children (62.9%) were reported to have consumed a Vitamin A-rich food the day before, mostly from green leafy vegetables. A slightly higher number (65.5%) also received a protein-rich food, and just less than one half of children (44.6%) had an iron-rich food. Over 40% of children had eaten a Vitamin A-rich food, a high protein food, and an iron-rich food the day before the survey (an increase from 27% at baseline).

For mothers of children 12-23 months, the interview assessed meal frequency. Of 90 children, 32.2% ate solid or semi-solid food at least four times the day before (up from 21.1% at baseline).

Growth Monitoring/Immunization

Of 185 children under two, 84.7% had growth monitoring cards. Nearly 13% of mothers reported having a card at one time, but it was lost or misplaced, while 3% reported never receiving a card. Nearly three fourths of children (73.8%) under two had been weighed in the two months before the survey.

Of the 95 children 12-23 months of age, less than 10% had received a dose of Vitamin A in the six months prior to the survey (card confirmed). Only 7.5% of children 12-23 months had received a deworming medication in the six months before the survey.

Immunization coverage was improved from baseline. Nearly 55% of children 12-23 months had completed the full immunization schedule by the first birthday (20 percentage points higher than baseline). Measles vaccination coverage was 73.7% (up from 54.6% at baseline).

Hygiene

Only a small number (12.6%) of mothers reporting washing their hands with soap or ash at all four key times (before preparing food, before feeding children, after defecation, and after attending to a child who has defecated). Specific responses were as follows:

- After defecation – 67.4%
- Before food preparation – 67.4%
- Before feeding children – 49.5%
- After attending to a child who has defecated – 37.9%
- Never – 3.7%

Management of Sick Child (General)

When the 190 mothers of children 0-23 months were asked what would indicate their child needed treatment, nearly 88% named at least two general danger signs. The most common signs mentioned were high fever (90.5%) and looks unwell/not playing normally (65.3%). Other responses are as follows:

- Not eating or drinking – 41.6%
- Lethargic or difficult to wake – 28.9%
- Fast or difficult breathing – 24.2%
- Vomits everything – 13.7%
- Signs of dehydration – 12.1%
- Convulsions – 8.9%
- Don't know – 1.1%

Over 80% (152/187) of mothers said that the child had experienced an illness in the two weeks prior to the survey. Fever (65.3%) and cough (64.2%) were the most commonly mentioned, followed by:

- Diarrhea – 45.8%
- Fast/difficult breathing – 35.3%
- Malaria – 20.5%
- Other – 5.3%
- Blood in stool – 2.1%
- Convulsions – 1.6%

The 152 mothers who reported that their children had been ill were asked about feeding during the illness. Only 16 mothers (10.5%) reported both offering more to drink and the same amount or more to eat when the child was sick.

Acute Respiratory Illness

Both the regular and fast/difficult breathing questionnaires asked mothers of children under two about seeking treatment for a child who had fast/difficult breathing in the past two weeks. Of the 121 mothers, 98 (91.6%) said they sought care for the fast/difficult breathing. The majority of those mothers reporting seeking care from a health facility. Most went to a hospital (82.7%), while a smaller number (12.2%) went to a rural health center. Two percent of mothers reported visiting a private clinic and none sought care from a Community Health Worker. Overall, 89.4% of mothers

sought care for her child's fast/difficult breathing from an appropriate source (health facility or CHW).

Fever/Malaria

Mothers of children 0-23 months with fever in the past two weeks also tended to seek care for their child's fever from health facilities. Nearly 85% of mothers reporting seeking care, and 82.1% sought care from an appropriate place. Delays in care-seeking reduced significantly from baseline, as nearly half of mothers reported seeking care the same day (versus 22.5% at baseline). Because of recently revised practices regarding diagnosis for malaria and treatment protocols, data on medications and the corresponding indicator could not be calculated. (See discussion section.)

Intermittent Preventive Treatment

The majority (87.7%) of mothers of children 0-23 months reported having taken an appropriate drug for malaria (sulfadoxine-pyrimethamine) during her child's pregnancy.

Insecticide-Treated Nets

About three fourths (76.8%) of mothers of children 0-23 months reported owning a bednet (increased from 36.8% at baseline). One third of mothers said they had one net, one quarter said they had two, and about one fifth said they had three or more nets. Mothers were asked who slept under them the night before the survey. Well over half (56.2%) of children 0-23 months were reported to have slept under an ITN the previous night (from 21.8% at baseline). Because of changes in the types of nets being distributed, the re-treatment indicator was dropped and no data was collected on net treatment. (See discussion.)

Prenatal Care and Delivery

Just over half of the 190 mothers had their antenatal cards available to show interviewers during the survey, and of those mothers, nearly all (94.1%) had had at least two prenatal visits during her pregnancy with the child concerned in the interview. Of mothers with cards, nearly 71% had recorded least two tetanus toxoid injections on their cards (38.3% of all mothers).

Ninety percent of mothers reported that they received or purchased iron supplements during the respective pregnancy, and 58.3% reported actually taking the supplements for at least 90 days (up from 24.5% at baseline).

When asked where they delivered, 42.6% of mothers reported giving birth at home (down from 58.4% at baseline), while 52.1% reported delivering in a health facility (up from 41.6% at baseline). The coverage for skilled provider at delivery was 51.5%, an increase from 44.2% at baseline. Of mothers giving birth at home, about a fourth (23.9%, up from 8.1%) reported being attended to by a Trained Traditional Birth Attendant (TTBA). Over one third of mothers who had a home birth reported that a family member assisted her with the child's birth. Of the 91 mothers who delivered at home, 71.6% reported that a clean birth kit was used.

For key newborn health behaviors, interviewers asked where the child was placed and what the mother did with the child immediately after birth. Nearly 62% of mothers said her child was placed with her immediately following the birth (up from 15.3% at baseline).

Postpartum Care

Over 80% of mothers reported that someone checked on her health after the birth, and 56.4% said that postpartum check was performed by a health professional or TTBA (an increase from 18.7% at baseline). Sixty-nine mothers (51.1%) reported the check took place the day of the birth, with 57.6% reporting it took place within six days.

More than one half of mothers (58.1%) said they had received a post-partum dose of Vitamin A, and one fourth (26.8%) of mothers had that dose documented on the maternal health card within two months of delivery (up from 6.3% at baseline).

Child Spacing

Of the 74 mothers with at least two children under five years of age, 57 (76.8%) had at least 24 months between the births of the two youngest. Of mothers who were not currently pregnant and did not want another child in the next two years (or were not sure), 52.7% were using a modern contraceptive method.

HIV/AIDS

All mothers said they had heard of the illness called AIDS. Most (92.6%) also said that one can avoid getting AIDS or the virus that causes AIDS. When asked what specifically a person can do to avoid getting AIDS, however, only 70.9% could name at least two ways to reduce risk of HIV infection.

DISCUSSION

Breastfeeding

Exclusive breastfeeding increased dramatically, from below 50% at baseline, to over 85% at final, reaching the project target of 70% and achieving a statistically significant rise. All of the zones reached the target coverage, despite Zones Four and Five starting below the baseline average coverage. Immediate breast feeding also showed a statistically significant increase from 43.8% to 71.6%, and barely missed the project target of 75%. (Despite the average coverage LQAS analysis found that none of the zones were below the target.)

Nutrition

While survey results showed some improvement in child feeding practices, the project did not achieve targets for these indicators. For general child feeding practices, such as eating foods high in key nutrients (Vitamin A, iron, and protein), outcomes increased from 27.2% to 40.4%, but missed the target (50%). Because the project lost its first manager, an experienced nutritionist, the nutrition component struggled to meet planned milestones. Coordination with RHCs and CHWs to improve coverage of growth monitoring was difficult and resulted in a very small increase in coverage (69.4% to 73.8%). Only one zone (Five) met the project target of 90% for growth monitoring. Hearth was also not implemented according to standards, as seen in an external assessment conducted in the final year.

Feeding frequency remained a problem, although it showed a modest rise (21.1% to 32.2%), and three zones (Two, Four and Five) met the project target of 50%. The demands on women in the rural setting and food insecurity are significant barriers to increasing the number of times each day children eat. Feeding during illness also remained low (10.5%), although it, too, increased from baseline (3.0%).

Prevalence of malnutrition increased slightly from 12.6% to 19.1%, although the increase is not statistically significant. Much of the difference can be explained by the time of year in which surveys were conducted. February (baseline and mini-survey in 2008) is after harvest in some parts of the project area, and most families have sufficient food during that time. July represents the hungry season in Siavonga, which increases acute malnutrition in children.

Vitamin A supplementation was very low in children, probably due to the timing of the survey. Child Health Week (held every six months) is the primary means for reaching families with Vitamin A, and it was being held the week *after* the survey. Self-reported iron supplementation in pregnancy increased significantly and surpassed the project target coverage.

Immunization

While immunization rates increased substantially from baseline (from 35.2% to 54.6%), the project struggled to overcome staff shortages, lack of transportation, and poor infrastructure. Most health centers still only offer immunizations on certain days of the week, with unstaffed facilities (those with only a Community Health Worker) only immunizing once a month. Zones One and Two (covered by Chikankata's mobile clinics) did achieve the project target of 70%, but the other three zones did not.

Management of Sick Child

Maternal recognition of danger signs rose by a statistically significant amount (74.9% to 87.5%). More mothers recognized each individual danger sign (except dehydration, which dropped by 2%), and recognition of convulsions tripled (although was still too low).

Acute Respiratory Illness

Care-seeking rose slightly for fast/difficult breathing (81.3% to 89.4%). (It was high at baseline.) Most mothers sought care at the hospital or health center.

Fever

Recognition of fever as a danger sign and care-seeking for fever only rose by a small margin (they were high at baseline), mothers sought care much sooner than at baseline. At baseline, less than a fourth of mothers (22.5%) reported seeking care within 24 hours, but at final, nearly half did so (45.8%). The project did not measure whether or not children received an appropriate anti-malarial because the diagnosis and treatment protocols changed drastically from the time of the baseline survey to the final. Partially due to the work of ZIMMAPS (in which the CCSP played an important role), most RHCs and HAHCs have begun using rapid diagnostic tests for malaria, which have revealed that a much smaller portion of fevers are due to malaria than was previously assumed. This change means that not all fevers are automatically being treated with antimalarials and comparing the treatment indicator between baseline and final would be meaningless.

Intermittent Preventive Treatment

IPT coverage remained high in the project area, even rising slightly (from 83.8% to 87.7%).

Insecticide-Treated Nets

Access to ITNs increased dramatically during the life of the project, due both to project purchases and increased supply at RHCs. The project focused on encouraging demand for ITNs, which is

now very high in most of the project area. The final survey results reveal that families are prioritizing children for ITN use, as over three fourths of household own nets, and 56% of children under two were reported to have slept under one. The overall coverage barely missed the target of 60%, but four of the five zones achieved that rate. Distribution continues to be something of a problem: while demand is high and supply is sufficient, current MOH policy requires distribution to be conducted out of RHCs, which is complicated by long distances, poor road infrastructure, and lack of transportation.

The government adopted new policies for ITNs during the project, discontinuing distribution of regular nets and only supplying long-lasting nets (which eliminated the need for re-treatment).

Prenatal Care and Delivery

Retention of maternal health cards improved from baseline to final, but is still inadequate for true measurement of key maternal health services. Tetanus toxoid coverage improved, but was probably a result of improved card retention. Prenatal care (at least two visits) was high for those with cards. Of those without cards, 97% said they had had one and lost it, indicating they had received at least some care.

Delivery in a health facility and/or by a skilled provider did increase over the life of the project and met the project target. This result is particularly encouraging, as the national government is discouraging use of TTBA's for attending births at home. The rate of home births is still high, however; and the project has conducted some qualitative research to determine future roles of TTBA's and guidance in how to increase facility births. The new government policy has also limited access and supply of clean birth kits, which could create a risk for mothers who do chose to deliver at home.

Postpartum Care

Postpartum care coverage more than tripled during the project (from 18.7% to 56.4%), reflecting a statistically significant change and meeting the project target. Since postpartum coverage was self-reported in this survey and not card-confirmed, rates were not affected by low card retention. Postpartum coverage was also slightly higher than the rate of facility delivery, indicating that mothers birthing at home were receiving care. (Over 18% of postpartum care was done by a TTBA.)

The postpartum dose of Vitamin A was also low, although probably affected by low antenatal card retention. (While only 27% of mothers had the dose recorded on the card, nearly 60% reported receiving it.)

Child Spacing

Rates for child spacing and contraceptive prevalence were essentially unchanged from baseline. This result was to be expected, as family planning was not a focus of the project.

HIV/AIDS

Knowledge of how to prevent HIV infection rose slightly during the project, although not significantly. As with family planning, HIV was not a major focus of the project's behavior change strategy.

Results from Final KPC Survey – July 2010

Chikankata Child Survival Project¹

Result 1: Improved malaria prevention and treatment

Indicators	Baseline January 2006		Mini-KPC Feb 2007	Final July 2010			Target
	Mean	95% C.I.		Sample	Mean	95% C.I.	
IR 1.1 Increased insecticide-treated bednet use for pregnant women and children under five							
% of children 0-23 months who slept under an ITN the night before	21.8	15.7-27.9	66.2	111/190	56.2*	47.4-64.5	60%
IR 1.2 Increased appropriate care-seeking for danger signs							
% of children 0-23 months with a febrile episode that ended during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began	10.5	4.0-16.9	25.0	N/A	N/A	N/A	65%
% of children 0-23 months with a febrile episode that ended during the last two weeks who sought care from an appropriate source within 24 hours after the fever began	22.5	14.8-30.2	N/A	56/116	45.8*	34.9-57.2	N/A
% of children with cough and fast/difficult breathing in the last two weeks who were taken to a health facility or received antibiotics from a trained CHW	81.3	73.4-89.1	N/A	95/107	89.4	80.9-95.5	N/A
IR 1.3 Increased coverage of intermittent preventive malaria treatment in pregnant women							
% of mothers of children 0-23 months who received IPT for malaria during their last pregnancy (confirmed by maternal health card)	83.8	78.9-88.9	94.9	167/190	87.7	81.2-92.7	At least 70%

Result 2: Increased immunization coverage in children

Indicators	Baseline January 2006		Mini-KPC Feb 2008	Final July 2010			Target
	Mean	95% C.I.		Sample	Mean	95% C.I.	
% of children 12-23 months who are fully vaccinated by the first birthday (BCG, DPT3, OPV3, and measles)	35.2	25.8-44.7	55.5	53/95	54.6	42.0-66.3	70%
% of children 12-23 months who have received a measles vaccine	54.6	44.6-64.5	75.6	70/95	73.7	62.2-83.9	80%

¹ Data was collected in five supervision areas using LQAS. All means are weighted by population of supervision areas.

*Change from baseline is statistically significant.

Result 3: Improved nutritional status of children and pregnant women

Indicators	Baseline January 2006		Mini-KPC Feb 2008	Final July 2010			Target
	Mean	95% C.I.		Sample	Mean	95% C.I.	
IR 3.1 Improved child feeding practices							
% of children 6-23 months who ate a Vitamin A-rich food, a high protein food, and an iron-rich food in the last 24 hours	27.2	19.7-34.6	25.0	52/139	40.4	30.7-50.5	50%
% of children 12-23 months who ate semi-solid food at least four times in the past 24 hours	21.1	13.4-28.8	36.7	30/90	32.2	21.6-44.9	50%
% of sick children 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	3.0	0.0-5.9	N/A	16/149	10.5	5.2-17.4	30%
IR 3.2 a) Improved detection of malnutrition, b) Improved treatment of malnutrition							
% of children 0-23 months who were weighed at least once in the past two months	69.4	62.8-76.1	69.4	136/187	73.8	65.7-81.0	90%
% of children 0-23 months are above -2 standard deviations for weight for age	87.4	82.3-92.5	88.9	148/183	80.9	74.4-86.3	95%
IR 3.3: Increased exclusive breastfeeding up to six months of age							
% of infants 0-5 months who received nothing except breastmilk in the past 24 hours	43.8	34.4-53.3	67.9	85/100	85.1*	74.5-92.2	70%
IR 3.4: Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid)							
% of children 12-23 months who have received a dose of Vitamin A in the past six months	37.3	27.6-47.0	50.2	11/95	9.7	4.1-19.5	75%
% of mothers of children 0-23 months who report taking at least 90 days of iron/folic acid supplements during her last pregnancy	24.5	18.0-30.9	66.3	109/187	57.2*	48.5-65.6	50%

Result 4: Improved maternal and newborn care practices

Indicators	Baseline January 2006		Mini-KPC Feb 2009	Final July 2010			Target
	Mean	95% C.I.		Sample	Mean	95% C.I.	
IR 4.1 Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth							
% of mothers of children 0-23 months whose last birth was attended by a health professional	44.2	37.0-51.4	48.4	100/190	51.5	45.3-59.9	50%
% of mothers of children 0-23 months who did not give birth in a health facility whose birth was attended by a TTBA	13.4	7.0-19.7	43.0	21/91	23.9	14.1-35.4	30%
% of home deliveries in which a clean birth kit was used	55.8	46.8-64.8	75.6	64/91	71.6	59.8-82.2	70%
% of mothers of children 0-23 months whose child was placed immediately with her after birth	15.3	9.9-20.7	57.3	117/189	62.7*	53.9-70.6	60%
% of children 0-23 months who were breastfed within one hour of birth	43.8	36.4-51.2	41.3	139/185	71.6*	63.4-79.2	75%
IR 4.2 Improved quality of maternal and newborn care services in health facilities							
IR 4.3 Increased coverage of postpartum care							
% of mothers of children 0-23 months who had at least one postpartum check-up after the birth of her last child (by a health professional or TTBA)	18.7	12.9-24.5	64.0	110/190	56.4*	47.7-64.7	50%
% of mothers of children 0-23 months who received a postpartum dose of Vitamin A during the first two months after delivery (card confirmed)	6.3	2.6-10.0	22.1	52/190	26.8*	19.5-34.8	50%

Rapid Catch Indicators	Baseline January 2006		Final July 2010		
	Mean	95% C.I.	Sample	Mean	95% C.I.
% of children 0-23 months who were born at least 24 months after the previous surviving child	79.3	68.2-90.5	57/74	76.8	62.7-86.6
% of mothers with children 0-23 months who received at least two tetanus toxoid injections before the birth of their child	19.2	13.5-24.9	72/190	38.3*	30.0-46.8
% of mothers with children 0-23 months who cite at least two known ways of reducing the risk of HIV infection	62.9	55.8-70.0	133/190	70.9	62.4-78.1
% of mothers with children 0-23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated	10.9	6.5-15.4	24/190	12.6	7.8-19.6
% of mothers of children 0-23 months who know at least two signs of childhood illness that indicate the need for treatment	74.9	68.9-80.8	164/190	87.5*	81.1-92.7
% of children 6-9 months who received breastmilk and complementary foods during the last 24 hours	95.1	90.9-99.3	84/88	94.9	86.8-99.0

QUESTIONNAIRE
Mothers of Children 0-11 Months
Chikankata Child Survival Project
Zambia, July 2010

Hello. My name is _____, and I am working with Chikankata Health Services and the MOH. We are conducting a survey and would appreciate your participation. I would like to ask you about your health and the health of your child. This information will help Chikankata and the MOH to plan health services and assess whether it is meeting its goals to improve children's health. The survey usually takes 45 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

Questionnaire Identification	
LQAS NUMBER OUT OF 19 __ __	
SUPERVISION AREA _____	
VILLAGE _____	
INTERVIEWER'S NAME _____	
SUPERVISOR'S NAME _____	
INTERVIEW DATE: DAY __ __ MONTH __ __ YEAR __ __	
MOTHER'S NAME _____	
MOTHER'S AGE _____	
CHILD'S NAME _____	
CHILD'S GENDER: (CIRCLE ONE) MALE FEMALE	
DATE OF BIRTH OF CHILD: DAY __ __ MONTH __ __ YEAR __ __	
CHILD'S AGE IN MONTHS: _____	

[illegible]

#	QUESTIONS	CODES	SKIP
8	Did you ever breastfeed (NAME)?	YES 1 NO..... 2	Q.14

9	How long after birth did you first put (NAME) to the breast?	IMMEDIATELY / WITHIN FIRST HOUR AFTER BIRTH 1 AFTER THE FIRST HOUR 2 DON'T REMEMBER / DON'T KNOW 8	
10	During the first three days after delivery, did you give (NAME) the liquid that came from your breasts?	YES 1 NO 2 DON'T KNOW 8	
11	During the first three days after delivery, did you give (NAME) anything else to eat or drink before feeding him/her breastmilk?	YES..... 1 NO 2 DON'T KNOW 8	Q.13 Q.13
12	What did you give (NAME)? Anything else? DO NOT READ THE LIST RECORD ALL MENTIONED BY CIRCLING LETTER FOR EACH ONE MENTIONED	MILK (OTHER THAN BREASTMILK)..... A PLAIN WATER B WATER WITH SUGAR AND/OR SALT C FRUIT JUICE D TEA / INFUSIONS E LIQUID OR SEMI-LIQUID TRADITIONAL MEDICINE F INFANT FORMULA G OTHER _____ X (SPECIFY)	
13	Are you currently breastfeeding (NAME)?	YES 1 NO 2	
14	Now I would like to ask you about the types of liquids (NAME) drank yesterday during the day and at night. Did (NAME) drink any of the following liquids yesterday during the day or at night? READ THE LIST OF LIQUIDS (A-H, STARTING WITH "BREASTMILK"). PLACE A CHECK MARK IN THE BOX IF CHILD DRANK LIQUID IN QUESTION.		
A	Breastmilk?	A. Breastmilk ☐	
B	Plain water?	B. Plain water ☐	
C	Commercially produced infant formula?	C. Infant formula ☐	
D	Any other milk such as tinned, powdered, or fresh animal milk?	D. Other milk ☐	
E	Fruit juice?	E. Fruit juice ☐	
F	Tea or coffee?	F. Tea or coffee ☐	
G	Any other liquids such as munkoyo or chigoro?	G. Other liquids..... ☐	
H	Liquid or semi-liquid traditional medicine such as mululwe or nanakuta or mukkuwu?	H. Liquid traditional medicine ☐	
15	Now I would like to ask you about the food (NAME) ate yesterday during the day and at night, either separately or combined with other foods. Did (NAME) eat any of the following foods yesterday during the day or at night? READ THE LIST OF FOODS. PLACE A		

	CHECK MARK IN THE BOX IF CHILD ATE THE FOOD IN QUESTION		
A	Any porridge or gruel?	A	☐
B	Any Celeriac, Vitasol or Soya Nutrient?	B.....	☐
C	Any nshima, maize, millet, bread, rice, biscuits, bulgar wheat, or any other foods made from grains?	C.....	☐
D	Any Irish potatoes, white sweet potatoes, chaama, ndiya, cassava, lusala, lwidi or any other foods made from roots?	D	☐
E	Any pumpkin, carrots, or sweet potatoes that are yellow or orange inside?	E.....	☐
F	Any dark green leafy vegetables such as kalembula (sweet potato leaves), shombo/mwanja (cassava) leaves, and/or pumpkin leaves?	F	☐
G	Any ripe mangoes, papayas?	G	☐
H	Any other fruits or vegetables?	H	☐
I	Any liver, kidney, heart or other organ meats?	I.....	☐
J	Any beef, pork, lamb, goat, rabbit, or game meat, such as antelope or deer?	J.....	☐
K	Any chicken, duck, kwale (dove), khang (guinea fowl), nkwilimba or other birds?	K	☐
L	Any eggs?	L.....	☐
M	Any fresh or dried fish or nkala (crabs)?	M.....	☐
N	Any foods made from beans, peas, or lentils?	N	☐
O	Any nuts?	O	☐
P	Any cheese or yogurt?	P	☐
Q	Any food made with other oil, fat, or butter?	Q	☐
R	Any other solid or semi-solid food?	R.....	☐

Growth Monitoring

NO.	QUESTION	CODES	SKIP
18	Does (NAME) have a growth monitoring card/vaccination card? IF YES: May I see it please?	YES, SEEN..... 1 NOT AVAILABLE/LOST/MISPLACED..... 2 NEVER HAD A CARD 3 DON'T KNOW..... 8	Q.4 Q.4 Q.4
19	LOOK AT CHILD'S GROWTH MONITORING CARD AND SEE IF HE/SHE HAS BEEN WEIGHED IN THE LAST TWO MONTHS.	YES..... 1 NO 2 DON'T KNOW..... 8	
23	May I weigh (NAME)? IF MOTHER AGREES, WEIGH CHILD AND RECORD WEIGHT. RECORD TO THE NEAREST TENTH.	___ __. __ KILOGRAMS	

Hygiene

24	When do you wash your hands with soap/ash? DO NOT PROMPT. CIRCLE ALL MENTIONED.	NEVER..... A BEFORE FOOD PREPARATION..... B BEFORE FEEDING CHILDREN C AFTER DEFECATION..... D AFTER ATTENDING TO A CHILD WHO HAS DEFECATED E OTHER X (SPECIFY)	

Sick Child, ARI, and Malaria

NO.	QUESTION	CODES	SKIP
25	Sometimes children get sick and need to receive care or treatment for illnesses. What are the signs of illness that would indicate your child needs treatment? RECORD ALL MENTIONED	DON'T KNOW A LOOKS UNWELL OR NOT PLAYING NORMALLY B NOT EATING OR DRINKING C LETHARGIC OR DIFFICULT TO WAKE..... D HIGH FEVER E FAST OR DIFFICULT BREATHING..... F VOMITS EVERYTHING G CONVULSIONS H SUNKEN EYES, SLOW SKIN PINCH, SUNKEN FONTENEL OR OTHER SIGN OF DEHYDRATION I OTHER J (SPECIFY)	
26	Did (NAME) experience any of the following in the past two weeks? READ CHOICES ALOUD AND CIRCLE ALL MENTIONED BY RESPONDENT.	A. Diarrhea B. Blood in stool C. Cough D. Fast breathing/short, quick breaths E. Fever F. Malaria G. Convulsions H. Other (SPECIFY) I. NONE OF THE ABOVE	Q.47

27	When (NAME) was sick, was s/he offered less than usual to drink, about the same amount, or more than usual to drink (including breastmilk)?	LESS..... 1 SAME..... 2 MORE 3 DON'T KNOW 8	
28	When (NAME) was sick, was s/he offered less than usual to eat, about the same amount, or more than usual to eat?	LESS..... 1 SAME..... 2 MORE 3 CHILD NOT EATING YET 4 DON'T KNOW 8	
29	REFER TO QUESTION 26. IF THE ANSWER WAS 'C' OR 'D' THEN PROCEED TO QUESTION 30. IF NOT, SKIP TO QUESTION 35.		
30	When (NAME) had an illness with a cough, did he/she have trouble breathing or breathe faster than usual with short, fast breaths?	YES 1 NO 2 DON'T KNOW 8	Q.35 Q.35
31	Did you seek advice or treatment for the cough/fast breathing?	YES 1 NO 2	Q.35
32	Where did you go first for advice or treatment?	HOSPITAL..... 01 RURAL HEALTH CENTRE 02 MOBILE CLINIC..... 03 PRIVATE CLINIC 04 OTHER HEALTH FACILITY 05 (SPECIFY) VHC/COMMUNITY HEALTH WORKER..... 06 TRADITIONAL HEALER 07 SPIRITUAL HEALER/CHURCH 08 SHOP 09 DRUGSTORE 10 FRIEND/RELATIVE 11 OTHER 88 (SPECIFY)	
33	Did you go anywhere else for advice or treatment for (NAME's) cough and fast/difficult breathing?	YES 1 NO 2	Q.35
34	Where did you go next for advice or treatment?	HOSPITAL..... 01 RURAL HEALTH CENTRE 02 MOBILE CLINIC..... 03 PRIVATE CLINIC 04 OTHER HEALTH FACILITY 05 (SPECIFY) VHC/COMMUNITY HEALTH WORKER..... 06 TRADITIONAL HEALER 07 SPIRITUAL HEALER/CHURCH 08 SHOP 09 DRUGSTORE 10 FRIEND/RELATIVE 11 OTHER 88 (SPECIFY)	
35	REFER TO QUESTION 26. IF THE ANSWER IS 'E' THEN PROCEED TO QUESTION 36. IF NOT, SKIP TO QUESTION 47.		

36	Does (NAME) have a fever now?	YES 1 NO 2 DON'T KNOW 8	
37	Did you seek advice or treatment for (NAME's) fever?	YES 1 NO 2	Q.47
38	Where did you first go for advice or treatment?	HOSPITAL 01 RURAL HEALTH CENTRE 02 MOBILE CLINIC 03 PRIVATE CLINIC 04 OTHER HEALTH FACILITY 05 (SPECIFY) VHC/COMMUNITY HEALTH WORKER 06 TRADITIONAL HEALER 07 SPIRITUAL HEALER/CHURCH 08 SHOP 09 DRUGSTORE 10 FRIEND/RELATIVE 11 OTHER 88 (SPECIFY)	
39	How long after you noticed (NAME's) fever did you seek treatment from that person/place?	SAME DAY 0 NEXT DAY 1 TWO DAYS 2 THREE OR MORE DAYS 3	
40	Did you go anywhere else for advice or treatment for (NAME's) fever?	YES 1 NO 2	Q.43
41	Where did you go next for advice or treatment?	HOSPITAL 01 RURAL HEALTH CENTRE 02 MOBILE CLINIC 03 PRIVATE CLINIC 04 OTHER HEALTH FACILITY 05 (SPECIFY) VHC/COMMUNITY HEALTH WORKER 06 TRADITIONAL HEALER 07 SPIRITUAL HEALER/CHURCH 08 SHOP 09 DRUGSTORE 10 FRIEND/RELATIVE 11 OTHER 88 (SPECIFY)	
42	How long after you noticed (NAME's) fever did you seek treatment from that person/place?	SAME DAY 0 NEXT DAY 1 TWO DAYS 2 THREE OR MORE DAYS 3	
45	Was (NAME) treated with any medicine(s)?	YES 1 NO 2 DON'T KNOW 8	Q.47 Q.47
46	Which medicines were given to (NAME) for his/her fever? IF MOTHER IS UNABLE TO RECALL DRUG NAMES, ASK HER TO SHOW THE	ANTI-MALARIAL DRUGS A. CHLORQUINE 0 1 2 3 8 B. FANSIDAR 0 1 2 3 8 C. COARTEM 0 1 2 3 8 D. ARINATE (Artesunate) 0 1 2 3 8	

	DRUG(S) TO YOU. IF SHE IS UNABLE TO SHOW THEM TO YOU, SHOW HER THE TYPICAL ANTI-MALARIALS AND HAVE HER IDENTIFY WHICH WERE GIVEN. FOR EACH ANTI-MALARIAL MEDICINE ASK: How long after the fever did (NAME) start taking the medicine? CIRCLE THE APPROPRIATE CODE: SAME DAY=0 NEXT DAY=1 TWO DAYS=2 THREE OR MORE DAYS=3 DON'T KNOW=8	E. ARTESIANE (Artemether)..... 0 1 2 3 8 F. AMONATE (Artesunate Amodiaquine) 1 2 3 8 F. QUININE 0 1 2 3 8 OTHER DRUGS: G. ASPIRIN H. PANADOL I. COTRIMOXIZOLE J. CAFENOL K. BRUFEN X. OTHER _____ (SPECIFY) Z. UNKNOWN DRUG							
47	When you were pregnant with (NAME), did you take any drugs to prevent you from getting malaria?	YES 1 NO 2 DON'T KNOW 8	Q.49 Q.49						
48	Which drug did you take? RECORD ALL MENTIONED.	FANSIDAR A CHLOROQUINE B OTHER X (SPECIFY) UNKNOWN DRUG Z							
49	Do you have any bednets in your house that can be used while sleeping?	YES 1 NO 2	Q.56						
50	How many bednets does your household have? IF MORE THAN 7 NETS, RECORD 7.	NUMBER OF NETS ____							
51	How long ago did your household obtain the bednet?	<table border="1"> <tr> <td>____ MONTHS AGO</td> <td>____ MONTHS AGO</td> <td>____ MONTHS AGO</td> </tr> <tr> <td>MORE THAN 3 YEARS AGO 88</td> <td>MORE THAN 3 YEARS AGO 88</td> <td>MORE THAN 3 YEARS AGO 88</td> </tr> </table>	____ MONTHS AGO	____ MONTHS AGO	____ MONTHS AGO	MORE THAN 3 YEARS AGO 88	MORE THAN 3 YEARS AGO 88	MORE THAN 3 YEARS AGO 88	
____ MONTHS AGO	____ MONTHS AGO	____ MONTHS AGO							
MORE THAN 3 YEARS AGO 88	MORE THAN 3 YEARS AGO 88	MORE THAN 3 YEARS AGO 88							
55	Who slept under this net last night?	<table border="1"> <tr> <td>CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)</td> <td>CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)</td> <td>CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)</td> </tr> </table>	CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)	CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)	CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)				
CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)	CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)	CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)							

Prenatal Care

NO.	QUESTIONS	CODES	SKIP
56	Do you have a maternal health card for your pregnancy with (NAME)?	YES, SEEN 1 NOT AVAILABLE 2 NEVER HAD A CARD 8	Q.59 Q.59

57	LOOK AT CARD AND RECORD NUMBER OF PRENATAL VISITS	NUMBER OF VISITS __ __	
58	LOOK AT THE CARD AND RECORD THE DATES FOR EACH TT INJECTION LISTED ON THE CARD	1: DAY __ __ MONTH __ __ YEAR __ __ 2: DAY __ __ MONTH __ __ YEAR __ __ 3: DAY __ __ MONTH __ __ YEAR __ __ 4: DAY __ __ MONTH __ __ YEAR __ __ 5: DAY __ __ MONTH __ __ YEAR __ __	
59	When you were pregnant with (NAME), did you receive or buy any iron tablets? SHOW IRON TABLETS	YES..... 1 NO..... 2 DON'T KNOW..... 8	Q.61 Q.61
60	How many days did you take the tablets?	NUMBER OF DAYS __ __ __ DON'T KNOW..... 999	
61	Where did you give birth to (NAME)?	RESPONDENT'S HOME 01 OTHER HOME 02 HOSPITAL 03 RURAL HEALTH CENTRE..... 04 PRIVATE CLINIC 05 OTHER HEALTH FACILITY 06 OTHER 88 (SPECIFY)	Q.64 Q.64 Q.64 Q.64
62	Who assisted you with (NAME's) delivery? RECORD ALL MENTIONED.	DOCTOR..... A NURSE/MIDWIFE..... B TRAINED TBA C TRADITIONAL BIRTH ATTENDANT D COMMUNITY HEALTH WORKER E FAMILY MEMBER F (SPECIFY) OTHER X (SPECIFY) NO ONE Z	
63	Was a clean birth kit used?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
64	Where was (NAME) put immediately after birth?	WITH MOTHER 1 IN COT/BED 2 ON FLOOR..... 3 BATHED 4 OTHER 5 (SPECIFY) DON'T KNOW..... 8	

65	What did you do with (NAME) immediately after birth?	BREASTFED..... 1 BATHED 2 LET SLEEP 3 OTHER 4 (SPECIFY) DON'T KNOW 8	

Postpartum Care

NO.	QUESTIONS	CODES	SKIP
66	After (NAME) was born, did anyone check on your health?	YES 1 NO 2	Q.71
67	How many days or weeks after the delivery did the first check take place? RECORD 00 IF SAME DAY.	DAYS AFTER — — WEEKS AFTER — — DON'T KNOW 999	
68	Who checked on your health at that time?	DOCTOR 1 NURSE/MIDWIFE 2 TRAINED TBA 3 TRADITIONAL BIRTH ATTENDANT 4 OTHER 5 (SPECIFY)	
69	Did you have any other postpartum checks?	YES 1 NO 2	Q.71
70	Who checked on your health the second time?	DOCTOR 1 NURSE/MIDWIFE 2 TRAINED TBA 3 TRADITIONAL BIRTH ATTENDANT 4 OTHER 5 (SPECIFY)	
71	In the first two months after delivery, did you receive a vitamin A dose like this? SHOW CAPSULE.	YES 1 NO 2	
72	CHECK MATERNAL HEALTH CARD TO SEE IF VITAMIN A DOSE IS RECORDED	YES 1 DAY ____ MONTH ____ YEAR ____ NO 2	

Child Spacing

#	QUESTIONS	CODES	SKIP
73	How many children living in this household are under five years of age?	ONE CHILD 1 TWO CHILDREN 2 THREE OR MORE 3	Q.76
74	How many of these children are your biological children?	ONE CHILD 1 TWO CHILDREN 2 THREE OR MORE 3	Q.76

75	What is the sex and date of birth of your two youngest children?	CHILD #1 MALE 1 FEMALE 2 DATE OF BIRTH DAY ____ MONTH ____ YEAR ____	CHILD #2 MALE 1 FEMALE 2 DATE OF BIRTH DAY ____ MONTH ____ YEAR ____	
76	Are you currently pregnant?	YES 1 NO 2 NOT SURE 8		Q.80
77	Do you want to have another child?	YES 1 NO 2 NOT SURE 8		Q.79 Q.79
78	When do you want to have your next child?	WITHIN TWO YEARS 1 MORE THAN TWO YEARS FROM NOW 2 NOT SURE 8		
79	Are you currently doing something or using any method to avoid or delay getting pregnant? IF NO, CIRCLE '01' NO METHOD IF YES, ASK, "What is the main method you and your husband/partner are using to avoid/postpone getting pregnant?"	NO METHOD 01 NORPLANT 02 INJECTIONS 03 PILL 04 IUD 05 DIAPHRAGM 06 CONDOM 07 FOAM/GEL 08 TUBAL LIGATION 09 VASECTOMY 10 LACTATIONAL AMENORRHEA (EXCLUSIVE BREASTFEEDING 11 RYTHYM 12 WITHDRAWAL 13 ABSTINENCE 14 OTHER 88 (SPECIFY)		

HIV/AIDS

#	QUESTIONS	CODES	SKIP
80	Have you ever heard of an illness called AIDS?	YES 1 NO 2	END
81	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES 1 NO 2 DON'T KNOW 8	END END

82	What can a person do? Anything else? RECORD ALL MENTIONED.	ABSTAIN FROM SEX.....A USE CONDOMS B STAY FAITHFUL TO ONE PARTNER C LIMIT NUMBER OF SEXUAL PARTNERS D AVOID SEX WITH PROSTITUTES.....E AVOID SEX WITH PERSONS WHO HAVE SEX WITH MANY PARTNERS.....F AVOID INTERCOURSE WITH PERSONS OF THE SAME SEX G AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENEOUSLY H AVOID BLOOD TRANSFUSIONS I AVOID INJECTIONS J AVOID SHARING RAZORS, BLADES K AVOID KISSING L AVOID MOSQUITO BITES.....M SEEK PROTECTION FROM TRADITIONAL HEALER.....N OTHER X (SPECIFY)	

QUESTIONNAIRE
Mothers of Children 12-23 Months
Chikankata Child Survival Project
Zambia, July 2010

Hello. My name is _____, and I am working with Chikankata Health Services and the MOH. We are conducting a survey and would appreciate your participation. I would like to ask you about your health and the health of your child. This information will help Chikankata and the MOH to plan health services and assess whether it is meeting its goals to improve children's health. The survey usually takes 45 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

Questionnaire Identification	
LQAS NUMBER OUT OF 19 __ __	
SUPERVISION AREA _____	
VILLAGE _____	
INTERVIEWER'S NAME _____	
SUPERVISOR'S NAME _____	
INTERVIEW DATE: DAY __ __ MONTH __ __ YEAR __ __	
MOTHER'S NAME _____	
MOTHER'S AGE _____	
CHILD'S NAME _____	
CHILD'S GENDER: (CIRCLE ONE) MALE FEMALE	
DATE OF BIRTH OF CHILD: DAY __ __ MONTH __ __ YEAR __ __	
CHILD'S AGE IN MONTHS: __ __	

Breastfeeding and Infant/Child Nutrition

[illegible]

#	QUESTIONS	CODES	SKIP
8	Did you ever breastfeed (NAME)?	YES 1 NO..... 2	Q.15

9	How long after birth did you first put (NAME) to the breast?	IMMEDIATELY / WITHIN FIRST HOUR AFTER BIRTH 1 AFTER THE FIRST HOUR 2 DON'T REMEMBER / DON'T KNOW 8	
13	Are you currently breastfeeding (NAME)?	YES 1 NO 2	
15	Now I would like to ask you about the food (NAME) ate yesterday during the day and at night, either separately or combined with other foods. Did (NAME) eat any of the following foods yesterday during the day or at night? READ THE LIST OF FOODS. PLACE A CHECK MARK IN THE BOX IF CHILD ATE THE FOOD IN QUESTION		
A	Any porridge or gruel?	A ☐	
B	Any Celeriac, Vitasol or Soya Nutrient?	B ☐	
C	Any nshima, maize, millet, bread, rice, biscuits, bulgar wheat, or any other foods made from grains?	C ☐	
D	Any Irish potatoes, white sweet potatoes, chaama, ndiya, cassava, lusala, lwidi or any other foods made from roots?	D ☐	
E	Any pumpkin, carrots, or sweet potatoes that are yellow or orange inside?	E ☐	
F	Any dark green leafy vegetables such as kalembula (sweet potato leaves), shombo/mwanja (cassava) leaves, bbondwe (amaranthas) and/or pumpkin leaves?	F ☐	
G	Any ripe mangoes, papayas?	G ☐	
H	Any other fruits or vegetables?	H ☐	
I	Any liver, kidney, heart or other organ meats?	I ☐	
J	Any beef, pork, lamb, goat, rabbit, or game meat, such as antelope or deer?	J ☐	
K	Any chicken, duck, kwale (dove), khanga (guinea fowl), nkwilimba or other birds?	K ☐	
L	Any eggs?	L ☐	
M	Any fresh or dried fish or nkala (crabs)?	M ☐	
N	Any foods made from beans, peas, or lentils?	N ☐	

O	Any nuts?	O	
P	Any cheese or yogurt?	P	
Q	Any food made with other oil, fat, or butter?	Q	
R	Any other solid or semi-solid food?	R	
16	How many times did (NAME) eat solid, semi-solid, or soft foods other than liquids yesterday during the day and at night? IF CAREGIVER ANSWERS SEVEN OR MORE TIMES, RECORD “7” ADAPT THIS QUESTION TO USE LOCAL WORDS FOR THE SEMI-SOLID FOODS THAT ARE GIVEN. INCLUDE MASHED OR PUREED FOOD, ALONG WITH PORRIDGES, PAPS, THICK GRUELS, STEWS, ETC. SOLID FOODS – E. G., FAMILY FOODS, BANANAS, MANGOES, POTATOES, BREAD – SHOULD ALSO BE INCLUDED. WE WANT TO FIND OUT HOW MANY TIMES THE CHILD ATE ENOUGH TO BE FULL. SMALL SNACKS AND SMALL FEEDS SUCH AS ONE OR TWO BITES OF MOTHER’S OR SISTER’S FOOD SHOULD NOT BE COUNTED. LIQUIDS DO NOT COUNT FOR THIS QUESTION. DO NOT INCLUDE THIN SOUPS OR BROTH, WATERY GRUELS, OR ANY OTHER LIQUID. USE PROBING QUESTIONS TO HELP THE RESPONDENT REMEMBER ALL THE TIMES THE CHILD ATE YESTERDAY	NUMBER OF TIMES DON’T KNOW 8	

Growth Monitoring and Immunizations

#	QUESTION	CODES	SKIP
18	Does (NAME) have a growth monitoring card/vaccination card?	YES, SEEN..... 1	
		NOT AVAILABLE/LOST/MISPLACED..... 2	Q.23
	IF YES: May I see it please?	NEVER HAD A CARD 3	Q.23
		DON’T KNOW 8	Q.23
19	LOOK AT CHILD’S GROWTH MONITORING CARD AND SEE IF HE/SHE HAS BEEN WEIGHED IN THE LAST TWO MONTHS.	YES..... 1	
		NO 2	
		DON’T KNOW 8	

20	CHECK THE CARD AND RECORD THE DATE OF THE MOST RECENT DOSE OF VITAMIN A.	DAY ____ MONTH ____ YEAR ____ NONE RECORDED..... 8	
21	CHECK THE CARD FOR THE LATEST DOSE OF DEWORMING MEDICATION (MEBENDEZOLE, VERMOX, ALBENDEZOLE) AND RECORD THE DATE.	DAY ____ MONTH ____ YEAR ____ NONE RECORDED..... 8	
22	CHECK THE CARD AND PLACE A CHECK BY EACH VACCINE THAT THE CHILD HAS RECEIVED. THEN RECORD VACCINATION DATE FOR EACH VACCINE	DAY/MONTH/YEAR ☐ BCG ____/____/____ ☐ POLIO 0 ____/____/____ ☐ POLIO 1 ____/____/____ ☐ POLIO 2 ____/____/____ ☐ POLIO 3 ____/____/____ ☐ DPT (+Hib) 1 ____/____/____ ☐ DPT (+Hib) 2 ____/____/____ ☐ DPT (+Hib) 3 ____/____/____ ☐ DPT 1 ONLY ____/____/____ ☐ DPT 2 ONLY ____/____/____ ☐ DPT 3 ONLY ____/____/____ ☐ MEASLES ____/____/____	
23	May I weigh (NAME)? IF MOTHER AGREES, WEIGH CHILD AND RECORD WEIGHT. RECORD TO THE NEAREST TENTH.	____.____ KILOGRAMS	

Hygiene

24	When do you wash your hands with soap/ash? DO NOT PROMPT. CIRCLE ALL MENTIONED.	NEVER..... A BEFORE FOOD PREPARATION..... B BEFORE FEEDING CHILDREN..... C AFTER DEFECACTION..... D AFTER ATTENDING TO A CHILD WHO HAS DEFECATED..... E OTHER _____ X (SPECIFY)	

Sick Child, ARI, and Malaria

#	QUESTION	CODES	SKIP
25	Sometimes children get sick and need to receive care or treatment for illnesses. What are the signs of illness that would indicate your child needs treatment? RECORD ALL MENTIONED	DON'T KNOW A LOOKS UNWELL OR NOT PLAYING NORMALLY..... B NOT EATING OR DRINKING..... C LETHARGIC OR DIFFICULT TO WAKE..... D HIGH FEVER..... E FAST OR DIFFICULT BREATHING..... F VOMITS EVERYTHING G CONVULSIONS H SUNKEN EYES, SLOW SKIN PINCH, SUNKEN FONTENEL OR OTHER SIGN OF DEHYDRATION..... I OTHER _____ J (SPECIFY)	

26	Did (NAME) experience any of the following in the past two weeks? READ CHOICES ALOUD AND CIRCLE ALL MENTIONED BY RESPONDENT.	A. Diarrhea B. Blood in stool C. Cough D. Fast breathing/short, quick breaths E. Fever F. Malaria G. Convulsions H. Other _____ (SPECIFY) I. NONE OF THE ABOVE	Q.47
27	When (NAME) was sick, was s/he offered less than usual to drink, about the same amount, or more than usual to drink (including breast milk)?	LESS 1 SAME 2 MORE 3 DON'T KNOW 8	
28	When (NAME) was sick, was s/he offered less than usual to eat, about the same amount, or more than usual to eat?	LESS 1 SAME 2 MORE 3 CHILD NOT EATING YET 4 DON'T KNOW 8	
29	REFER TO QUESTION 26. IF THE ANSWER WAS 'C' OR 'D' THEN PROCEED TO QUESTION 30. IF NOT, SKIP TO QUESTION 35.		
30	When (NAME) had an illness with a cough, did he/she have trouble breathing or breathe faster than usual with short, fast breaths?	YES 1 NO 2 DON'T KNOW 8	Q.35 Q.35
31	Did you seek advice or treatment for the cough/fast breathing?	YES 1 NO 2	Q.35
32	Where did you go first for advice or treatment?	HOSPITAL 01 RURAL HEALTH CENTRE 02 MOBILE CLINIC 03 PRIVATE CLINIC 04 OTHER HEALTH FACILITY 05 (SPECIFY) VHC/COMMUNITY HEALTH WORKER 06 TRADITIONAL HEALER 07 SPIRITUAL HEALER/CHURCH 08 SHOP 09 DRUGSTORE 10 FRIEND/RELATIVE 11 OTHER 88 (SPECIFY)	
33	Did you go anywhere else for advice or treatment for (NAME's) cough and fast/difficult breathing?	YES 1 NO 2	Q.35

34	Where did you go next for advice or treatment?	HOSPITAL..... 01 RURAL HEALTH CENTRE 02 MOBILE CLINIC..... 03 PRIVATE CLINIC 04 OTHER HEALTH FACILITY 05 (SPECIFY) VHC/COMMUNITY HEALTH WORKER..... 06 TRADITIONAL HEALER..... 07 SPIRITUAL HEALER/CHURCH..... 08 SHOP 09 DRUGSTORE 10 FRIEND/RELATIVE 11 OTHER 88 (SPECIFY)	
35	REFER TO QUESTION 26. IF THE ANSWER WAS 'E', THEN PROCEED TO QUESTION 36. IF NOT, SKIP TO QUESTION 47.		
36	Does (NAME) have a fever now?	YES..... 1 NO 2 DON'T KNOW 8	
37	Did you seek advice or treatment for (NAME's) fever?	YES..... 1 NO 2	Q.47
38	Where did you first go for advice or treatment?	HOSPITAL..... 01 RURAL HEALTH CENTRE 02 MOBILE CLINIC..... 03 PRIVATE CLINIC 04 OTHER HEALTH FACILITY 05 (SPECIFY) VHC/COMMUNITY HEALTH WORKER..... 06 TRADITIONAL HEALER..... 07 SPIRITUAL HEALER/CHURCH..... 08 SHOP 09 DRUGSTORE 10 FRIEND/RELATIVE 11 OTHER 88 (SPECIFY)	
39	How long after you noticed (NAME's) fever did you seek treatment from that [person/place?]	SAME DAY 0 NEXT DAY 1 TWO DAYS 2 THREE OR MORE DAYS..... 3	
40	Did you go anywhere else for advice or treatment for (NAME's) fever?	YES..... 1 NO 2	Q.43

41	Where did you go next for advice or treatment?	HOSPITAL 01 RURAL HEALTH CENTRE 02 MOBILE CLINIC 03 PRIVATE CLINIC 04 OTHER HEALTH FACILITY 05 (SPECIFY) VHC/COMMUNITY HEALTH WORKER 06 TRADITIONAL HEALER 07 SPIRITUAL HEALER/CHURCH 08 SHOP 09 DRUGSTORE 10 FRIEND/RELATIVE 11 OTHER 88 (SPECIFY)	
42	How long after you noticed (NAME's) fever did you seek treatment from that person/place?	SAME DAY 0 NEXT DAY 1 TWO DAYS 2 THREE OR MORE DAYS 3	
45	Was (NAME) treated with any medicine(s)?	YES 1 NO 2 DON'T KNOW 8	Q.47 Q.47
46	Which medicines were given to (NAME) for his/her fever? IF MOTHER IS UNABLE TO RECALL DRUG NAMES, ASK HER TO SHOW THE DRUG(S) TO YOU. IF SHE IS UNABLE TO SHOW THEM TO YOU, SHOW HER THE TYPICAL ANTI-MALARIALS AND HAVE HER IDENTIFY WHICH HER GIVEN. FOR EACH ANTI-MALARIAL MEDICINE ASK: How long after the fever did (NAME) start taking the medicine? CIRCLE THE APPROPRIATE CODE: SAME DAY=0 NEXT DAY=1 TWO DAYS=2 THREE OR MORE DAYS=3 DON'T KNOW=8	ANTI-MALARIAL DRUGS A. CHLOROQUINE 0 1 2 3 8 B. FANSIDAR 0 1 2 3 8 C. COARTEM 0 1 2 3 8 D. QUININE 0 1 2 3 8 E. OTHER 0 1 2 3 8 (SPECIFY) OTHER DRUGS: F. ASPIRIN G. PANADOL H. COTRIMOXIZOLE, PENICILLINE, OR AMOXICILLIN I. CAFENOL J. BRUFEN Z. UNKNOWN DRUG	
47	When you were pregnant with (NAME), did you take any drugs to prevent you from getting malaria?	YES 1 NO 2 DON'T KNOW 8	<Q.49 <Q.49
48	Which drug did you take? RECORD ALL MENTIONED.	FANSIDAR A CHLOROQUINE B OTHER X (SPECIFY) UNKNOWN DRUG Z	
49	Do you have any bednets in your house that can be used while sleeping?	YES 1 NO 2	Q.56

50	How many bednets does your household have? IF MORE THAN 7 NETS, RECORD 7.	NUMBER OF NETS ____			
51	How long ago did your household obtain the bednet?	____ MONTHS AGO MORE THAN 3 YEARS AGO 88	____ MONTHS AGO MORE THAN 3 YEARS AGO ... 88	____ MONTHS AGO MORE THAN 3 YEARS AGO ... 88	
55	Who slept under this net all night last night?	CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)	CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)	CHILD A RESPONDENT B HUSBAND/ PARTNER C OTHER X (SPECIFY)	

Prenatal Care

	QUESTIONS	CODES	SKIP
56	Do you have a maternal health card for your pregnancy with (NAME)?	YES, SEEN 1 NOT AVAILABLE 2 NEVER HAD A CARD 8	Q.59 Q.59
57	LOOK AT CARD AND RECORD NUMBER OF PRENATAL VISITS	NUMBER OF VISITS ____	
58	LOOK AT THE CARD AND RECORD THE DATES FOR EACH TT INJECTION LISTED ON THE CARD	1: DAY ____ MONTH ____ YEAR ____ 2: DAY ____ MONTH ____ YEAR ____ 3: DAY ____ MONTH ____ YEAR ____ 4: DAY ____ MONTH ____ YEAR ____ 5: DAY ____ MONTH ____ YEAR ____	
59	When you were pregnant with (NAME), did you receive or buy any iron tablets?	YES 1 NO 2 DON'T KNOW 8	Q.61 Q.61
60	How many days did you take the tablets?	NUMBER OF DAYS ____ DON'T KNOW 999	
61	Where did you give birth to (NAME)?	RESPONDENT'S HOME 01 OTHER HOME 02 HOSPITAL 03 RURAL HEALTH CENTRE 04 PRIVATE CLINIC 05 OTHER HEALTH FACILITY 06 OTHER 88 (SPECIFY)	Q.64 Q.64 Q.64 Q.64

62	Who assisted you with (NAME's) delivery? RECORD ALL MENTIONED.	DOCTOR.....A NURSE/MIDWIFE.....B TRAINED TBA.....C TRADITIONAL BIRTH ATTENDANT.....D COMMUNITY HEALTH WORKER.....E FAMILY MEMBER.....F (SPECIFY) OTHER.....X (SPECIFY) NO ONE.....Z	
63	Was a clean delivery kit used?	YES.....1 NO.....2 DON'T KNOW.....8	
64	Where was (NAME) put immediately after birth?	WITH MOTHER.....1 IN COT/BED.....2 ON FLOOR.....3 BATHED.....4 OTHER.....5 (SPECIFY) DON'T KNOW.....8	
65	What did you do with (NAME) immediately after birth?	BREASTFED.....1 BATHED.....2 LET SLEEP.....3 OTHER.....4 (SPECIFY) DON'T KNOW.....8	

Postpartum Care

NO.	QUESTIONS	CODES	SKIP
66	After (NAME) was born, did anyone check on your health?	YES.....1 NO.....2	Q.71
67	How many days or weeks after the delivery did the first check take place? RECORD 00 IF SAME DAY.	DAYS AFTER.....1 __ __ WEEKS AFTER.....2 __ __ DON'T KNOW.....999	
68	Who checked on your health at that time?	DOCTOR.....1 NURSE/MIDWIFE.....2 TRAINED TBA.....3 TRADITIONAL BIRTH ATTENDANT.....4 OTHER.....5 (SPECIFY)	
69	Did you have any other postpartum checks?	YES.....1 NO.....2	Q.71
70	Who checked on your health the second time?	DOCTOR.....1 NURSE/MIDWIFE.....2 TRAINED TBA.....3 TRADITIONAL BIRTH ATTENDANT.....4 OTHER.....5 (SPECIFY)	

71	In the first two months after delivery, did you receive a vitamin A dose like this? SHOW CAPSULE.	YES..... 1 NO..... 2	
72	CHECK THE MATERNAL HEALTH CARD TO SEE IF VITAMIN A DOSE IS RECORDED	YES..... 1 DAY__ MONTH__ YEAR__ NO..... 2	

Child Spacing

#	QUESTIONS	CODES	SKIP
73	How many children living in this household are under five years of age?	ONE CHILD 1 TWO CHILDREN 2 THREE OR MORE..... 3	>Q.76
74	How many of these children are your biological children?	ONE CHILD 1 TWO CHILDREN 2 THREE OR MORE..... 3	>Q.76
75	What is the sex and date of birth of your two youngest children?	CHILD #1 MALE 1 FEMALE 2 DATE OF BIRTH DAY ____ MONTH ____ YEAR ____ CHILD #2 MALE 1 FEMALE 2 DATE OF BIRTH DAY ____ MONTH ____ YEAR ____	
76	Are you currently pregnant?	YES..... 1 NO..... 2 NOT SURE 8	>Q.80
77	Do you want to have another child?	YES..... 1 NO..... 2 NOT SURE 8	>Q.79 >Q.79
78	When do you want to have your next child?	WITHIN TWO YEARS..... 1 MORE THAN TWO YEARS FROM NOW 2 NOT SURE 8	
79	Are you currently doing something or using any method to avoid or delay getting pregnant? IF NO, CIRCLE '01' NO METHOD IF YES, ASK, "What is the main method you and your husband/partner are using to avoid/postpone getting pregnant?"	NO METHOD 01 NORPLANT 02 INJECTIONS 03 PILL 04 IUD (LOOP) 05 DIAPHRAGM 06 CONDOM..... 07 FOAM/GEL 08 TUBAL LIGATION 09 VASECTOMY 10 LACTATIONAL AMENORRHEA (EXCLUSIVE BREASTFEEDING)..... 11 RYTHYM/NATURAL 12 WITHDRAWAL..... 13 ABSTINENCE..... 14 OTHER 88 (SPECIFY)	

HIV/AIDS

#	QUESTIONS	CODES	SKIP
80	Have you ever heard of an illness called AIDS?	YES..... 1 NO..... 2	>END
81	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES..... 1 NO..... 2 DON'T KNOW..... 8	>END >END
82	What can a person do? Anything else? RECORD ALL MENTIONED.	ABSTAIN FROM SEX A USE CONDOMS B STAY FAITHFUL TO ONE PARTNER C LIMIT NUMBER OF SEXUAL PARTNERS D AVOID SEX WITH PROSTITUTES..... E AVOID SEX WITH PERSONS WHO HAVE SEX WITH MANY PARTNERS..... F AVOID INTERCOURSE WITH PERSONS OF THE SAME SEX..... G AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENEOUSLY H AVOID BLOOD TRANSFUSIONS I AVOID INJECTIONS J AVOID SHARING RAZORS, BLADES K AVOID KISSING L AVOID MOSQUITO BITES..... M SEEK PROTECTION FROM TRADITIONAL HEALER..... N PMTCT..... OTHER X (SPECIFY)	

KPC Indicator Definitions

Result 1: Improved malaria prevention and treatment

Objectives	Indicators	Measurement	Tabulation
IR 1.1 Increased insecticide-treated bednet use for pregnant women and children under five			
Increase from 5% to 60% the proportion of children 0-59 months who sleep under ITNs every night	% of children 0-23 months who slept under an ITN the night before	KPC Care Group reports	# children with response A to Q. 55 AND response 1 to Q. 52 or response 1 to Q. 53 (for same net)/total # of children 0-23 months
IR 1.2 Increased appropriate care-seeking for danger signs			
Increase from 50% to 80% the proportion of children under five with fever (suspected malaria) who receive treatment with SP or Coartem within 24 hours at an appropriate health facility or by a trained CHW	% of children 0-23 months with a febrile episode that ended during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began	KPC Care Group reports	# children with response B, C, D, E, F. or G. AND =< 1 for Q. 46/total # children with response E for Q. 26 AND 2 for Q. 36
Increase from 40% to 75% the proportion of children 0-59 months with suspected pneumonia (fast/difficult breathing) who receive appropriate treatment	% of children with cough and fast/difficult breathing in the last two weeks who were taken to a health facility	KPC Care Group reports	# children with response 01-05 for either Q. 32 or 34/total # children with response F to Q. 25 or 1 for Q. 30
IR 1.3 Increased coverage of intermittent preventive malaria treatment in pregnant women			
Increase from 1% to 70% the proportion of pregnant women who receive IPT during pregnancy	% of mothers of children 0-23 months who received IPT for malaria during their last pregnancy	KPC Care Group reports	# children with response A to Q. 48/total # of children 0-23 months

Result 2: Improved nutritional status of children and pregnant women

Objectives	Indicators	Measurement	
IR 2.1 Improved child feeding practices			
Increase from 10% to 50% the proportion of children who eat foods rich in Vitamin A, protein, and iron everyday	% of children 6-23 months who ate a Vitamin A-rich food, a high protein food, and an iron-rich food (such as an enriched porridge) in the last 24 hours	KPC	
Increase to 50% the proportion of children 12-59 months who eat semi-solid food at least four times each day (baseline to be determined)	% of children 12-23 months who ate semi-solid food at least four times in the past 24 hours	KPC	# children 12-23 months with response => 4 for Q. 16/total # children 12-23 months
IR 2.2 a) Improved detection of malnutrition, b) Improved treatment of malnutrition			
Increase from 40% to 90% the proportion of children 0-59 months who are weighed at least bimonthly	% of children 0-23 months who were weighed at least once in the past two months	KPC Care Group reports	# children with response 1 to Q. 19/total # children 0-23 months
Increase from 70% to 80% the proportion of children 0-59 months who have an appropriate weight for their age	% of children 0-23 months are above -2 standard deviations for weight for age	KPC Care Group reports	

IR 2.3: Increased exclusive breastfeeding up to six months of age			
Increase from 40% to 70% the proportion of children 0-5 months who are exclusively breastfed	% of infants 0-5 months who received nothing except breastmilk in the past 24 hours	KPC Care Group reports	# children < 6 months with ONLY response A to Q. 14 (B-H left blank) AND no responses checked for Q. 15 (A-R left blank)/total # children 0-5 months
IR 2.4: Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid)			
Increase from 50% to 75% the proportion of children 6-59 months who receive semi-annual doses of Vitamin A	% of children 12-23 months who have received a dose of Vitamin A in the past six months	KPC Care Group reports	# children 12-23 months with date more recent than 22/07/05 for Q. 20/total # children 12-23 months
Increase from 20% to 40% the proportion of pregnant women who take iron/folic acid supplements	% of mothers of children 0-23 months who report taking at least 90 days of iron/folic acid supplements during her last pregnancy	KPC Care Group reports	# children with response >=90 for Q. 60/total # children 0-23 months

Result 3: Improved maternal and newborn care practices

Objectives	Indicators	Measurement	
IR 3.1 Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth			
Increase the proportion of births attended by a skilled provider from 47% to 70%	% of mothers of children 0-23 months whose last birth was attended by a health professional or TTBA	KPC Care Group reports	# children with responses 03, 04, 05, or 06 for Q. 61 OR response C for Q. 62/total # children 0-23 months
Increase from 0% to 50% the proportion of home births that use a clean birth kit	% of home deliveries in which a clean birth kit was used	Care Group reports KPC	# children with response 1 to Q. 63/# children with response 01 or 02 to Q. 61
Increase to 70% the proportion of newborns who are placed with the mother at birth	% of mothers of children 0-23 months whose child was placed immediately with her after birth	KPC Care Group reports	# children with response 1 to Q. 64/total # children 0-23 months
Increase from 60% to 85% the proportion of newborns who are immediately breastfed	% of children 0-23 months who were breastfed within one hour of birth	KPC Care Group reports	# children with response 1 to Q. 9/total # children 0-23 months
IR3.2 Improved quality of maternal and newborn care services in health facilities			
IR 3.3 Increased coverage of postpartum care			
Increase from 35% to 70% the proportion of mothers who receive a postpartum check-up by a health professional or TTBA	% of mothers of children 0-23 months who had at least one postpartum check-up after the birth of her last child	KPC Care Group reports	# children with responses 1, 2, or, 3 for Q. 68/total # children 0-23 months
Increase from 20% to 60% the proportion of mothers who receive a postpartum dose of Vitamin A during the first two months after delivery	% of mothers of children 0-23 months who received a postpartum dose of Vitamin A during the first two months after delivery (card confirmed)	KPC Care Group reports	# children with response 1 and date < 2 months after child's DOB to Q. 72/total # children 0-23 months

CCSP - Final KPC, July 2010
Zones by Project Target

Indicator	Priority Zones (X) (Zones below Target Coverage)					Project Target Coverage
	1	2	3	4	5	
% of children 0-23 months who slept under an ITN the night before	X					60
% of mothers of children 0-23 months who received IPT for malaria during their last pregnancy						70
% of children 6-23 months who ate a Vitamin A-rich food, a high protein food, and an iron-rich food in the last 24 hours		X	X	X		50
% of children 12-23 months who ate semi-solid food at least four times in the past 24 hours	X		X			50
% of children 0-23 months who were weighed at least once in the past two months	X	X	X	X		90
% of infants 0-6 months who received nothing except breastmilk in the past 24 hours						70
% of children 12-23 months who have received a dose of Vitamin A in the past six months	X	X	X	X	X	75
% of mothers of children 0-23 months who report taking at least 90 days of iron/folic acid supplements during her last pregnancy			X			50
% of mothers of children 0-23 months whose last birth was attended by a health professional						55
% of home deliveries in which a clean birth kit was used				X		70
% of mothers of children 0-23 months whose child was placed immediately with her after birth			X			60
% of children 0-23 months who were breastfed within one hour of birth						75
% of mothers of children 0-23 months who had at least one postpartum check-up after the birth of her last child (by a health professional or TTBA)						50
% of mothers of children 0-23 months who received a postpartum dose of Vitamin A during the first two months after delivery (card confirmed)	X		X	X		50
% of children 12-23 months who were completed immunized by their first birthday			X	X	X	70

Annex 9: CHW Training Matrix

Project Area (name of district or community)	Type of CHW	Official government CHW or Grantee developed cadre	Paid or Volunteer	Number Trained over life of project	Focus of Training
Mazabuka and Siavonga Districts	Field Facilitator	Grantee-developed cadre	Paid	21	Monitoring and Evaluation (KPC/LQAS, Qualitative Research, HFA) Care Group Methodology Adult Education Malaria (mode of transmission, epidemiology, prevention measures, prophylaxis during pregnancy, and signs and symptoms and management of malaria) Immunization (introduction to immunization; target diseases and case definitions; vaccines and their administration; vaccine potency; open vial policy; outreach strategies; strengthening routine immunization services; cold chain management; communication skills; community outreach; monitoring and evaluation of immunization services; and measles control) Nutrition (breast feeding; complementary feeding; GMP; micronutrient deficiencies; and general malnutrition) Positive Deviance/Hearth Maternal and Newborn Care (birth planning; clean delivery; danger signs in pregnancy; HIV in pregnancy; malaria in pregnancy; nutrition and exercise in pregnancy; labor; danger signs in childbirth; breastfeeding; newborn care; danger signs postpartum; caring for mother after delivery; family planning)
Mazabuka and Siavonga Districts	Field Supervisor	Grantee-developed cadre	Paid	5	Monitoring and Evaluation (KPC/LQAS, Qualitative Research, HFA) Care Group Methodology Adult Education

					Malaria (mode of transmission, epidemiology, prevention measures, prophylaxis during pregnancy, and signs and symptoms and management of malaria) Immunization (introduction to immunization; target diseases and case definitions; vaccines and their administration; vaccine potency; open vial policy; outreach strategies; strengthening routine immunization services; cold chain management; communication skills; community outreach; monitoring and evaluation of immunization services; and measles control) Nutrition (breast feeding; complementary feeding; GMP; micronutrient deficiencies; and general malnutrition) Positive Deviance/Hearth Maternal and Newborn Care (birth planning; clean delivery; danger signs in pregnancy; HIV in pregnancy; malaria in pregnancy; nutrition and exercise in pregnancy; labor; danger signs in childbirth; breastfeeding; newborn care; danger signs postpartum; caring for mother after delivery; family planning)
Mazabuka and Siavonga Districts	Community Health Worker	Government	Volunteer	117	Community Health (roles of CHWs/neighborhood health committees/care and prevention teams; community empowerment; community counseling; key family practices; malaria and pneumonia case management; nutrition; GMP; immunization; safe motherhood; diarrhea management and control; and CHW kit instructions)
Mazabuka and Siavonga Districts	Traditional Birth Attendant	Government	Volunteer	114	Maternal and Newborn Care (roles and responsibilities of TTBAAs; antenatal and postpartum care; nutrition during pregnancy; malaria in pregnancy; anemia in pregnancy; birth planning; management of

					labor; danger signs in pregnancy; complications during pregnancy/labor; newborn care; breastfeeding; infection prevention; PMTCT; family planning; and growth monitoring and promotion)
Mazabuka and Siavonga Districts	Care Group Volunteer	Grantee-developed cadre	Volunteer	1960	Malaria (mode of transmission, epidemiology, prevention measures, prophylaxis during pregnancy, and signs and symptoms and management of malaria) Immunization (introduction to immunization; target diseases and case definitions; vaccines and their administration; vaccine potency; open vial policy; outreach strategies; strengthening routine immunization services; cold chain management; communication skills; community outreach; monitoring and evaluation of immunization services; and measles control) Nutrition (breast feeding; complementary feeding; GMP; micronutrient deficiencies; and general malnutrition) Maternal and Newborn Care (birth planning; clean delivery; danger signs in pregnancy; HIV in pregnancy; malaria in pregnancy; nutrition and exercise in pregnancy; labor; danger signs in childbirth; breastfeeding; newborn care; danger signs postpartum; caring for mother after delivery; family planning)

Annex 9. Evaluation Team Members and Their Titles

The Evaluation Team consisted of the following persons:

Henry Perry, MD, PhD, MPH, Johns Hopkins University, Evaluation Team Leader, Baltimore, MD, USA

Anna Summer, MPH, Salvation Army World Service Office, Headquarters Backstop, Arlington, VA, USA

Ellias Hamatanga, Project Manager

Phisher Simutwe, Director of Monitoring and Evaluation and Associate Project Manager

Agness Ngandu, Administration Assistant

Supervisors

Telford Hangoma

Rannoh Kalinda

Billy Mwiinga

Majory Nanzele

Mailon Dumbula

Facilitators

Obvious Ngandu

Moonga Miyoba

Milton Simuule

Lime Kabunda

Mulonga Handabile

Edwin Chisenga

Petronellah Mabeta

Chimuka Hantumba

Honiger Cheelo

Paul Mainza

Phillis Mapani

Wisdom Hakubija

Clive Hajuma

Gloria Sitwala

Hebert Chipuka

Belwick Cheelo

Sarah Chigoma

Caphus Mangilzai

Dyson Tembo

Frackson Hajaya

Driver

Stanley Namashoba

Annex 10. Evaluation Assessment Methodology and Activities

The Final Evaluation took place from August 30 – September 9, 2010. A household knowledge, practice and coverage (KPC) survey had been carried out in July 2010 by the project staff. The data were entered into EPI INFO by the senior project staff members and analyzed by Claire Boswell.

The Evaluation Team worked together to review the KPC findings. The Evaluation Team designed a set of questions for focus group discussions (FGDs) with community members and project staff members and for interviews with key individuals at the MOH. Communities selected for FGDs were selected at random, but with some consideration given to access to the communities.

Once all of this information had been gathered together and reviewed, the Evaluation Team discussed the findings and their implications.

The KPC report is shown separately in Annex 9. Annex 11 lists the questions for the FGDs and the findings from the individual FGDs.

The schedule of evaluation activities was as follows:

July	Household interviews for KPC survey
28 August	Departure of Henry Perry and Anna Summer from the US
29 August	Arrival of Henry Perry and Anna Summer in Lusaka, Zambia
30 August	Travel to Chikankata and meet with Project Staff to plan field activities
31 August-	
4 September	Interviews in project area
6-8 September	Meeting with project staff to discuss findings of KPC survey and focus group
8 September	Presentation of evaluation findings to Chikankata Health Service staff
9 September	Travel to Lusaka, meet with USAID mission staff, and presentation of evaluation findings to Salvation Army/Zambia and others, departure of Anna Summer to US
10 September	Visit to Jhpiego office, Lusaka, departure of Henry Perry to US
11 September	Arrival of Henry Perry in US
12 September –	
24 November	Completion of Final Evaluation report

Attendees at the Dissemination Seminar at the Chikankata Health Services on September 8 included the Director, various administrative staff, and several of the staff in nursing and community health programs.

Attendees at the Dissemination Seminar at a Salvation Army/Zambia national office included the Country Director, program staff, and representatives from the Chikankata Health Service. Michelle Wallon, Program Officer at Jhpiego, attended as well.

Annex 11. Questions Asked during Field Visits

Mothers

1. What did the child survival project do in your village?
2. Did the Care Group volunteer visit you? How did you meet with her? Was it regular?
3. What did you expect from the project? Did the project meet your expectations?
4. What benefits have you seen in your village as a result of the project?
5. Are there areas where the project could have done better? What improvements would you suggest?
6. Have you seen any improvements in your child's health? If so, what were they? Do you feel that this project has had an effect on reducing the number of child deaths in the village?
7. What have you learned from the project?
8. What project activities do you think you will be able to continue? Will your Care Group Volunteer continue to visit you?

Care Group Volunteers

1. What challenges did you encounter in performing your work? What could you do to overcome these challenges?
2. Did you feel supported by your Facilitator and the project leadership? In what ways did your Facilitator enable you to perform your responsibilities? How well did the project prepare you to do your work?
3. What did you expect from the project? Did the project meet your expectations?
4. What benefits have you seen in your village as a result of the project?
5. Are there areas where the project could have done better? What improvements would you suggest?
6. What changes have you seen in your village as a result of the project? Have you seen any improvements in the health of the children in your village? If so, what were they? Do you feel that this project has had an effect on reducing the number of child deaths in the village?
7. What have you learned from the project?
8. What project activities do you think you will be able to continue? Will you continue to visit the women you have been helping since the project began?

Facilitator

1. What health change have you seen in your village as a result of the project?
2. How well did the project prepare you to do your work?
3. Did you feel supported in your role as a Facilitator? By whom and in what ways?
4. How many times a month did your Supervisor meet with you? In what ways did your supervisor enable you to do your job? Do you think you would have been able to do this without a supervisor? Can you do it in the future without a supervisor?
5. What are the main challenges that you encountered in performing your work?
6. Were there any health messages that were more difficult to understand? Were there any messages that were more difficult to teach? What are they and why?
7. Which health behaviors were more difficult for mothers to accept and adopt? Why?
8. What were the most frustrating parts of your job? Why? What were the most rewarding parts of your job? Why?

Supervisors

1. What is the most important health change you have seen in your area as a result of the project?
2. How well did the project prepare you to do your work? Did you feel supported in your role? By whom and in what ways? What do you wish you had been taught that you were not taught?
3. How many times a month did you meet with the project management? In what ways did the project enable you to do your job? Do you think you would have been able to do this with supervision? Can you do it in the future without supervision?
4. What challenges did you encounter in performing your work?
5. Which of your current activities as a Supervisor do you think you would want to or be able to continue in the future?

Village Leaders (including NHC and CPT members)

1. What has been your involvement with the project? Were you involved with the Neighborhood Health Committees (NHCs)/Care and Prevention Teams (CPTs)?
2. What have been the project's successes and challenges? How might the challenges have been overcome?
3. How helpful were the Care Group volunteers?
4. How can the project continue after the funding ends?
5. Did the Care Groups provide any health information to the community leaders? If so, was it useful? How have you used this information to make changes in your community? Can you give any examples?
6. What is your desire for the health of this village in the future? How do you think the village can achieve this?
7. How has your life or your thinking changed because of this project?
8. What were the most frustrating parts of your job? Why? What were the most rewarding parts of your job? Why?

MOH

1. Please tell me what you know about the Salvation Army Child Survival Project. Do you know about the Care Groups that were set up in the communities near your health facility? How were they set up? Who attends them? Who goes to the Care Group to train people? What is the purpose of Care Groups?
2. How has the project helped you in the MOH to reach your own goals and objectives? What were the challenges that you encountered in working with the project?
3. What was the project trying to achieve? Do you believe that the project has met this goal?
4. What aspects of the project do you and others in the MOH value the most?
5. Have you seen any changes in attitudes or behaviors in the community that you think are attributable to the project?
6. Has the project provided the MOH with any information that has been helpful to you in your programs? If so, how?
7. Do you think that the Care Group work should be continued? If so, how might the MOH take over the Care Group work? What would the MOH need to do in order to accomplish this?

Annex 12. List of Persons Interviewed and Field Activities Observed

On Tuesday 31 August and Wednesday, the project Final Evaluation Team traveled to villages within 1-2 hours of Chikankata in the Mazabuka District. Then, on Thursday and Friday 2-3 September, the Team traveled to Siavonga District, 3-4 hours away. As shown in Table 12.1, the Final Evaluation Team visited five health centers where it interviewed health center staff members individually. The Team also visited nine villages, where Beneficiary Mothers, Care Group Volunteers, and Village Leaders were interviewed in small groups. While in a village, the Evaluation Team usually split into two or three parts, with two to three members of the Team participating in the interviews (so that a staff member speaking the local language could be translated into English). Interviews with the Care Group Volunteers, and Beneficiary Mothers were carried out separately, usually with about 8-12 persons in attendance. The number of community leaders participating was usually less, around three to five persons. Altogether, 27 focus group discussions were held, and five health center staff members were interviewed. Annex 21 contains photos taken during this field trip.

Table 12.1 Community Members, Project Volunteers and Staff, and MOH Officials Interviewed

Date	District	Village	Beneficiary Mothers	Care Group Volunteers	Village Leaders	Health Center Staff
Tuesday, 31 August	Mazabuka	Nameembo	√	√	√	
		Health Center				√
Wednesday, 1 September	Mazabuka	Nadeswe Health Center				√
		Habeenzu	√	√	√	
		Choonya	√	√	√	
		Chiskwo	√	√	√	
Thursday, 2 September	Siavonga	Mtendere Health Center (Chirundu town)				√
		Gabon	√	√	√	
		Chippepo Health Centre				√
		Zimare	√	√	√	
Friday, 3 September	Siavonga	Kanyalerle	√	√	√	
		Kariba Health Center				√
		Simamba	√	√	√	
Saturday, 4 September	Mazabuka	Nanzele	√	√	√	
Total number of focus group discussions conducted			9	9	9	5*

*These were individual interviews

Annex 13. Summary of Focus Group Discussions in the Project Site

Comments Made by Respondents during Focus Group Discussions

Mothers

1. What did the child survival project do in your village?
 - Food preparation for under-fives; nutrition and a balanced diet
 - Hygiene messages
 - Promoted immunizations
 - Promoted ITNs
 - Promoted MNC such as ANC and post-natal checks
 - Promoted breastfeeding
2. Did the Care Group volunteer visit you? How did you meet with her? Was it regular?
 - Twice a week
 - Twice a month
 - Five times a month
 - Three times a month
 - Mothers and CGVs met together
 - CGV came to individual homes
3. What did you expect from the project?
 - To give free food supplements
 - To learn how to keep the house clean
 - To learn about EPI
 - To get ITNs
 - To learn about malaria
 - To learn how to care for sick children
 - To build a health post
 - To drill a well
 - To build toilets

Did the project meet your expectations?

 - Yes. Project taught how to keep children healthy
4. What benefits have you seen in your village as a result of the project?
 - Increased knowledge
 - Increased weight of children
 - More ITN use
 - More early treatment of malaria
 - More going for ANC
 - More deliveries in the health center
 - Knowledge on how to feed and cook for malnourished children
 - More attending under-five clinics
 - More doing PMTCT
 - Knowledge on HIV prevention
 - Decreased malaria incidence

5. Are there areas where the project could have done better? What improvements would you suggest?
 - There was insufficient food for Hearth
 - Wanted food supplements
 - There were insufficient ITNs
 - Expected drugs from CGVs
 - Wanted houses sprayed for mosquitoes
 - Wanted income-generating projects in order to build a clinic
6. Have you seen any improvements in your child's health? If so, what were they? Do you feel that this project has had an effect on reducing the number of child deaths in the village?
 - More children are taken to GMP and have increased weights
 - More mothers are seeking care for their children
 - Child mortality has decreased
 - Malaria incidence has decreased
 - Children are eating more nutritious foods
 - Disease incidence has decreased from vaccines
 - Maternal mortality has decreased
7. What have you learned from the project?
 - Food preparation from local, available foods
 - Malaria prevention with ITNs
 - Care-seeking for malaria
 - Family planning
 - GMP
 - Understanding the importance of vaccines
 - General hygiene
 - ORS
 - When to attend ANC
 - Expectant mothers should prepare for emergencies with money, a birth plan and a CDK
 - The causes of malaria
 - To attend Child Health Week
 - The importance of exclusive breastfeeding
 - The importance of immediate breastfeeding
 - Feeding schedule for children older than six months
 - PMTCT
8. What project activities do you think you will be able to continue? Will your Care Group Volunteer continue to visit you?
 - PMTCT
 - Cooking nutritious foods
 - Attending under five clinics
 - Attending ANC
 - Care Givers will continue to visit

- Family Planning
- Immunizations
- Using ITNs

Care Group Volunteers

1. What challenges did you encounter in performing your work?
 - Getting mothers to come together
 - Distance between households and lack of transport
 - Lack of ITNs
 - Mothers low attendance at Hearth sessions
 - CGV's time constraints with other work
 - Refusal of mothers to participate
 - Mothers not home
 - Mothers wouldn't contribute food to Hearth
 - CGV's not paid
 - Mothers wouldn't come to under-five clinics
 - Mothers used ITN's as curtains
 - Long CGV sessions without food
 - Spouses disapprove of their work
 - Superstition by mothers as to why CGVs visited them
 - Mothers expected supplements
 - There were no challenges
 - Mothers doubted CGVs qualifications
 - No place for meeting during the rainy season
 - CGV's felt uncomfortable visiting houses without clean clothes
 - Community laughed at them for working for no pay
2. What could you do to overcome these challenges?
 - Just continued on with household visits
 - Mother wanted to see dramas so they'd come
 - Community leaders encouraged mothers
 - Mothers saw Hearth children improve and were more interested to participate themselves
 - CGVs would go to mothers individually instead of meeting them in groups
 - CGVs took advantage of time at under-five clinics to talk with mothers
 - Reported noncompliant mothers to facilitators
 - CGV would contribute food
 - Fee for health card for mothers who delivered at home
 - CGV regularly reminded mothers of under-five clinic dates
 - Kept repeating proper ITN use until they used it properly
 - Found ways to support themselves through small jobs in order to keep working as a CGV
 - Earned trust of mothers by doing things for them
 - Personally check whether ITNs were in houses

- Nurses told mothers to listen to CGVs
 - Mothers eventually saw that the CGVs were helping and stopped laughing at them
3. Did you feel supported by your Facilitator and the project leadership? In what ways did your Facilitator enable you to perform your responsibilities? How well did the project prepare you to do your work?
 - Frequent meetings
 - Facilitators came far for meetings
 - Facilitators helped solve problems
 - Facilitators were encouraging
 - Helped with GMP and under-five clinics
 - Gave ITN's
 - Imparted knowledge
 - Gave materials
 - Gave supplies for Hearth
 - Gave T-shirts and *chetenges* (skirts)
 - Provided technical support
 - Carried out refresher trainings
 - Taught how to prepare food
 4. What did you expect from the project?
 - Food supplements
 - Bicycles
 - More knowledge than what we got
 - Certificates
 - Wanted to keep cooking supplies
 - Money
 - Umbrella
 - Rain coats
 - Health knowledge
 - Workshops
 - Income-generating activities
 - Foot at meetings
 - Mothers would be easy to find in households
 5. Did the project meet your expectations?
 - Happy with the project
 - Learned to talk and teach in crowds (which wasn't expected)
 - Feel important (which wasn't expected)
 - Husbands supportive (which wasn't expected)
 - Gave knowledge (as expected)
 - Mothers and children are not dying
 - Decreases in malaria
 - Given technical support (as expected)
 - Mothers were busier than we thought

6. What benefits have you seen in your village as a result of the project?
- Rehabilitated children using local foods
 - Increased frequency of feeding
 - More ITN use
 - Few deaths of mothers and children
 - More mothers deliver in facilities
 - People happy with messages
 - Decreased malaria incidence
 - Decreased use of traditional medicines
 - Hygiene practices improved
 - IPT increased
 - Villages teach other villages health messages
 - More attending under-five clinics/vaccines
 - More going to ANC
 - Increased FP use
 - Decreased maternal deaths
 - Increased care seeking for children under five with danger signs
 - Increased care seeking for maternal care
 - Increased knowledge on postnatal care
 - Fewer abortions from malaria
 - Decreased neonatal deaths
 - Decreased malnourishment
7. Are there areas where the project could have done better? What improvements would you suggest?
- Bicycles
 - Food supplements
 - Men's fellowship groups need improving
 - Build a small health post
 - Train more TTBA/CHWs
 - Workshops for CGVs
 - More books/materials
 - Gum boots/rain coats
 - More ITNs
 - Gifts for Hearth graduates
 - Paying CGVs somehow
 - Income-generating activities
 - Include HIV intervention area
 - Promote growing of more nutritious foods at households

8. What changes have you seen in your village as a result of the project? Have you seen any improvements in the health of the children in your village? If so, what were they? Do you feel that this project has had an effect on reducing the number of child deaths in the village?
- Better nourished children
 - Decreased malaria incidence
 - Increased GMP
 - Increased ITN use
 - Increased FP
 - More mothers go to under-five clinics
 - Increased use of CDKs
 - More mothers to ANC
 - More immediate care seeking
 - Decreased child mortality
 - Changes from traditional medicine to modern medicine
 - Increased knowledge on health
 - Increased vaccinations
 - Increased knowledge on food preparation
 - Decreased maternal deaths
 - Women to postpartum care
9. What have you learned from the project?
- Local available food preparation
 - Children should go to the hospital when sick
 - Signs and symptoms of malaria
 - Husbands are happy with cleaner homes
 - How to teach through role play
 - Knowledge on intervention areas
 - Importance of ITNs
 - Importance of protecting pregnant mothers
 - Hygiene
 - Immunizations
 - Understanding when a child's weight is healthy
 - Frequency of child feeding
 - ANC schedule
 - Danger signs for sick children
 - Family planning
 - Importance of care group model on imparting knowledge
 - Men should be involved with PMTCT and VCT
10. What project activities do you think you will be able to continue? Will you continue to visit the women you have been helping since the project began?
- Cooking and nutrition education
 - Home visits
 - Delivering health messages

- Taking care of malnourished children
- Knowledge
- Under-five clinics
- Sleeping under ITNs
- Vaccines
- GMP
- ANC
- Deliveries at hospital
- Looking for danger signs
- All activities except reporting

Facilitators

1. What health change have you seen in your village as a result of the project?
 - Increased care seeking at the health facility for ANC, sick children, IPT, deliveries, vaccines
 - Knowledge changes: danger signs, nutrition, signs of malnutrition, vaccinations, IPT, FP, exclusive breastfeeding, how to use ITNs, to go to under-five clinics
 - Fewer seek care from witch doctors
 - Improved feeding practices
 - More seek GMP
 - Decreased malnutrition
 - Improved relationship with CHWs
 - Decreased malaria incidence
 - Mothers complete malaria treatment course
 - Increased understanding of importance of FP, exclusive and immediate breastfeeding, ITNs, post-natal care
 - Increased use of CDK's
 - Decreased maternal mortality
 - Decreased neonatal mortality
 - Enhanced collaboration of community organizations in community
2. How well did the project prepare you to do your work?
 - Provided bicycles for facilitators
 - Provided supplies for Hearth sessions
 - Provided office supplies/books/teaching materials in Tonga
 - Gave workshops to instill knowledge on intervention areas
 - Gave vehicle transport when available
 - Built linkages with facilitators and other community groups
 - Supervisors visited facilitators for technical support
3. Did you feel supported in your role as a Facilitator? By whom and in what ways?
 - Supported by community leaders who mobilized community
 - Supervisors helped facilitators with problems with care groups and helped them facilitate meetings
 - Supervisors helped facilitate cooking demonstrations

- Supported through monthly meetings with MOH, supervisors, facilitators, and CSP staff
 - Free treatment given to facilitators and families at Chikankata hospital
 - MOH trainings strengthened linkages between facilitators and health facilities
 - Supported financially with salaries
 - Given T-shirts and other incentives
 - Supervisors helped with transport for facilitators
 - Supervisors updated them on project activities
 - Facilitators were given bicycles
 - Facilitators were given teaching materials
 - Facilitators were given knowledge on all intervention areas
 - Project gave facilitators orientation on how to work with the community and organizations within the community
4. How many times a month did your Supervisor meet with you?
- Frequency between one and five times a months, but mostly between three and four times a month
- In what ways did your supervisor enable you to do your job?
- Collected reports
 - Provided technical assistance
 - Provided transport to far-reaching care groups
 - Arranged exchange visits
 - Established work plans and followed them
 - Allowed facilitator to do his/her job but only provided support
 - Coordinated meetings with NHC/CPTs and CGVs
 - Helped solve problems with communities and CGVs
- Do you think you would have been able to do this without a supervisor?
- No- We would have no one to consult without them. We'd need transport and materials.
 - Yes- We are used to working independently.
- Can you do it in the future without a supervisor?
- No- We need them for advise, consultation, and to arrange meetings with community leaders
 - Yes- We have been gaining so much experience and knowledge, we can do it on our own.
5. What are the main challenges that you encountered in performing your work?
- Long distances and difficult, hilly terrain. Had to climb on foot to reach households.
 - Rainy season more difficult to move about.
 - Low attendance by community people at meetings.
 - Low educational levels in community.
 - CGVs want payment/incentives/workshops
 - Mothers couldn't contribute food to Hearth so low Hearth attendance.
 - Poor attendance at CGV meetings due to lack of incentives

- About 30% of CGVs not very active.
 - No TBAs in some areas.
 - Inadequate and inconsistent supply of ITNs at MOH
 - Lack of trained personnel at clinics
 - Women's low compliance to giving birth at health facility
6. Were there any health messages that were more difficult to understand?
- All were easy to understand
 - Different categories of food difficult to teach
- Were there any messages that were more difficult to teach? What are they and why?
- All were easy to teach
 - Cause of malaria difficult to teach due to traditional beliefs about transmission
7. Which health behaviors were more difficult for mothers to accept and adopt? Why?
- The PD Hearth program
 - People feel suffocated in ITN
 - People want to have as many children as they can due to cultural norms. Low FP.
8. What were the most frustrating parts of your job? Why?
- CGVs could not understand what facilitators were teaching
 - CGVs wanting incentives
 - Poor CG meeting attendance
 - Lack of food for Hearth sessions
 - Relocation so families during rainy season
 - Lack of adequate notice to facilitators for meetings or for needed information
 - Long distances by bicycle
 - Bicycle maintenance issues

What were the most rewarding parts of your job? Why?

- Learned much about the interventions
- Earned money to support our families
- Had fun working together
- Earned people's respect- communities, health center staff
- Knowledge sustainable in our communities
- Get to visit new places, see how other people live
- Watching health improvements
- Earned certificates
- Learned conflict resolution
- Community members' interaction with each other has been improved

Supervisors

1. What is the most important health change you have seen in your area as a result of the project?
- Malaria- Before we started this project people would think things like eating premature cane or if a bird comes to the top of your house or when you eat yesterdays leftover or witchcraft and you'll automatically get malaria. Now people have truly seen you can only get malaria from the bite from a mosquito.

- Malnutrition- We used to be very dependent on the government for supplements like mealie meal and cooking oil. Now they see they can feed themselves with what they have in their own communities. We also overcame stigma that was associated with taking children to Health sessions; they didn't want to admit their children were malnourished. The mentality has changed. There's no need to depend on the government.
 - Maternal/newborn care- The number of women taking iron tablets has increased meaning they are going earlier for antenatal care. Increasingly more mothers are going to health centers for delivery because they have a better understanding of the possible complications. They can identify danger signs.
 - Care-seeking- Before people used to wait two or three days before seeking care for their sick children. They used to use herbal remedies instead.
 - Immunizations- More women are taking children to under-five to get immunized.
2. How well did the project prepare you to do your work? Did you feel supported in your role? By whom and in what ways?
- The management helped us with transport by vehicle and giving us motorbikes and money for fuel.
 - They provided materials for teaching the communities.
 - The M&E coordinator would come and support us in the meetings.
 - They communicated clearly with us about upcoming activities.
 - When someone was sick, someone from the office (usually the M&E coordinator) would fill in for that person.
 - The M&E coordinator supported us the most. We couldn't do it without him.
 - The high turnover of the management was very disturbing. Even when they were in management, they were not doing their job. They needed to get updated on the project and wouldn't know anything about the project. Before they learned anything about the project, they would leave again. All the support came from the M&E coordinator. The first manager focused on only managing, because that was his only job, but he left. The rest had other jobs and commitments and were not there to support us. Phisher was essentially running the project. He would come all the way to Siavonga to supervise us. He had too many things to do, however. We pity him. He was doing M&E, supervision, and management all at the same time.

What do you wish you had been taught that you were not taught?

- Adult education and counseling methods
- HIV/AIDS intervention area- specifically with PMTCT as a component of the MNC curriculum
- Proper communication skills starting from the top management all the way to the CGVs. Negotiation skills and cultural sensitivity in the communities.
- Learning how to properly organize and prepare people for upcoming activities and clearly communicate. Establishing systems.

3. How many times a month did you meet with the project management?
- Every Friday (for Mazabuka supervisors). The manager wouldn't always meet with us, but the M&E Coordinator would.
 - Two to three times a month (for Siavonga supervisors). The M&E Coordinator would come to us.

In what ways did the project enable you to do your job?

- Office supplies, stationary for reports
- Fuel
- Repairs for the motorcycles
- Technical support
- Collaboration at the District Health Office
- Assistance with transport with the vehicle when needed

Do you think you would have been able to do this with supervision? Can you do it in the future without supervision?

- No- Without his technical support we could not have managed. Working alone without anyone being visited would be difficult because we would want to be able to consult them for assistance. We need collaboration and support.
- Yes- We could have managed the interventions because we understand the content.

4. What challenges did you encounter in performing your work?

- Long distances
- Traveling in rainy season
- People would be in the field working from October to June making collecting reports difficult
- Having to walk in mountainous terrain
- Dealing with CGVs wanting more incentives
- Partners like CPTs/NHCs wanted incentives too since they worked with us
- Lack of consistent management
- There was a lack of support for the Siavonga zones. Needed a management position based there.

5. Which of your current activities as a Supervisor do you think you would want to or be able to continue in the future?

- Maternal/newborn care should be continued and we should include PMTCT
- Nutrition activities should continue because it's the most difficult to teach
- "There is no way we can run away from the Care Group model. It's wonderful. It has made us great. And there is sustainability in it."
- Hospitals are asking CCSP to follow up on malnourished children in the wards when they are discharged. The facilitators will communicate with the care giver and that care giver will watch this child. This should continue.
- We'd like to keep following up with the volunteers once in a while.
- Checking in on under-five clinics.

Village Leaders (including NHC and CPT members)

1. What has been your involvement with the project? Were you involved with the Neighborhood Health Committees (NHCs)/Care and Prevention Teams (CPTs)?
 - Helped with TCE
 - Helped with GMP
 - Checked on ITNs
 - Taught about HIV and encouraged VCT
 - Encouraged mothers to go to under-five clinics
 - Not very involved; don't know much about CSP
 - Mobilizing women to go to Hearth
 - Wife is CGV and bought food for Hearth
 - Transport for pregnant mothers
 - Accompany CGVs on HH visits
 - Member of CPT
 - Use CGVs to call people together for village meetings
 - Promote health messages themselves
 - Call CGVs together to make plans during outbreaks
 - Help with Hearth sessions
 - Do sketches together
 - Encourage mothers to go to post-natal checks
 - Encourage mothers to go to sleep under ITNs
 - Meet with CGVs
 - Give CGVs transport
 - Encourage community to contribute maize to Hearth
 - Encourage CGVs to follow-up on sick children
2. What have been the project's successes?
 - Decreased malaria
 - Increased ITN use
 - Effective nutrition interventions
 - No cholera
 - More latrines
 - Learned PMTCT
 - Increased men's involvement
 - Realization we don't need money to feed children
 - Increased VCT
 - Increased number of facility deliveries
 - Increased care-seeking
 - Better hygiene
 - Increased attendance at under-five clinics
 - CGV's worked without pay
 - Regular CGV visits
 - TTBA trainings

Challenges?

- Transport to the hospital
 - Insufficient food for Hearth
 - Low meeting attendance
 - NHC/CPTs not given incentives
 - CGV's not paid
 - Too few CGV's
 - Long distances for CGV's to travel
 - Too few ITNs
 - Needed income-generating activities
3. How helpful were the Care Group volunteers?
- System worked well
 - Village learned
 - Diseases decreased
 - Decreased malnutrition
 - CGV helped with weighing children and getting to under-five clinics
 - CGVs accompanied sick children to clinic
 - ITN distribution
 - Decreased malaria incidence
 - Increased breastfeeding
 - Frequent feeding/complementary feeding
 - Village is cleaner
 - Increased immunizations
 - Hearth sessions
 - Hygiene improved
 - Encouraged male involvement
 - Taught signs and symptoms of malaria
4. How can the project continue after the funding ends?
- Start income-generating projects
 - Can continue improved nutrition practices
 - Can continue sleep under ITNs
 - CGV's to continue visiting households
 - CPT to encourage activities and support CGVs
 - Since CGVs are volunteers they'll continue
 - Headmen chose CGVs, see the importance and will continue to support them
 - Can continue to take them to under-five clinics
 - Can continue to encourage men's involvement

5. Did the Care Groups provide any health information to the community leaders? If so, was it useful? How have you used this information to make changes in your community? Can you give any examples?
 - Monthly meetings with CGVs and CPTs
 - CGVs reported to CPTs every two weeks to discuss problems and find solutions
 - Used information to conduct meetings with other community leaders to make plans for building latrines and rubbish pits
 - CGVs brought reports we took to RHCs
 - CGV's gave information to headmen who then collected food for Hearth
 - CGV's taught community leaders health messages
 - CGV's would report sick children
 - CGVs would report noncompliant mothers to NHCs; NHC would go to a household and encourage mothers
 - We would all meet together for dramas and health education
6. What is your desire for the health of this village in the future? How do you think the village can achieve this?
 - Better water and wells
 - Clean environment
 - More health posts
 - Nursery schools
 - Income-generating activities
 - Certificates for PD Hearth and CGVs
 - CGVs to continue to visit and to help them
 - Healthier mothers and children
 - CHW in community
 - Decreased under-five mortality
 - Increased knowledge
 - A bright future, to work together
 - Encourage men and women to work together
 - Pit latrines
 - More HIV messages
 - Drainage of standing water to reduce malaria
 - More participation in community meetings
 - Community maize contributions to help others
 - Community to support CGVs
 - More time with CCSP!

MOH

1. Please tell me what you know about the Salvation Army Child Survival Project.
 - Carry out Hearth program which is better than giving supplements
 - Do malaria interventions such as ITNs
 - Participate in MOH meetings
 - Train TTBA's, CHWs and MOH staff (EMONC, AMSTL, FANC)

- Their goal is healthy mothers and babies
- They increase access to care
- Improve hygiene
- Do IEC trainings
- Encourage mothers to go to under-five clinics
- Bring mothers to GMP
- Work with TTBAAs, CHWs, and CPTs
- Do community-based programs to empower them

Do you know about the Care Groups that were set up in the communities near your health facility? How were they set up? Who attends them? Who goes to the Care Group to train people? What is the purpose of Care Groups?

- Empower households regarding health
- They meet frequently
- Weigh and assist children
- Train communities
- Report to facilitators who share reports with the RHC
- Use locally available resources
- Share lessons learned with the community

2. How has the project helped you in the MOH to reach your own goals and objectives?

- Brought children to under-five clinics
- Gave refresher trainings
- Provided transport
- Helped with GMP
- Did nutritional rehabilitation/cooking demonstrations
- Diagnosis and treatment of malaria with CHWs
- Trained mothers on the importance of immunizations
- Worked with us during outreach activities
- CG strategy reached every household
- Empowers community
- Sustainable since CGs will last beyond life of the project
- Help with IEC and mobile clinics
- Train CHWs and TTBAAs
- Teach communities proper use of ITNs
- Provided EMONC trainings
- Involved MOH in meetings
- Trained mothers to come to ANC and deliver in a health facility

What were the challenges that you encountered in working with the project?

- Food insufficient for cooking demonstrations

3. What was the project trying to achieve?

- Goal- to improve health of the community.
- Goal- to reduce maternal/child deaths.
- Don't know CSP's goals.

Do you believe that the project has met this goal?

- Yes, goal achieved; no maternal deaths now.
 - Yes, taught MOH new things.
 - Yes, came together to solve problems in the community.
 - No, goal not yet achieved; slow progress but at least fewer malaria cases.
4. What aspects of the project do you and others in the MOH value the most?
- Knowledge CGVs give community
 - Weighing of malnourished children
 - Positive reception of CGVs in the community
 - TTBA/CHW trainings
 - Hearth sessions
 - People in community in place and ready to spread knowledge
5. Have you seen any changes in attitudes or behaviors in the community that you think are attributable to the project?
- More mothers bring children to under-five clinics
 - Chikankata trainings for MOH staff
 - Increased frequency of feeding of children
 - Increased immunization coverage
 - Transport of MOH staff
 - More people seek care/ decreased negative perception of mothers toward MOH
 - Increased knowledge
 - More attending GMP
 - More safe deliveries
 - More use of local available foods for a balanced diet
 - More mothers attending ANC
 - More overall excitement in communities about health messages
6. Has the project provided the MOH with any information that has been helpful to you in your programs? If so, how?
- MOH staff learned from the health messages personally
 - CSP did not provide information
 - Gave MOH personnel trainings
 - Gave verbal reports on project activities
 - Facilitator gave data on ITNs in communities to RHC
 - Provided materials
 - Will follow up on health and vital statistics in communities per MOH personnel requests
 - Information from Care Groups will be taken to the DHO
7. Do you think that the Care Group work should be continued? If so, how might the MOH take over the Care Group work? What would the MOH need to do in order to accomplish this?
- CGVs can work with other projects in the area
 - MOH primary care could help
 - Corridors of Hope, Society of Family Health and other NGO's could absorb them

- DHO could decide how to integrate them
- MOH could find a small amount of money to support care groups with incentives
- CHW's can continue to work in collaboration with CGVs
- RHC receives some money from DHO which could be used to support CGVs

Annex 14. Estimates of Mortality Impact and Cost-Effectiveness

Here we present the evidence regarding the project's impact on under-5 mortality using the indirect method recently developed called the Lives Saved Tool (LiST tool), which uses the known efficacy of specific interventions and measures a presumed impact based on changes in population coverage, baseline under-5 mortality rate, and population. This software is available at <http://www.jhsph.edu/dept/ih/IIP/list/index.html>. It takes estimates of the mortality impact of specific interventions and links this data to changes in coverage of these interventions, baseline mortality rates, and populations served by a program to estimate the number of lives saved.

The LiST Tool estimates that the under-5 mortality rate in the project area has declined by 11.5% between 2006 and 2010, leading to the aversion of 1,097 deaths among children aged less than 5 years of age (Table 14.1). This is an uncorrected estimate since it does not account for the change that would have occurred in the absence of the project.

Table 14.1. Uncorrected Estimates of Lives Saved using the LiST Tool in the Project Area (portions of Mazabuka and Siavonga Districts)

Number of beneficiaries	Estimated number of lives saved	Estimated percentage reduction in under-5 mortality rate
50,593 (28,474 WRA and 22,119 children <5y)	1,097	11.5% (148 to 131)

In order to estimate the number of child deaths averted that can be attributable to project activities, it is also necessary to estimate the number of child deaths averted by the ongoing improvement in child mortality in the project area that would have occurred in the absence of the project. According to the Countdown 2010 data, we estimate that the decline in the U5MR in Zambia has been 0.8% per year. According to the calculations shown in Table 14.2, we estimate that 33 deaths of under-5 children had been averted in the project area that were not due to the project activities and that would have occurred in the absence of the project.

Table 14.2. Estimate of Number of Under-5 Deaths Averted as a Result of Ongoing Secular Changes in the Project Areas if the Project Had Not Been in Operation

Year	U5MR	5,919 births per year (based on a crude birth rate of 47.5 per 1,000 population according to the 2007 DHS)		Cumulative Total
		Number of under 5 deaths expected	Number of deaths "averted" by secular trend compared to baseline year (2005)	
2005	148.0	876	0	0
2006	146.8	869	7	7
2007	145.7	862	7	14
2008	144.6	856	6	20
2009	143.5	849	7	27
2010	142.4	843	6	33
Total			33	33

With all of this information now in hand, we can estimate the number of lives saved of children 0-59m of age that can be attributable to the project (Table 14.3). The findings from this analysis indicate that 1,064 lives saved (or 97% of the total estimate) can be attributed to the project.

**Table 14.3. Corrected Estimates of Lives Saved using the LiST Tool Project Area
(in Portions of Mazabuka and Siavonga Districts)**

Number of beneficiaries	Estimated number of lives saved using LiST Tool (uncorrected)	Estimated number of lives saved as a result of secular trends independent of the project	Estimated number of lives saved that are attributable to project activities
50,593 (28,474 WRA and 22,119 children <5y)	1,097	33	1,064

Estimates of Cost-Effectiveness

Using the LiST Tool and subtracting out the presumed secular trend, we can estimate the cost per life saved and the cost per DALY saved, as shown in Table 14.10. These calculations are all rather straightforward except for the estimate of DALYS averted for each life of a child under-5 whose death has been averted. Others²⁵ have estimated that 30 DALYS are gained for each death of an under-5 child averted, and we are following that approach here. At a cost of \$1,391 per life saved and \$46 per DALY averted, the Care Group intervention implemented by the project is highly cost-effective.

²⁵ Bhutta ZA, Ahmed T, Black RE, Cousens S, Dewey K, Giugliani E, Haider BA, Kirkwood B, Morris SS, Sachdev HP, Shekar M. What works? Interventions for maternal and child undernutrition and survival. Lancet 2008 Feb 2;371(9610):417-40.

Table14.10. Estimates of Cost per Life Saved and Total Cost Per Beneficiary Project Area (in portions of Mazabuka and Siavonga Districts)

Number of beneficiaries	Estimated number of lives saved using LiST Tool (uncorrected)	Estimated number of lives saved as a result of secular trends independent of the project	Estimated number of lives saved that are attributable to project activities	Project costs (USAID only)	Cost per life saved	Cost per DALY averted*	Total cost per beneficiary per year (USAID and match)
50,593 (28,474 WRA and 22,119 children <5y)	1,097	33	1,064	\$1.48 million	\$1,391	\$46.37	\$7.92 (match = \$0.53 million)

We assume that 1 death averted in a child 0-59m of age is equivalent to 30.0 DALYs averted.

Annex 15. Sample of a Training Aid Used by Care Group Volunteers



Covers of the Four Teaching Modules for Care Groups



One of the Pages of the Safe Motherhood and Neonatal Care Manual

Annex 16. Operations Research Activities

The project sponsored a number of operations research activities, including a baseline health facilities assessment (conducted by Dr. Jim Ricca), a study of the role of TTBA's (conducted by Emory MPH student Elizabeth Corey), a study of ITN usage (conducted by Emory MPH student Kate Shearer), community health worker program assessment (conducted by Stephanie Dubose, Emory MPH student), baseline and endline assessments of the Neighborhood Health Committees and Care and Prevention Teams (conducted by Thebisa Chaava, consultant), and a follow-up assessment of the quality of the PD-Hearth activities (conducted by Mr. John Mumba, consultant and former project staff member).

The health facilities assessment and the baseline NHC/CPT reports have been previously submitted to USAID and are not included here. The others are attached here.

Trained Traditional Birth Attendants in Rural Zambia: Transitioning from a Delivery
Assistant to a Multi-Purpose Maternal Community Health Worker

By

Elizabeth K. Corey
B.A., Lawrence University

A thesis submitted to the Hubert Department of Global Health
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Trained Traditional Birth Attendants in Rural Zambia: Transitioning from a Delivery
Assistant to a Multi-Purpose Maternal Community Health Worker

Approved By:

Karen Andes, Ph.D. (Thesis Advisor)

Date

Roger Rochat, M.D. (Thesis Committee Member), Director of Graduate Programs,
Hubert Department of Global Health

Date

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Elizabeth K. Corey
619 West Maple Avenue
Beaver Dam, WI 53916

The advisor for this thesis is:

Dr. Karen Andes
1518 Clifton Road
Atlanta, GA 30329

The committee member for this thesis is:

Dr. Roger Rochat
1518 Clifton Road
Atlanta, GA 30329

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Abstract

Background: The maternal mortality ratio in Zambia is one of the highest in the world at an estimated 591 maternal deaths per 100,000 live births. The government of Zambia recently instituted a policy that all births should occur in the healthcare center in order to deter Trained Traditional Birth Attendants (TTBAs) from assisting in deliveries.

Objectives: This study aims to determine the current role of TTBAs in rural Zambia and how their role might be changed in the future in order to most effectively and efficiently reduce maternal morbidity and mortality in rural Zambia.

Methods: We conducted eight focus group discussions with TTBAs (n=65), six focus group discussions with women of reproductive age in the villages (n=43) and eight in-depth interviews with midwives. The focus group discussions and in-depth interviews were transcribed and translated into English. The qualitative data analysis software MAXqda 2007 and the Grounded Theory approach were used to analyze the data.

Results: TTBAs are currently performing duties in prenatal care, delivery assistance, postnatal care and family planning. In the future, the participants desired that the role of TTBAs expand in prenatal care, postnatal care and family planning. The participants wanted the role to expand largely through an increase in referring and escorting women to the healthcare center and through educating community members about maternal health in their homes. Most participants believed that the TTBAs should refer and escort all women to the healthcare center for delivery assistance, but should be prepared to assist in emergency deliveries when the woman cannot reach the healthcare center. In the perspective of the participants, the primary role of TTBAs should no longer be to assist in delivery. The participants also noted that they would like the relationship between TTBAs and midwives to be strengthened. The midwives should provide both formal and informal trainings with the TTBAs. Additionally, in order to fulfill the desired future role, the TTBAs should also be trained regularly by non-governmental organizations or the Zambian government.

Conclusion: The role of the TTBAs in rural Zambia is evolving from a birth attendant to a multi-purpose maternal community health worker. The participants would like the TTBAs to begin performing more activities in the villages related to prenatal care, postnatal care and family planning. Most participants preferred that the TTBAs only assist in deliveries where the woman cannot reach the healthcare center in time. The TTBAs should refer and escort all other women to the rural health centers. The participants noted that the TTBAs should receive additional training from midwives, non-governmental organizations and the Zambian government in order to fulfill their future roles.

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Chapter 1: Introduction

Background and Significance

An estimated 585,000 women die each year from causes directly related to pregnancy or childbirth worldwide¹. Many of these deaths are due to an insufficient number of skilled healthcare providers or a lack of accessible healthcare facilities. Maternal mortality is tragic because nearly all of these deaths are preventable. The following five factors account for nearly 80% of all maternal deaths: hemorrhage, sepsis, eclampsia, obstructed labor and complications of abortion¹. For every mother who dies due to maternal complications, many more suffer from a disease or disability at the height of their productivity and family responsibilities².

Levels of maternal morbidity and mortality are the health statistics that have the largest discrepancies between developed and developing countries³. More than 99% of maternal deaths occur in developing countries. At an individual level, this number translates into a 1 in 13 lifetime risk of a woman dying from complications of pregnancy or childbirth in sub-Saharan Africa, compared to a 1 in 4,085 lifetime risk for a woman in developed countries³.

The morbidity or mortality of a mother strongly affects her family and her community. The mother's illness or death changes the family's labor roles, productivity, consumption, and investment and directly adds financial hardship due to funeral or hospital expenses. Compared to children who have lost a father or who are currently living with both parents, children who have lost a mother are more likely to die and to

have stunted growth due to malnutrition. Due to the death of a mother, the quality of the child's schooling, supervision and care often decreases⁴.

International conferences and goals have emphasized the need to reduce maternal mortality. The Safe Motherhood Conference in Nairobi in 1987 brought attention to the problem of maternal mortality in developing countries¹. Commitments to reduce maternal mortality were also generated during the International Conference on Population and Development in Cairo in 1994. More recently, the Millennium Development Goals adopted the goal of reducing maternal mortality by 75% from 2000 to 2015. Additionally, since the 1980s maternal mortality has received growing attention from international non-governmental organizations (NGOs)³. Despite these initiatives, maternal mortality remains high in developing countries and has remained fairly stagnant for the past 15 years².

Research Questions

The purpose of my study is to determine the current role of Trained Traditional Birth Attendants (TTBAs) in the Mazabuka and Siavonga Districts in rural Zambia and to determine how the current roles of TTBAs can be changed in order to most effectively and efficiently reduce maternal morbidity and mortality in the districts. My study will answer the following two research questions from the perspective of TTBAs, women in the villages of reproductive age and professional midwives: How do the participants view the current role of TTBAs? In the opinion of the participants, how should TTBAs be utilized to improve maternal health in the future?

Project Background and Related Objectives

The Chikankata Child Survival Project is conducted by the Salvation Army World Service Organization (SAWSO) in partnership with The Salvation Army Chikankata Health Services (CHS). The project was launched on October 1, 2005 and will end on September 29, 2010. It is funded by USAID with the goal of reducing both maternal and under-five mortality⁵. The Chikankata Child Survival Project is being implemented in its catchment area, which is composed of the Mazabuka and Siavonga Districts of Zambia's Southern Province. The catchment region consists of 124,613 people who live in a rural area that is characterized by extreme poverty. Approximately 50,600 individuals, including women of reproductive age and children under-five years of age, will benefit from the Chikankata Child Survival project⁵.

The Chikankata Child Survival Project has a series of objectives that aim to improve maternal health. Upon obtaining my results, Chikankata Child Survival Project staff will be able to determine if and how to use TTBA's to meet their relevant objectives.

These objectives include:

- Increasing the proportion of births attended by a health professional or TTBA;
- Increasing the proportion of home births that use a clean delivery kit;
- Increasing the proportion of obstetric and neonatal emergencies that are referred in a timely and appropriate manner;
- Increasing the proportion of newborns who are placed with the mother at birth;
- Increasing the proportion of newborns who are immediately breastfed;

- Increasing the proportion of mothers who have a postpartum check-up by a health professional or TTBA;
- Increasing the proportion of mothers who receive a postpartum dose of Vitamin A during the first two months after delivery;

Study Setting: Maternal Health in Rural Zambia

Zambia has one of the highest maternal mortality ratios in the world. The Zambian Demographic and Health Survey (ZDHS) indicated that the maternal mortality ratio in Zambia is 591 maternal deaths per 100,000 live births⁶. Due to the complexity of measuring the maternal mortality ratio, it is likely that it is higher than the reported number. Furthermore, levels of maternal mortality are higher in rural areas than in the urban areas of Zambia⁶.

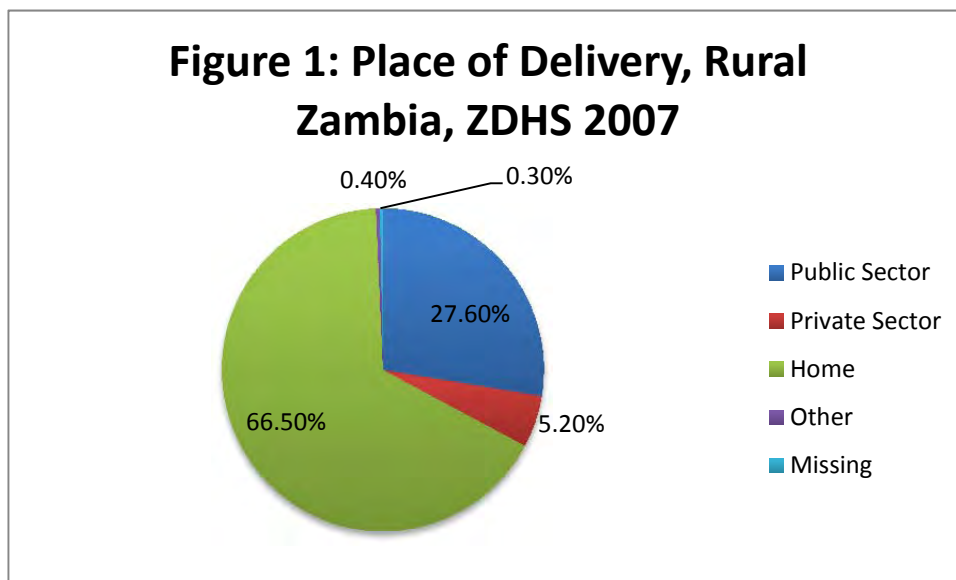
Many women in rural Zambia encounter problems in accessing healthcare for prenatal care, postnatal care, and delivery assistance. In the ZDHS, the women were asked what factors serve as the largest barriers in accessing care. Approximately 82% of women in the rural areas encountered at least one barrier in accessing care. Women who were surveyed in the rural areas indicated that they avoided visiting the healthcare center because they believe that drugs may not be available at the healthcare center (59.3%), a provider might not be available at the healthcare center (59.3%), obtaining transportation is difficult (57.2%), the health center is too far away (57.0%), visiting the healthcare center is too expensive (39.9%), visiting the healthcare center alone is difficult (33.7%), a female provider might not be available at the healthcare center (22.7%) and getting permission to seek treatment is difficult (4.7%)⁶.

Prenatal Care

Levels of prenatal care are high in rural Zambia. Slightly over 90% of women in rural areas received prenatal care from a skilled provider (nurse, midwife, doctor, or clinical officer) during their last pregnancy. Approximately 4% of women in rural Zambia received prenatal care from a TBA⁶.

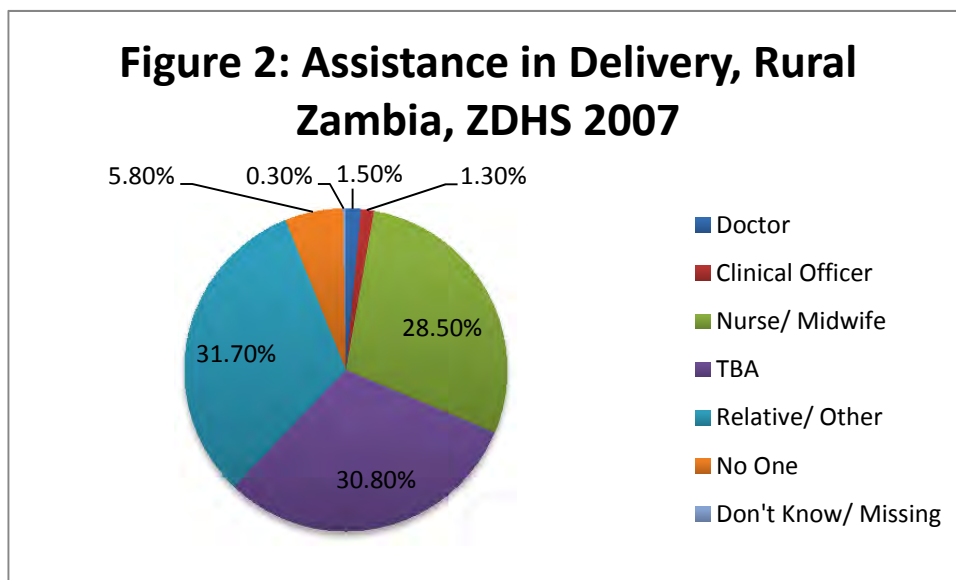
Delivery Assistance

In rural Zambia, the majority of women delivered at home (66.5%). A significant portion of women delivered in the public sector (27.6%), while an additional 5.2% delivered in the private sector (Figure 1)⁶.



Furthermore, the majority of women in rural Zambia delivered without the assistance of a skilled provider (68.3%). A skilled provider is a physician, clinical officer

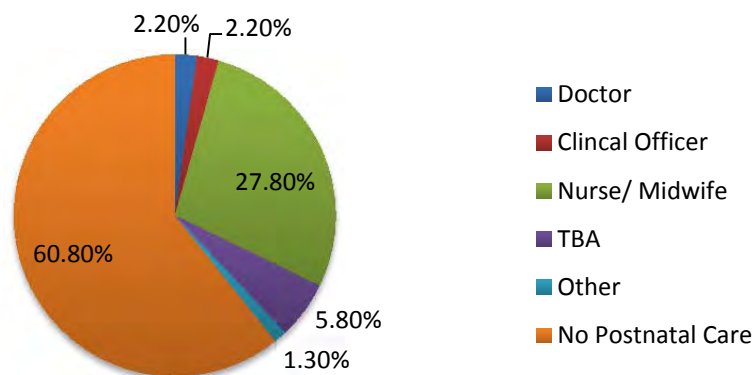
or a nurse/ midwife. Of those who delivered without the assistance of skilled provider, 30.8% of women delivered with the assistance of a TBA or TTBA, 31.7% delivered with the assistance of a relative, and 5.8% delivered without any assistance. Conversely, 31.3% of women delivered with a skilled provider (Figure 2)⁶.



Postnatal Care

Levels of postnatal care are low in rural Zambia. Only 39.2% of women in rural Zambia received any postnatal care. Of those women, 27.8% received postnatal care from a nurse or midwife and 5.8% received postnatal care from a TBA (Figure 3)⁶.

**Figure 3: Providers of Postnatal Care,
Rural Zambia, ZDHS 2007**



Family Planning

In rural Zambia, the utilization of family planning is low. The majority of women (63.3%) are not using any method of family planning and 18% are using traditional methods. Only 27.6% are using a modern method of family planning⁶. The most popular methods in rural Zambia are the injectable (7.3%), the oral contraceptive pill (7.0%), and the male condom (3.9%). A small percentage of women living in rural Zambia received health education about family planning from a fieldworker who visited their home (4.7%). Of women who visited a health facility in the past 12 months, 17.7% discussed family planning at their visit, and 81.4% did not discuss family planning. Nearly 80% of women did not receive information about family planning from a fieldworker or at the healthcare facility⁶.

Chapter 2: Literature Review

Global Overview of Traditional Birth Attendants

Home birth remains the only option or the preferred place of delivery for many women in developing countries¹. According to the World Health Organization (WHO) approximately 60% of births in developing countries occur outside of a health care center and 47% of births, or approximately 53 million births per year, occur without the assistance of a skilled healthcare provider⁷. For hundreds of years, Traditional Birth Attendants (TBAs) have been the main provider of maternal healthcare in rural areas in developing countries⁷. Currently, they still assist in a significant proportion of births². In developing countries, it is estimated that TBAs assist in approximately 24% of live births. This percentage varies greatly between and within countries.

The WHO defines a TBA as “traditional, independent (of the modern health system), non-formally trained and community-based providers of care during pregnancy, childbirth, and the postnatal period”². Oftentimes, TBAs are older, illiterate women with little formal education who obtained their skills from other TBAs⁸. TBAs are found in nearly all developing countries, although the roles of TBAs vary greatly across culture and time⁷. Most TBAs are recruited into their role by female relatives or community leaders. There is significant variability in the knowledge, skills and experience of TBAs throughout the world. In some communities, TBAs enjoy a high status, while in others communities they have a low status. Because TBAs are members of the community in which they are assisting in maternal health services, they provide cultural competence, empathy, consolation and psychosocial support at birth⁷.

Women have expressed both satisfaction and dissatisfaction with the services provided by TBAs. A study by Imogie and Aluko in Nigeria found that women preferred to receive services from TBAs due to their availability, accessibility, inexpensive services and high quality of services⁹. However, a study by Mbaruku et. al. in rural Tanzania found that the majority of women preferred to receive maternal services from skilled healthcare providers. Approximately 67% of women who gave birth in a healthcare center reported that they were very satisfied with their experiences compared to only 21.2% of women who delivered at home with TBAs¹⁰. Additionally, 23.1% of women believed that TBAs had poor delivery skills, while 0.3% of women believed the same of doctors and nurses. This study indicates that policymakers and program managers should not assume that women prefer the services from TBAs over the services from skilled medical professionals¹⁰.

Roles of TBAs

At a minimum, the role of TBAs is to assist in delivery and provide immediate care to the newborn child⁸. However, in many areas throughout the world, their role has expanded by the addition of new tasks. Many program managers and policymakers have expanded the role of TBAs to include primary care tasks or to take on a larger role in health education¹¹. TBAs are often active in each of the four pillars of safe motherhood developed by the Safe Motherhood Program. The four pillars are prenatal care, delivery assistance, postnatal care and family planning¹².

Because the role of TBAs may be expanded or changed, program managers need to determine the areas where TBAs can best be used in order to provide complementary

assistance to the healthcare centers. Community engagement is imperative to changing the role of TBAs so that their new role is culturally and socially acceptable. TBAs have also assumed roles outside of these four pillars¹¹. TBAs have, for example, counseled women who have had an abortion, identified STIs, given circumcision advice, and distributed oral rehydration solution and iron tablets. In Pakistan, a study expanded the role of trained TBAs to include educating refugee women⁸.

Both governmental and non-governmental organizations have deterred TBAs from assisting in deliveries. The WHO believes that the role of TBAs will continue in the future even when they are not assisting in deliveries. The WHO recommends that in lieu of assisting in deliveries, TBAs can assist in developing the birth plan with the pregnant woman, arranging transportation, providing social and emotional support, and referring the women to the health center if danger signs are identified during pregnancy.

A constant role of TBAs has been to provide social support to women. A study in Zambia, for example, found that women have relied on other women for centuries in order to obtain social support during pregnancy, childbirth and breastfeeding¹³. The study concluded that TBAs should socially support women during prenatal care and provide labor companionship when women give birth in the hospital. The results of the study indicated that TBAs are ideal people to provide social support to women because they are members of the community. They thoroughly understand cultural and social aspects of the community members.

Prenatal Care

A common role of TBAs is to provide prenatal care to pregnant women. In many countries, TBAs have increasingly become involved in providing prenatal care. A study in the Upper East Region in Ghana, for example, tracked antenatal visits conducted by TTBAAs from 1990-1993. The study found that prenatal care visits conducted by TTBAAs increased from 20,000 to 180,000 visits¹¹. A report by the United Nation Population Fund (UNFPA) on TBAs found that many program managers and policy makers have stated that TBAs have improved prenatal care in rural areas with low access to healthcare services¹¹.

The specific activities that TBAs perform in prenatal care vary. Prenatal care reduces maternal morbidity and mortality because it allows for early detection and management of pregnancy complications, an increased knowledge of the importance of a clean and safe delivery with a skilled attendant, and enhanced preparation for delivery¹². The WHO recommends women receive routine prenatal care at least 4 times during their pregnancy¹². One study by Vaate et. al. identified a unique role of TBAs in providing prenatal care. In this study, the TBAs counseled women on the importance of taking iron and folate supplements during pregnancy. The TBAs also distributed these tablets in the community¹⁴. Additionally, another study in The Gambia utilized TBAs to distribute bed nets to prevent malaria in households with pregnant women and children under five years old¹⁴.

Delivery Assistance

Historically, the main role of TBAs is to assist in home deliveries. TBAs currently remain the main providers of deliveries throughout many areas of the world. The role of many TBAs is changing from assisting in home deliveries to referring and escorting women to the healthcare center.

When TBAs assist in home deliveries, they often refer a woman to the healthcare center if a complication arises. Increasing access to emergency obstetric care is a key factor in the reduction of maternal morbidity and mortality. TBAs increase the number of women who utilize a healthcare center through the referral of women to the healthcare center⁷. A study conducted in The Gambia found that TBAs were capable of recognizing complications that occur during delivery such as a retained placenta or post-partum hemorrhage and were subsequently aware of the need to refer these women to the healthcare center¹⁴. Delays in reaching the healthcare center were due to a late decision of the TBA to refer the women to the healthcare center or to a lack of available transportation. The study also found that TBAs wanted to improve their skills in the recognition of danger signs¹⁴. Studies have found that TBA training effectively improves the TBAs ability and knowledge of referring women to healthcare centers to receive emergency obstetric care⁷.

In addition to referring, some TBAs escort the women to the healthcare center. In certain places, such as communities in Uganda and Iran, TBAs report that when they escort a woman to the healthcare center for delivery, they also deliver the woman under the supervision of the midwife¹¹. The TBAs were in favor of assisting in delivery at the healthcare center because they believed it was beneficial to be trained by the midwives

during this time on what to do during home deliveries¹⁵. Furthermore, a study in The Gambia found that TBAs believed that assisting under the supervision of midwives was essential to their continuing education¹⁴. These TBAs also mentioned that many women are afraid or unfamiliar with the healthcare center. They were able to help these women by escorting these women and providing emotional support¹⁴.

Postnatal Care

There is little research relating to the role of TBAs in providing postnatal care. The TBAs role in postnatal care is discussed in the context of providing health education on caring for the newborn child or providing immediate care after the woman delivers with the assistance of a TBA.

Family Planning

Certain TBAs also serve as health educators on family planning. Occasionally, TBAs distribute condoms in the community. A report on TBAs by UNFPA found that TBAs educate women most commonly on the following family planning methods: condoms, oral contraceptive pills, and IUDs¹¹. These TBAs struggled to convince women to try a new method if they previously had complications with a family planning method¹¹. A study on the roles of TBAs in Nigeria found that TBAs played a meaningful role in family planning by promoting child spacing and the prevention of sexually transmitted diseases and HIV/AIDS⁹. Additionally, a study of TBAs in Nepal found that in addition to promoting family planning, these TBAs also distributed condoms. The TBAs noted that community members were often too shy to obtain condoms from the

TBAs, so the TBAs recruited community agents, who were usually male, to distribute these condoms¹¹. In Myanmar, TBAs were utilized to reduce the morbidity and mortality of women who recently had an abortion. The TBAs were trained about the early warning signs of post-abortion complications, early referral, and the various methods of family planning⁴.

The Future of TBAs

The role of TBAs in reducing maternal morbidity has been widely debated¹⁶. There are two opposing views about the future of TBAs. Certain maternal and child health experts argue that TBAs should cease to exist and should be replaced by professional midwives or clinical healthcare providers. Others believe that TBAs should continue to be trained and integrated into the formal health system⁸. The controversy among maternal and child health experts is mirrored in national policies. Some nations currently outlaw the practice of TBAs while others actively promote the work of TBAs. TBAs practice illegally in countries such as Syria, Turkey and Lebanon. However, these laws are rarely enforced. Other governments do not formally recognize TBAs but their practice is currently not illegal. These countries include Tanzania, Zambia and Sri Lanka¹⁷.

Skilled Provider at Every Birth

The best strategy to improve maternal morbidity and mortality is to have a skilled provider present at every birth. This strategy has been shown countless times to greatly reduce the maternal mortality ratio¹⁸. Many program managers and policy makers are

training and funding the development of professional midwives in order to fulfill this strategy¹⁴. In the late 1990's international policy surrounding maternal health was refocused from training TBAs to the benefits of providing a skilled attendant at every birth¹⁷. The definition of a skilled attendant excluded TBAs. Therefore, funding was redirected from training TBAs towards improving health infrastructure and training professional midwives in many countries throughout the world¹⁷.

Certain maternal and child health experts argue that having a professional midwife present at every birth is not currently feasible, especially in rural areas that have low access to healthcare services. One reason is that many developing countries currently have a severe shortage of trained medical professionals¹³. Furthermore, obtaining a professional midwife for all deliveries in rural areas has considerable resource implications. The professional midwife must be trained appropriately, have access to continuing education and support, and obtain a salary and housing. The midwife's family must also be provided for through housing and support and her children must have access to educational facilities¹. Due to the monetary and labor constraints, this strategy is unlikely to become feasible⁸. Additionally, even if midwives were posted in rural areas with low access to healthcare services, there is no guarantee that the local community would use the midwife's services⁸.

Continuing the Work of TBAs

Some maternal and child health experts argue that TBAs should continue to exist. Even though the skills of TBAs are inferior to the skills of midwives, the proponents argue that they remain the sole provider of care for delivery for millions of women¹⁹.

This is especially true in areas in which women have low or no access to healthcare services. Proponents explained that it is dangerous to end the work of TBAs because they currently perform work that improves maternal health in the communities. Program managers and policy makers need to recognize the contributions that TBAs make to laboring women worldwide¹⁷. Proponents argue that maternal health programs should build on the strengths of TBAs. The work of the trained TBAs should be supported by additional trainings and material support¹.

In particular, Kruske and Barclay argue in their study that TBAs need to be included in and collaborate with the formal healthcare sector. They noted that the International Confederation of Midwives (ICM) developed and promoted a policy arguing for the inclusion of TBAs into the formal healthcare system. The policy also asserted that the TBAs' skills should be included as a method to improve maternal health in the Safe Motherhood Initiative¹⁷. The ICM recommends that professional midwives should be encouraged to promote the inclusiveness of TBAs in the healthcare system by providing education and supervised practical experience for the TBAs¹⁷. Mutual trust and respect should be fostered between professional midwives and TBAs as they both add value to maternal health services. The midwives mainly add their skills and medical knowledge, while the TBAs add their understanding of the local communities¹⁷.

Ray and Salihu in their study assert that TBAs should serve as the intermediary providers of maternal healthcare until all women have access to a skilled attendant for delivery. They advocate for the additional training of TBAs who are willing and capable to gain knowledge and improve their skills on managing obstetric complications³. Furthermore, Ray and Salihu believe that governments and NGOs need to commit to

improving the skills of TBAs and consequently need to provide financial support and equipment³.

The Training of TBAs

TBAs have been trained since the late 1800s²⁰. However, important milestones for training TBAs have been developed over the past few decades. Training TBAs has become an important global strategy to improve infant and maternal health in areas where resources are limited, maternal mortality is high and most deliveries occur at home³. The training of TBAs received international attention as a strategy to reduce maternal mortality and morbidity in the 1970s when the WHO promoted the training of TBAs. The training was promoted until the 1990s². The Safe Motherhood strategy, also advocated for the further training of TBAs in midwifery skills¹. A trained TBA (TTBA) is defined by the World Health Organization as a “TBA who has received a short course of formal training through the modern health sector to upgrade her skills”.

The goals of training TBAs are to reduce maternal and child morbidity and mortality, and to improve reproductive health of women². One objective of the TBA training is to strengthen the relationship between the formal healthcare system and community. Another objective of the trainings is to make home deliveries cleaner and safer. Consequently, a final objective is to decrease the number of births where no one is assisting and instead have TBAs assist in these births.

The trainings of TBAs vary widely in content and length². The trainings vary in length from a few days to one year. Normally, the total time spent in training is less than one month in length, but the trainings are spread over a longer period of time⁸. Vaate et.

al. believe that it is important to continue the education of TBAs through frequent refresher courses and continuous contact between the trainers and the TBAs¹⁴. While the content of the training sessions vary, TBAs are usually trained on hygienic and safe deliveries, the identification of high risk deliveries, cord care, and use of appropriate techniques for delivering the placenta to prevent postpartum hemorrhage². More recently, many TBAs have been trained to take on expanded functions in areas such as prevention, screening and referrals²⁰.

The training of TBAs has not been shown to be effective in reducing maternal and child health without other complementary interventions. A functioning referral system must be adequately in place so that the TBAs have a place to refer high-risk women after they identify danger signs¹⁴. Studies have shown that TBA training does not decrease maternal mortality unless the TBA has access to a functioning and high-quality referral system³. Additionally, in order for the training of TBAs to be effective, the TBAs need appropriate supervision, transportation and supplies¹¹.

Evidence of Training

The outcome of training TBAs has been extensively disputed due to the lack of evidence regarding the effect of TBA training on the reduction of maternal mortality. The value of the training has been increasingly questioned because of conflicting results of the training¹⁴. Multiple review articles and meta-analyses have generated mixed results on the benefits of the training²¹. One reason that there is limited evidence is because the evaluation of the TBA training is methodologically and logistically challenging². Most often, TBA training interventions do not occur in isolation, but rather as a part of

comprehensive efforts to improve maternal health²¹. Additionally, the studies that have been conducted to evaluate the effect of training have been of poor quality²¹.

A significant amount of money has been spent on training TBAs. The training of TBAs as a potentially effective maternal health intervention has been given international attention. Despite these facts, few published reports exist that evaluate the effectiveness of these interventions³. The effects of the trainings have rarely been evaluated by donors, governments and NGOs¹⁸. There is a lack of evidence as to whether the training programs reduce maternal and perinatal morbidity and mortality or are successful at integrating TBAs into the formal healthcare systems²².

Certain studies have determined that training TBAs has little or no effect on reducing maternal morbidity and mortality. Reviews, studies and meta-analyses have found that TBA training has little effect on the reduction of maternal mortality²². In particular, a study in Ghana found that there was no compelling evidence that training TBAs has a significant effect on maternal health. The authors recommended that other interventions should be chosen over the training of TBAs²³. Another study determined that the effect of TBA training is low due to the small number of women that, on average, the TBA assists in delivery per year²¹. The study concluded that additional training of TBAs or more research that focuses on the outcomes of TBA training is difficult to justify²¹.

Controversy also exists over the cost-effectiveness of TBA training compared to other initiatives that reduce maternal morbidity and mortality¹⁸. Few studies have attempted to determine the cost-effectiveness of TBA training programs⁷. Some maternal and child health experts argue that training TBAs is not cost-effective because many

TBAs have a small number of clients⁸. A meta-analysis performed by Sibley and Sipe was unable to demonstrate that training TBAs is a cost-effective intervention. The authors argue that this points to the need for additional studies on the effectiveness of TBA training and better documentation¹⁸.

However, other studies have concluded that the training of TBAs is effective in improving maternal health. A UNFPA review of training programs indicated that although many TBAs are illiterate, they were capable of learning new skills and incorporating these skills into their practice in order to provide a hygienic and safe delivery for mothers¹¹. A study of TTBAAs in The Gambia concluded that TBAs are able, at a minimum, to provide a basic level of maternal care¹⁴. The meta-analysis by Sibley and Sipe found that TBA training improved the TBAs' knowledge, attitude and behavior. Additionally, the trainings have led to an increase in knowledge of obstetric danger signs among the women who were taught by the TBAs³. The meta-analysis also concluded that TBA training resulted in a significant decrease in perinatal and neonatal mortality¹⁸. The UNFPA evaluation of TBAs found that training TBAs has contributed to a larger number of women utilizing the services at the healthcare center for prenatal care, family planning and immunization¹¹.

Justification of Study

Few studies have addressed the current role of TTBAAs in Zambia. The TTBAAs in Zambia have been trained by a variety of non-governmental organizations and the Zambian government and the current activities of TTBAAs are unknown to the government and NGOs that have instituted programs in Zambia. My research identifies the current

role of TTBAAs in rural Zambia and explores the perceptions of these roles from the viewpoint of professional midwives, women in the villages and TTBAAs. The knowledge of the activities of the TTBAAs and the perceptions of the benefit and usefulness of these activities from a variety of sources inform the current and future interventions performed in rural Zambia by TTBAAs.

Few studies have been conducted on the future role of TTBAAs in a country where there is a formal governmental policy that does not allow home deliveries. Throughout the world, the general trend is to stop training TBAs and instead promote the improvement of emergency obstetric care and the training of professional midwives. However, previous studies that have explored the effectiveness of TTBA activities in reducing maternal morbidity and mortality have mainly focused on evaluating the TTBAAs' skills relating to delivery assistance. TTBAAs' roles, however, are not limited to solely providing delivery assistance. They can assume a wide-variety of tasks. My study identifies the tasks that the women in the villages, the professional midwives, and the TTBAAs would like to see TTBAAs perform in the future in order to most effectively improve maternal health. This part of my study is applicable to other settings where the government or program managers are currently deterring TTBAAs from assisting in deliveries. My study participants identify other activities, besides delivery assistance, that after implementation will improve maternal health.

Chapter 3: Methods

Introduction

The investigator conducted qualitative research in the catchment area of the Chikankata Child Survival Project. The catchment area included the Mazabuka and Siavonga Districts in the Southern Province of Zambia. The investigator conducted focus group discussions with Trained Traditional Birth Attendants (TTBAs), focus group discussions with women of reproductive age from the villages, and in-depth interviews with midwives. The midwives that were interviewed were professionally trained and registered midwives.

The investigator chose to conduct qualitative research in order to discover the varying viewpoints of the participants surrounding the current and future role of the TTBAs. The investigator chose to use focus group discussions because they allowed the investigator to explore the community's perceptions of the roles of TTBAs. The investigator wanted the discussions to capture any controversy surrounding the role of TTBAs as well as the advantages and disadvantages of their services. The focus group discussions allowed the participants to interact with each other, question the thoughts of other participants, provide their own opinion and give explanations for their opinions. The investigator chose to use in-depth interviews with the healthcare providers because in addition to discussing the current and future role of TTBAs the investigator also talked about the sensitive issues of abortions and post-abortion care in Zambia. Discussing these issues is best done one-to-one. Also, the investigator wanted to obtain the details of the interactions between the midwives and the TTBAs. Conducting in-depth interviews with midwives and focus group discussions with TTBAs and women in the villages allowed

the researcher to triangulate the data. The triangulation of data is important because it enhances the reliability of the data and will provide the researcher with a more thorough depiction of the roles of TTBAAs.

Focus Group Discussions with TTBAAs

The investigator conducted focus group discussions with TTBAAs in order to answer the following research question: How do TTBAAs view their current and future role in the villages? Therefore, the focus group discussion facilitator asked the TTBAAs questions about which maternal services they believe TTBAAs should be providing. The facilitator also questioned the TTBAAs about what services they believe TTBAAs should perform in the future given the new governmental policy that requires births to occur in healthcare centers (Focus Group Discussion Guide, Appendix C). The investigator developed the focus group discussion guide by reviewing the Detailed Implementation Plan for the Chikankata Child Survival Project and by conducting a thorough literature review surrounding the current and future role of TTBAAs. The discussion on the current and future role of TTBAAs generated new ideas and identified specific topics about which the participants agreed and disagreed.

The investigator and her research team conducted six focus group discussions with TTBAAs, at which point it was determined that data saturation was reached, meaning no new significant themes emerged during the discussion. The target population for the TTBAAs was TTBAAs who currently practice in villages in the catchment area of Chikankata Child Survival Project. To be eligible, TTBAAs must have assisted at least one woman in a maternal service during the past month. The Chikankata Child Survival

Project had previously trained all of the TTBA's who were participants in the focus group discussions. Four of the focus group discussions were composed of TTBA's who lived in the Mazabuka district and the other two focus group discussions were composed of TTBA's who lived in the Siavonga district. The Chikankata Child Survival Project zone supervisors helped to recruit the TTBA's by accompanying the investigator to each village, identifying the village's TTBA, and asking her if she would join our focus group discussions. Each focus group consisted of 5-9 TTBA's.

Focus Group Discussions with Women of the Villages

The investigator conducted the focus group discussions with the women of the villages in order to address the following research question: How do women in the villages perceive the current and future role of TTBA's? The investigator explored the women's perceptions of the work done by TTBA's and their perceptions relating to the future role (Focus Group Discussion Guide, Appendix A).

The investigator conducted focus group discussions with women in the villages throughout the Mazabuka and Siavonga districts. Overall the research team conducted 8 focus group discussions. Of these, the research team conducted five of the focus group discussions in the Mazabuka District and three of the focus group discussions in the Siavonga District. The investigator conducted focus group discussions until no new significant themes emerged during the discussion. The target population for the focus group discussions with women in the villages was women who had a TTBA in their village, were of reproductive age, and had at least one child who was under five years of age. Each focus group discussion consisted of six to nine women. The Chikankata Child

Survival Project staff and the research assistant who led the focus group discussions helped to recruit participants. The staff members gathered women who met the inclusion criteria from the villages. When six to nine women agreed to participate, the facilitator began the focus group discussion.

In-Depth Interviews with Healthcare Providers

The main purpose of conducting interviews with the midwives and the clinical officer was to determine how these individuals viewed TTBA's and to learn about the interaction of the healthcare providers with TTBA's. The midwives also disclosed their personal view of the TTBA's current and future role. A secondary purpose of these in-depth interviews was to obtain information on post-abortion care and family planning at their respective rural health center or hospital (In-Depth Interview Guide, Appendix E).

The catchment area of the Chikankata Child Survival Project has a total of 13 rural health centers and two hospitals. The investigator conducted in-depth interviews with healthcare workers at six rural health centers and 1 hospital. At the hospital, the investigator conducted interviews with two midwives. Overall, the investigator conducted a total of 8 in-depth interviews with healthcare providers. Five of these in-depth interviews took place in the Siavonga district and three took place in the Mazabuka district. At the rural health centers and the hospital, the investigator conducted the interviews with individuals who worked most closely with the TTBA's. In all interviews, except one, this individual was a midwife. One rural health center did not have a midwife on staff so the investigator interviewed the clinical officer. The target population for the

healthcare professionals was individuals who had worked at the hospital or rural health center as a midwife, nurse or clinical officer for at least a year.

The investigator recruited the healthcare professionals with help from Chikankata Child Survival Project staff who had contacts at and knowledge about each RHC and hospitals. The research assistant called the rural health centers and hospital to arrange a time the day before the research team planned to conduct the in-depth interviews. Every healthcare professional the research assistant contacted was available and willing to interview the following day.

Ethical Considerations

The investigator submitted the proposed project to Emory University's Institutional Review Board. The Institutional Review Board staff determined that the research project was exempt. During fieldwork, the investigator obtained oral consent from all participants and informed them of their right to withdraw from the study at anytime and to refuse to answer any questions. Personal identifiers were permanently removed from the transcripts.

Data Preparation and Analysis

All focus group discussions and in-depth interviews were recorded on a digital voice recorder. The investigator conducted the in-depth interviews in English, while a member of the research team conducted the focus group discussions in Tonga. The in-depth interviews were transcribed verbatim. Two other members of the research team transcribed the focus group discussions in Tonga and translated them to English. The

transcripts were stored on a password-protected computer. The qualitative analysis software, MAXqda 2007, was used to analyze the data.

Transcripts were analyzed using a Grounded Theory approach. The investigator began by thoroughly reading all focus group discussions and in-depth interviews. She recorded her initial thoughts in memos. The investigator next developed both inductive and deductive themes. In order to develop inductive themes, the investigator noted issues that were introduced by the participants rather than the moderator through a careful reading of the transcripts. The deductive themes were determined by reading the study's goals and the focus group discussion and in-depth interview guides. A total of 17 themes were identified and defined. The investigator then summarized the key eight themes that arose from the focus group discussion with women, the focus group discussion with TTBAAs and the in-depth interviews with healthcare workers. These themes were summarized: TTBAAs Work with Midwives, Prenatal Care, TTBAAs Assisting in Delivery, Postnatal Care, Family Planning, Health Education, TTBA Training, and Referring and Escorting¹. Additionally, these themes were compared across discussion groups in an attempt to explain differences in opinions. The investigator used descriptions of key themes and comparisons across various focus groups and interviews in order to conceptualize the data. The investigator verified the conceptualization through the re-reading of the data. Finally, the investigator used the conceptualization to develop theory.

Data Limitation

One limitation of the data stems from the fact that four of the focus group discussions were not first transcribed into Tonga. They were orally translated from

¹ See the appendix for definitions of these themes.

listening to the recording. In these focus group discussions the final translated version may not have been exactly as it was in the other focus group discussions. Other limitations of the data related to group dynamics during the discussion. In five of the focus group discussions, one or two participants refused to speak, while another one or two participants dominated the discussion. This reduces the variety of views that are represented in the focus group discussions. Additionally, during two focus group discussions the participants had to change locations in the middle of the focus group discussion. During one focus group discussion, smoke from a nearby fire was blowing into their eyes, and during another focus group discussion a choir began to sing loudly in the church that was located near the group. Moving the focus group discussions in the middle of the discussion affected the group dynamics and information flow. Additionally, we occasionally had on-lookers during the group discussions. The on-lookers were mainly children, but sometimes other women of the villages stopped by to listen. This might have had an effect on the type of information that the participants disclosed.

Another limitation of the data arose from the selection of TTBAAs. The research team recruited only TTBAAs who were trained by the Chikankata Child Survival Project. In the catchment area there are other TBAs and TTBAAs who were not trained by Chikankata Child Survival Project. The TTBAAs trained by the Chikankata Child Survival Project may have a smaller variety of opinions than the general population of TTBAAs.

Chapter 4: Results

This research study aimed to determine the current role of Trained Traditional Birth Attendants (TTBAs) in the Mazabuka and Siavonga districts. Another aim of the research was to determine the roles that TTBAs can obtain in the future in order to most effectively and efficiently improve maternal health in the two districts. The participants from the focus group discussions and from the in-depth interviews mostly discussed the current and future roles of TTBAs in prenatal care, delivery assistance, postnatal care and family planning. Participants identified multiple ways in which they think the role of TTBAs should change in the future. In order for TTBAs to function in these new roles, the participants determined that TTBAs would need further training.

Part I: The Current and Future Roles of TTBA's

Prenatal Care

A major theme that emerged in the focus group discussions and in-depth interviews was the current and future role of TTBA's in providing prenatal care. Participants reported that TTBA's currently provide routine prenatal care at women's homes in the villages and also volunteer at the antenatal clinics at the rural healthcare centers under the supervision of midwives. Some participants defined the role of TTBA's in prenatal care as a link between the villages and the rural health centers. The TTBA's often refer and escort women to the rural health centers to receive prenatal care. Finally, participants reported that the TTBA's provide prenatal health education to pregnant women in the villages. The participants believe that in the future TTBA's should continue to assist in routine prenatal care in the villages, but that they should refer pregnant women more frequently to the healthcare center. They also believe that TTBA's should provide more health education to pregnant women both in the villages and at the rural health center.

A. Home Visits

All TTBA's and midwives, and the majority of women reported that TTBA's provide women with routine prenatal care in the villages. The role of TTBA's in prenatal care is to monitor the health of the women from the time they conceive until they give birth. The participants stated that TTBA's palpate the pregnant women in the villages to determine the position of the baby. The TTBA's also physically examine the women for danger signs and complications. If they identify a danger sign or complication, the

TTBAs immediately refer the women to the healthcare centers. For example, participants stated:

“These women [the TTBAs] should take care of every woman that is pregnant. They should conduct routine check-ups on these mothers so that they know how these mothers are getting on during their pregnancy.” (Women FGD #1, P7)²

“TTBAs should perform prenatal care unless there is a complication then they will have to refer.” (Midwife Interview #6)

“By attending to women from the time of getting pregnant to the time after giving birth, they help improve the health of the women. They are providing continual care. They know what problems the woman is having throughout her pregnancy and how to deal with those problems successfully.” (Women FGD #6, P1)

The midwives and the TTBAs identified another role of TTBAs in prenatal care. During these focus group discussions and in-depth interviews, participants stated that TTBAs distribute vitamins and medications, such as Vitamin A, Fansida, deworming tablets, ferrous acid and folic acid to women in the villages. The midwives also explained that the TTBAs are held accountable for these vitamins through monthly reports to the rural health centers.

² The first word in the quotation citation refers to the group of participants (i.e. Women, TTBAs or Midwives). The second word identifies whether the quote came from a focus group discussion (FGD) or an interview. Each FGD was given a number 1-8. This number is also identified in the quotation citation. Finally, each participant in each FGD and interview was given a number, which is displayed in the citation. For example P7 refers to Participant #7.

B. Work at Rural Health Centers

All groups of participants stated that TTBAAs assist the midwives in providing prenatal care at the rural health centers. The participants explained that most commonly the TTBAAs provide health education to the pregnant women. The midwives often rely on the TTBAAs to provide the education. For example, participants stated:

“They help us with the pregnant mothers. They give the mothers health information. They encourage the mothers to be coming in for antenatal. We usually teach them the basics. There are times when we don't go to their places for outreach. At least they can do the basics, like the palpations and the like.” (Midwife Interview #3)

“We also help the nurses at the times they come to conduct antenatal clinics in our centers. In fact, during that time it is us that do a lot of work. Nurses are just going to observe, but they monitor our work also.” (TTBA FGD #2, P4)

All groups of participants also said that TTBAAs also physically examine the women. The midwives stressed that the role of TTBAAs in prenatal care at the healthcare center varies. Some midwives explained that the TTBAAs assists by identifying the women's height and weight while others stated that the TTBAAs distribute vitamins and medications at the healthcare center. The midwives asserted that they are available at anytime to answer questions from TTBAAs. The midwives appreciate the help given to them by the TTBAAs because they are often at the rural health centers by themselves and occasionally have many patients.

C. Refer and Escort

The participants continually stated the importance of referring pregnant women to the healthcare centers to receive prenatal care. The midwives asserted that it is the duty of the TTBAAs to ensure that every pregnant woman in the village has visited the healthcare center to receive prenatal care. Both the TTBAAs and the women explained that only the hospital has the necessary equipment and resources needed to screen women for diseases and provide the necessary medications, vaccinations and vitamins. The TTBAAs and women stressed the importance of being tested for HIV during a pregnancy. Additionally, a few of the women insist that TTBAAs should escort women to the healthcare center to support them when they receive their test results for the HIV virus. If they are positive, the women should continue to visit the healthcare center to receive medications and counseling. The midwives believe that it is important for TTBAAs to refer women to the healthcare center for prenatal care because the TTBAAs cannot perform vaginal examinations, give an injection or manage complications. In order to encourage women to visit the healthcare center, the TTBAAs stated that they often needed to explain the importance and advantages of receiving prenatal care from medical personnel. If a woman's pregnancy ended prematurely, the TTBAAs and midwives stated that it is also the TTBAAs' role to refer and escort that woman to the healthcare center. Many participants commented on the importance of referring and escorting pregnant women to the healthcare centers:

“When the woman is pregnant they should send that women to the clinic. At that time the woman will be examined, at 16 weeks, that women should be given some supplements and

also receives an examination. So from that time they should be coming to the health centers, all pregnant women.” (Midwife Interview #4)

“In my case, all of the time, I encourage these mothers to go to the hospital for their routine check-ups... I encourage them all of the time to go to the hospital during their pregnancy time so that they can get all their injections.” (TTBA FGD #2, P4)

Some women believe that it is not necessary for TTBAAs to refer a woman to the healthcare center as long as the TTBAAs do not detect any danger signs. Some women stated that they did not want to receive routine prenatal care at the healthcare center for fear of testing positive for HIV. Other women believed that if the TTBAAs can solve the problem or illness at home then it is unnecessary to seek help at the healthcare center. These women trust the skills and advice of the TTBAAs and rely on the TTBAAs to determine when they need to go to the healthcare center. One woman stated:

“If they discover that the position is wrong then we should go to the hospital right away. They should send us there so that people at the hospital are going to advice on what we are supposed to do. We trust the TTBAAs to tell us when to visit the healthcare center.” (Women FGD #1, P1)

D. Health Education

All groups of participants said that one of the most important roles of TTBAAs in prenatal care is providing health education. The TTBAAs educate pregnant women about topics pertaining to living in good health during pregnancy and preparing for delivery.

Table 1 provides a list of prenatal health education topics that were discussed by participants in the focus group discussions and in-depth interviews. The TTBAAs explained that they give health education to the women both at their homes and at prenatal clinics. The nurses often rely on TTBAAs to educate the women. The TTBAAs stated that the nurses become upset with the TTBAAs if the women do not know certain health facts because this means the TTBAAs have failed to fulfill their duties. The TTBAAs said that health education is essential to improving maternal health in the villages and that educating women is time consuming, but worthwhile.

Nearly all of the women stated that they have learned about general and maternal health from their TTBA and that this is an important component of the work of TTBAAs. The women trust the information that they learn from the TTBAAs because they recognize that it is the same information that the nurses tell them at the hospital. The TTBAAs educate the women both in the villages and at the healthcare centers where they frequently volunteer. For example, various participants commented on the role of TTBAAs in providing health education for prenatal care:

“I think these women are suppose to also tell us exactly what we need during our labor time and what we are going to require after we have given birth. We don't think about other things dealing with pregnancy and childbirth. They have the knowledge, they are suppose to tell us what we need.” (Women FGD #1, P7)

“Just like my friends have already said, we need to teach our mothers, especially when they are pregnant. For example, we should teach that it is important that they always sleep under a treated mosquito net.” (TTBA FGD #1, P5)

Table 1: TTBA's Educate Pregnant Women on Various Topics

Prenatal Care Topics: • Sleeping under a treated mosquito net • Taking folic acid • Eating nutritious foods • Recognizing danger signs • Receiving recommended immunizations, medications and vitamins • Maintaining personal hygiene • Knowing HIV status • Recognizing danger signs • Obtaining appropriate levels of exercise • Receiving prenatal care at the healthcare centers • Preventing and treating STIs Preparing for Delivery Topics: • Recognizing danger signs • Three stages of labor • Pain during labor • Obtaining a clean delivery kit • Proper birthing position • Advantages of delivering at the healthcare center • Pushing during delivery

D. Future Role of TTBA's in Prenatal Care

The majority of women would like to continue receiving multiple home visits from the TTBA's during their pregnancy. The TTBA's should monitor the health of the women and serve as a counselor and educator during these visits. While many women recognized the importance of receiving prenatal care at the healthcare center, they acknowledged that this is not always possible due to expensive transportation and long distances. They therefore need the TTBA's to monitor the women during pregnancy. However, the TTBA's should continually encourage women to visit the healthcare center for routine visits if possible. The women stated they would also like the TTBA's to continue educating them about how to have a safe pregnancy and delivery.

While the women would like TTBAAs to continue providing prenatal care in the villages, they believe that TTBAAs should refer and escort the women to the hospital for prenatal care more often. The majority of TTBAAs believe that in the future more women should receive prenatal care at the healthcare centers, rather than in the villages. The TTBAAs noted that the nurses were qualified and were therefore able to give comprehensive prenatal care. The participants asserted that in the future it will be of utmost importance to continue to convince women to receive prenatal care at the healthcare centers. In the words of one participant:

“These people [the TTBAAs] should go around encouraging pregnant women to always visit the hospital for prenatal care and give birth at the hospital. We need the services at the hospital to make us healthy.” (Women FGD #5, P3)

The midwives, women and TTBAAs believed that in the future TTBAAs should continue giving health education to pregnant women. Participants stressed that TTBAAs should be further educated by healthcare professionals. The women stated that they need this education because there are new diseases and it is becoming progressively harder to stay healthy. The TTBAAs believe their role will expand in the future due to increased demands from the women for more health education. One TTBA explained:

“Our most important duty is to give health education. We need to give a lot more education to these women and continue to educate them in the community so that most of them can accept to live very clean and healthy lives.” (TTBA FGD #4, P3)

Delivery Assistance

The government of Zambia recently instituted a policy that required all births to occur in a healthcare center. The purpose of the policy was to deter the TTBAAs from delivering. Consequently, the government took the clean delivery kits (CDKs) out of circulation. Hospitals and healthcare centers can no longer order CDKs and sell them to the TTBAAs. Controversy exists in Zambia as to whether the TTBAAs should continue to assist in deliveries. The views of the participants in the focus group discussions and in-depth interviews mirrored this controversy.

Currently, TTBAAs are still assisting in deliveries in the villages. However, the number of deliveries for which they are assisting is decreasing. In the focus group discussions, the women discussed both the advantages and disadvantages of TTBAAs assisting in deliveries. The women noted that the advantages and disadvantages of the TTBAAs assisting in deliveries are not universal. It depends mainly on the training, attitudes and personalities of the various TTBAAs. Additionally, all groups of participants mentioned that a major role of TTBAAs is to refer and escort women to the healthcare centers for deliveries.

There are varying opinions as to whether TTBAAs should in the future continue assist in delivery. There are three schools of thought. The first group of participants believes that they should never assist in deliveries and should only refer women to the healthcare center. A second group of participants insist that they should always refer women to the healthcare center, but should be ready to assist in emergency deliveries. A final group of participants believe that they should continue to assist in home deliveries and they should only refer women to the healthcare center if complications arise.

A. Advantages

In the focus group discussions, the women discussed the positive aspects of TTBA's assisting in deliveries. The women described that the work done by the TTBA's in assisting in delivery improves their health and wellbeing. The women stated that during delivery the TTBA's provide emotional and medical support to the women. TTBA's are especially useful when the delivery is without complications or when a woman has a short labor. Even in complicated deliveries, many women stated that the TTBA's know how to deal with emergencies at home and are able to effectively respond to certain complications. The women noted that if TTBA's did not assist in delivery that the women would experience more problems while delivering. Furthermore, the women described that the TTBA's are persistent and will continue to assist even if the woman is uncooperative. One woman described positive aspects of a TTBA assisting in delivery:

“Some of us as women that are in labor, we behave differently. There are some that are going to struggle during this time; others are going to be gentle. These TTBA's will help because they give us advice on how to remain calm, and also how to do it gently so that the life of the baby is protected.” (Women FGD #1, P6)

The women stated that there are many advantages of having TTBA's assist in delivery. Two advantages are their physical proximity and availability. The women explained that TTBA's will always come to assist in delivery when they are invited. Usually, the TTBA's will not complain no matter what time they are called to assist in delivery. They are able to arrive quickly because they normally live very close to the woman in labor. One woman described that it is easy to invite the TTBA's because they

live within the community and are respected and well known. Therefore the women feel comfortable around the TTBA. The following participants comment on the advantages of TTBA's assisting in delivery:

“We would tell the Minister [of Health] that these people [the TTBA's] have been performing their job well. Each time we call them they have been quickly coming to attend to us. They have sacrificed most of their time. And so they have worked well in these communities.” (TTBA FGD #2, P1)

“Yes, we need [TTBA's]. They are our saviors before we get to the hospital. Sometimes the hospital is quite far, even in the night TTBA's are invited to come and attend to us. They are near to us, and we cannot go to the hospital if there is no transport. We just send for these women to come and attend to us at home... We really value their services in our communities.” (Women FGD #3, P2)

B. Disadvantages

The women also described that there are negative aspects of TTBA's assisting in delivery. One woman described that during labor sometimes her TTBA will hit her. Another woman stated that TTBA's are selfish and will delay referring women to the healthcare center because they want to receive money or gifts. Other women explained that sometimes TTBA's perform their work during delivery incorrectly. They may tell the woman in labor to push at incorrect times or will not know how to remove the afterbirth. Finally, oftentimes the TTBA's cannot keep secrets. They will share information about the women's birth to others in the village.

The midwives and TTBAAs frequently stated that TTBAAs currently lack the necessary items that are needed for delivery. In order to deter TTBAAs from delivering, the government withdrew clean delivery kits (CDKs) from circulation. Because the TTBAAs or women can no longer purchase the CDKs from any healthcare center, they are less likely to have equipment during delivery. The TTBAAs stated that even if they do not have equipment, they still assist. Lacking equipment poses a health risk to the TTBA, the mother and the infant. TTBAAs stated that they had assisted in deliveries at night without a light and others stated they have assisted without gloves. Furthermore, the TTBAAs are in need of additional equipment such as raincoats, boots, bicycles and cell phones. One TTBA commented on her experiences of delivering without essential equipment:

“Because of not having enough equipment we find a lot of difficulties in carrying out our work, especially knowing these days our work has become risky because of the many dangerous diseases that are in our communities... Like what happened last week, I attended to one that I had to deliver. But I didn't have equipment, so I used plastics instead of gloves.” (TTBA FGD #1, P3)

C. Referring and Escorting

Another role of TTBAAs in providing delivery assistance is to refer or escort women to the healthcare center. According to the participants, some TTBAAs always refer and escort women to the healthcare center, regardless of whether there are complications. These TTBAAs believe that their most important duty is to increase the proportion of women who deliver at the healthcare center. In order to fulfill this duty, the TTBAAs

educate the women on the importance of delivering at the healthcare center. Then, they both refer and escort women to the healthcare center.

“Like these days, we just help them get to the hospital. We tell them why to go. We don't administer and allow them to give birth at home. But we send them to clinics or hospitals. They respect us because of that.” (TTBA FGD #5, P4)

These TTBAAs often escort the woman to the healthcare center in case she delivers en route or develops a complication. The women prefer, and often ask, the TTBAAs to escort them to the hospital for emotional support. The TTBAAs also explained that if they escort the women to the healthcare center, they often still assist in the delivery under the supervision of the midwives. The TTBAAs recognized that this increased their workload, but generally thought it was a positive experience because the nurses would provide supervision including training and advice. It is also advantageous for the TTBAAs to escort the women to the healthcare center for delivery because they can relay information about complications to the healthcare professionals. The women stated that the nurses want the TTBAAs to come to the healthcare center with the woman who are in labor. One woman even stated that the healthcare professionals will not assist a woman in a timely manner unless she is escorted by a TTBA. The following quote offers the opinion of one TTBA regarding the benefits of TTBAAs escorting women:

“The women like doing this because we are always there to escort them and give them the comfort. We have always been monitoring them from the time they got pregnant. We have built this relationship between them and us and so when we escort them to go and deliver

at the hospital, they still feel secure. After all, most of the times it's us that are still going to attend to them, even at the hospital. So a lot of women are going to deliver at the hospital.” (TTBA FGD #5, P3)

Other TTBAAs continue to assist in home deliveries and only refer and escort the women to the healthcare center if there is a complication that the TTBAAs cannot handle. In the case of a home birth, the TTBA decides when the woman should be referred to the healthcare center. All of the midwives and TTBAAs agree that TTBAAs should escort women to the healthcare center when they are experiencing complications, such as prolonged labor, excessive bleeding, malpresentations, or convulsions. They should also refer women to the healthcare center when the woman is having her first child, has had many children in the past, or has previously received a C-section.

D. Future Role in Delivery Assistance

The participants have varying views as to whether TTBAAs should continue to assist in deliveries. The opinions of individual participants often depended on the context of the discussion. If the TTBAAs were discussing delivery assistance in the context of the new governmental policy that discourages home births, they are more likely to state that women should only deliver at the healthcare center. If the TTBAAs are discussing general birthing topics, the TTBAAs express a need for home delivery.

Continue to Assist in Normal Deliveries

Participants from all groups asserted that TTBAAs should continue to assist in normal deliveries in the villages. This view was most commonly held, but not exclusively

held, when participants were discussing general aspects of TTBA's assisting in delivery, outside of the context of the new governmental policy. The midwives who asserted that the TTBA's can assist in normal deliveries recognize that the TTBA's training adequately prepares them to assist in normal deliveries. The midwives agree that if the TTBA does assist in a delivery in the villages, she should refer and escort the woman to the healthcare center immediately after delivery. These midwives believe that the TTBA's should be trained to manage more deliveries and they should receive further training and equipment. The women who insist that TTBA's should continue delivering women at home believe that TTBA's should only refer women when complications arise. The women believe that when TTBA's assist in delivery they prevent death and improve the health of women in the villages. As long as there is a need for women to deliver at home in the villages, the TTBA's should be there to assist. In particular one midwife stated:

“I personally think that they should be empowered, the Traditional Birth Attendants, to at least manage deliveries... Someone who is just ok, and maybe very far from the facility and from me, the traditional birth attendant, someone who is trained and given the necessary logistics should deliver with the mother.” (Midwife Interview #1)

While these participants respect the new governmental policy, they believe that long distances to the healthcare centers and the lack of available transportation makes following the new policy impossible. Many women explained that oftentimes families do not own an ox-cart or vehicle and obtaining other transportation may be too expensive.

“In my case, I attend to births. Most of the times people invite me to go and attend to

them. It could be at night or during the day for as long as somebody is in labor, they will always look for me and invite me to go there and attend to them. I know very well that we as TTBA's, we are not suppose to deliver women at home. But there is nothing we can do because these mothers that are giving birth are always there in the community. We cannot always send them to the hospitals because of distances or we are lacking transport to take them there. So it is difficult.” (TTBA FGD #5, P1)

This leaves the woman little choice but to deliver at home. If invited to assist in delivery, these TTBA's insisted that they will attempt to convince the women to go to the healthcare center. If the women refuse, then the TTBA's will assist in the delivery. The women choose not to deliver at the hospital due to fear or the possibility of embarrassment. The women stated that they fear the nurses because they are harsh. Others fear that the nurses or doctors will force them to be tested for HIV. Still others fear to admit to the nurses that they did not receive routine prenatal care at the healthcare center because then they will be reprimanded. Some women stated that they did not want to deliver at the healthcare center if they did not have clothing for the baby. In this case, the nurses would lecture the woman for not being prepared and the woman would feel embarrassed.

The TTBA's argued that they would like to follow the new law. However, they cannot follow the new law because doing so would further endanger mothers and children. Women are in dire need of their services, and the TTBA's believe they have no choice but to help assist when their services are required.

Only Assist in Emergency Deliveries

The majority of TTBAAs, certain midwives, and a minority of women believe that they should never assist in normal deliveries, but that they should be prepared to assist in emergency deliveries. These participants recognize that emergencies are unavoidable. Emergency deliveries were defined by the participants as deliveries that occur when the woman cannot make it to the healthcare center. Oftentimes the woman in labor calls the TTBA for assistance during her final stages of labor, which does not allow the woman enough time to reach the healthcare center. At other times, the TTBA attempts to escort the woman to the healthcare center, but due to long distances, the woman may deliver along the way to the healthcare center. The TTBAAs believe that they should do everything in their power to refer and escort women to the healthcare center. These TTBAAs voiced the opinion that they need more equipment, materials, training and skills so they can assist in these emergencies. When women cannot reach the healthcare center for delivery, these participants believe it is their responsibility to help the women deliver safely. These participants respect the new governmental policy, but believe that it should not be followed for emergency deliveries. In the foreseeable future, there will always be emergency deliveries due to lack of available transportation, long distances to the hospitals and short labors. Therefore, the participants believe that TTBAAs are needed to assist in these deliveries. The following TTBAAs stated their views on assisting in emergency deliveries:

“By law we are not suppose to attend to these mothers to deliver them at home. But we do that because of emergencies. You see what happens is this, women usually do it deliberately even if they feel they are in labor they will wait until it gets worse that is

when they are going to call for help from a TTBA. We have always told them to be cautious about this, but because they want to avoid going to deliver at the hospital, they will always waste time. And these are usually the emergency cases that we attend to at home.” (TTBA FGD #4, P4)

“But we should not forget that there are emergency cases. There are times when you find that while you are still waiting for a vehicle or some other means of transport, this woman will deliver. We help them to deliver, but we will still refer them to the hospital there after. And when we get to the hospital, we explain what happened to the nurse that we find there.” (TTBA FGD #5, P5)

Never Assist in Deliveries

A minority of midwives, TTBAAs and women believe that TTBAAs should no longer assist in deliveries in the villages. These participants asserted that TTBAAs should always refer and escort women to the healthcare centers. They stated that it is safer for all women to deliver at the healthcare center because the medical professionals can handle complications, while the TTBAAs cannot. TTBAAs also do not have equipment needed for delivery and therefore they cannot prevent infections and the spread of diseases. Furthermore, these participants believe that everyone should follow the new governmental policy that states that all deliveries should occur at the healthcare center. In order to convince women to deliver at the hospitals, the TTBAAs stated they will have to educate women about the advantages of delivering at the hospital and inform the women about the new Zambian policy. The following quotes exemplify this belief:

“Because now we are only suppose to instruct and encourage mothers to go and give birth at the hospitals. We should also be aware that people are aware of this new law so our duty is to go and encourage them so that they can fulfill the law. And in the end they should all go the hospital and deliver.” (TTBA FGD #2, P1)

“I think we should just be referring them to Chikankata hospital. We don't administer deliveries by law. This is nurses job at the hospital. We should just say the truth. Let them just go to the hospital.” (TTBA FGD #6, P1)

Certain TTBAAs explained that it is useful if they escort the women to the healthcare center. The women appreciate when TTBAAs escort them to the healthcare center because it gives them comfort and security. The TTBA can then explain to the midwife the women's progress and identify any potential problem with her labor. Furthermore, the TTBAAs stated that oftentimes when they escort women to the healthcare center, the midwives ask the TTBAAs to conduct the delivery. The TTBAAs are additionally trained throughout this process and receive supervision from the midwives. Therefore, these TTBAAs argue that they still need training in delivery assistance because they often assist in deliveries at the healthcare center.

The women believe that the future role of the TTBAAs in delivery should be to escort the women to the healthcare center as soon as labor begins. If the TTBAAs cannot escort, they should then encourage the women to deliver at the healthcare center. Even if the TTBAAs are invited to assist in delivery, they should refuse and immediately begin to find transport for the woman to the healthcare center. Also, one woman stated that in case of an emergency, the TTBA should just call a nurse to come and assist. However, the

women noted that the work of the TTBA's should continue in the future. Instead of delivering, they should focus on performing routine prenatal and postnatal care check-ups and giving health education.

Postnatal Care

Another major theme that participants discussed in both the focus group discussions and the in-depth interviews was the current and future role of TTBAAs in providing postnatal care. The participants explained that currently certain TTBAAs are providing postnatal care in the villages, and other TTBAAs are referring and escorting women to the healthcare center to receive postnatal care. In the future, participants would like the TTBAAs to continue to provide postnatal care in the villages. The participants would also like the TTBAAs to provide more health education and refer and escort women to the healthcare center for postnatal care more frequently.

A. Postnatal Care in the Villages

The TTBAAs and women stated that most TTBAAs provide routine postnatal care in the villages. The TTBAAs who provide postnatal care visit the women in their homes 6 hours, 6 days and 6 weeks after delivery (the “6, 6, 6 rule”). At these times, they monitor both the health of the mother and the child. The TTBA looks for danger signs in the mother and the child and if any are identified they are sent directly to the healthcare center. In addition to the “6, 6, 6 rule,” the TTBAAs visit the woman as the need arises. During their home visits, the TTBAAs ensure that the infant is breastfeeding properly, give special instructions to women who are HIV positive and provide health education. Additionally, the TTBAAs often encourage women to seek routine postnatal care at the healthcare centers. One woman stated that the TTBA even escorted her to the healthcare center to receive postnatal care. The following participants discuss the role of TTBAAs in the villages in providing postnatal care.

“We make a follow-up soon after a mother has given birth... We go there six hours after the birth of the child. We do it six days after that and after 6 weeks. This is because we want to make sure that both the mother and the child are in good health. If there are any problems that develop during this time, then we make sure that we refer this woman to the hospital.” (TTBAs FGD #3, P5)

“There are others that are actually going to take very good care of you. They will continue visiting you after you have given birth. They will bathe you, they will give you instructions on how you are suppose to stay healthy.” (Women FGD #2, P1)

However, some women stated that the TTBAs rarely provide postnatal care. The women complained that the TTBAs often do not visit the women after they have given birth. The women wished that the TTBAs would come after delivery and offer instructions on how to care for themselves and their newborn babies. One woman stated:

“Some TTBAs will never come back. Soon after they have delivered you they will not come back to see you anymore. We wish things were different here.” (Women FGD #4, P3)

The midwives explained that while the women are advised to go to the healthcare center for postnatal care, few follow this advice. One possible explanation for this is that the women are deterred from going to the healthcare center due to long distances.

Certain midwives stated that if TTBAAs are providing comprehensive postnatal care in the villages, there is no need for the women to come to the healthcare centers.

B. Refer and Escort

All midwives appreciated that some TTBAAs referred and escorted women to the healthcare center. One midwife explained that referring and escorting strengthens the relationship between midwives and TTBAAs. It allows the nurses to interact with TTBAAs, and the TTBAAs to use their skills to identify women who need professional medical attention. The midwives and TTBAAs explained that TTBAAs also refer and escort women to the healthcare center for postnatal care. The TTBAAs also educate the women about the importance of visiting the healthcare center for postnatal care. If the delivery occurs at home, the TTBAAs refer the woman to the healthcare center after the birth for postnatal care. For example:

“Usually after delivery they escort the mother. Even after delivery they still continue to do formal care, at 6 days and 6 weeks after birth.” (Midwife Interview #2)

“Then, after delivery, they encourage mothers to come here for postnatal care. If there is no transport then she comes after 6 days. After 6 days a mother is supposed to come for post-natal. And if the mother is not feeling well, they might do the postnatal in the village and then advise the mother to come here for treatment if there is a problem.” (Midwife Interview #6)

However, certain midwives stated that oftentimes women are not referred to the healthcare center for postnatal care, and that they rarely come to receive this care.

C. Health Education

Overall, all groups of participants believed that one of the most important roles of TTBA is to provide maternal health education to women in the villages. The TTBA provide health education in the homes of women who have just given birth. Participants stated that the TTBA educate the women on a wide-variety of topics (Table 2).

“During their postnatal care, we teach these women how they are supposed to care for their children and how they are supposed to keep themselves clean also. We especially teach them how they are supposed to care for the umbilical cord. We tell them that if they have given birth at 12 hours today, they should not bathe the child until the following day. We also tell them about 6, 6, 6 and the importance of observing this. We also teach them the value of family planning because we want them to space their children well.”
(TTBA FGD #5, P2)

“They also teach us on how to take care of our children, especially after we have given birth. They also teach us personal hygiene; this is how we are supposed to keep ourselves and our living environment clean. They also teach us on how we are suppose to space our children and how we are supposed to continue taking them to the hospital for routine check-ups after we have given birth.” (Women FGD #2, P1)

Table 2: TTBA's Educate Women During Their Postnatal Period on Various Topics

Postnatal Care Topics:

- Recognizing danger signs
- How to care for the child
- Breastfeeding the child
- Preventing pregnancies so women can space their children
- Available methods of family planning
- Importance of receive postnatal care from the healthcare center
- Appropriate vaccinations and nutrition for the newborn child

D. Future Role in Postnatal Care

The majority of women and TTBA's as well as certain midwives agreed that in the future TTBA's should continue to provide routine postnatal care in their homes. The following quotations exemplify this belief:

“Just like my friend here has mentioned, I think the biggest task that these women have is to conduct these routine check-ups on these women from the time they are pregnant up to after they have given birth.” (Women FGD #1, P1)

The TTBA's believed they should provide this care and should visit at least four times after delivery. One TTBA stated that since they will no longer be assisting in deliveries, their main role will be to monitor women during their pregnancy and after they have given birth. Some TTBA's explained that it is crucially important to continue providing postnatal care to women who are HIV positive so they can learn how to safely care for their child. During routine postnatal care, the TTBA's should look for danger signs in both the mother and child. If danger signs are identified, the TTBA should

immediately refer and escort the mother and child to the healthcare center. Certain TTBAAs stated that they should provide care to women and their children until the child is 5 years old.

The participants also stated that in the future the TTBAAs should provide more health education to women who are in their postnatal period, and should refer and escort women to the healthcare center more often to receive postnatal care.

Family Planning

The participants explained that another role of TTBA is to provide health education about family planning. The TTBA educate the women on the benefits of family planning and encourage the women to begin their desired method of family planning. Only a small percentage of TTBA are distributing oral contraceptives and condoms in the villages. Additionally, most TTBA currently do not identify post-abortion complications in women in the villages. In the future, the participants would like TTBA to continue educating women and begin to educate men about family planning. Additionally, the participants believed it would be beneficial if all TTBA began to distribute condoms and oral contraceptive pills in the villages. Finally, the participants noted that TTBA should begin to recognize post-abortion danger signs in women in the villages and immediately refer these women to the healthcare centers.

A. Health Education

All groups of participants asserted that the main role of TTBA in family planning is to provide health education. The participants stated that they educate the women of the villages about the advantages of spacing their children and limiting family size through the utilization of family planning. The TTBA believed that giving birth frequently is dangerous to the health of the mother and the child and this information should be conveyed to women in the villages. Additionally, the TTBA elucidated that they should emphasize that women who appropriately limit and space their children have more resources for each child. This allows each child to grow up healthy and receive the necessary education. Furthermore, the TTBA encourage women to begin family

planning, educate the women about the various family planning methods that are available and assist the women in choosing a method of family planning. One woman described that occasionally the TTBAAs will teach women about family planning through demonstrations. They will bring various methods of family planning and then teach the women how to use each method. The TTBAAs then refer the women to the healthcare center to receive their desired family planning method. The women noted that the TTBAAs are supportive of women who want to change methods due to negative side effects from their first method. The women believe they receive enough education on family planning and that women who experience an unplanned pregnancy are careless. The women lay the fault for an unintended pregnancy on the women and believe the TTBAAs are doing their part adequately. These quotations exemplify the TTBAAs role in providing postnatal health education:

“It's true they [the TTBAAs] teach, they teach us health education. We actually learn. They demonstrate to us. They will bring even some bottles of these medicines and condoms also and everything connected with family planning and they will teach us on this family planning. Every week and every month they are always teaching us. No one should say we are not being taught. That is not true.” (Women FGD #2, P7)

“We teach them the advantages of spacing their children and also limiting their family size. It is not good that every year the mother gives birth. Giving birth has its own complications. The advantages of child spacing is that you can plan your family and you can give the right incentives to your children.” (TTBAAs FGD #3, P5)

The TTBAAs asserted that they teach women about the importance of obtaining contraception immediately post-partum. In particular, the TTBAAs stated that they educate the women about breastfeeding as a method of family planning. They educate the women about the positions and length of time breastfeed, and how to use exclusive breastfeeding as a method of family planning.

Men

The TTBAAs currently do not educate men about family planning. The women stated that men in the community are more resistant to learning about and using family planning, while the women are more accepting of family planning. The women explained that the men hinder their wives' utilization of family planning. The men often do not allow the women to start or continue a family planning method. To circumvent this problem, the women often start family planning without the permission of their husbands. However, the women stated that they are beaten if their husbands find out. Due to the fact that the men typically do not accept family planning, many women stated that men want to have larger families. A common complaint among the women is that men do not offer financial or emotional support for their children. The women, therefore, must find a way to obtain the necessary money and items needed for their children. Also, the women recognize that having too many children is harmful to their health but find it hard to negotiate limiting the number of children they have with their husbands. The following quotations exemplify the participants' opinions of the men's views of family planning:

“Just like my friend has said, there is a difference because this man does not feel it and so he just has the desire to make you pregnant all of the time. Usually they will demand

that you get pregnant almost every year. They might not even allow you to go for family planning. So this usually is very difficult for us mothers.” (Women FGD #1, P7)

“Some of these men are so selfish. They will not want you to take family planning pills. They don't want that, they just want you to be getting pregnant even if there is nothing that they do to help you financially, all they want to do is impregnate you and continue having children.” (Women FGD #2, P1)

B. Distribution

The midwives, TTBAAs and women stated that the vast majority of TTBAAs do not distribute any form of contraception.

“These TTBAAs don't really concentrate on giving out family planning medicines. They are other people that are supposed to do that. Instead the TTBAAs concentrate on attending to mothers that are giving birth in the communities.” (Women FGD #2, P1)

“We only give education concerning family planning. We don't give out condoms and pills. Mothers go the hospitals to get these. If it is not at the hospital then they just go to the center and nurses will attend to them there.” (TTBA FGD #4, P5)

Currently, only a few TTBAAs distribute condoms, and even less distribute oral contraceptive pills. The TTBAAs receive the oral contraceptive pills and the condoms from the nearest health post or rural health center. The TTBAAs who distribute oral contraceptive pills receive special training. The midwives explained that if TTBAAs wish to distribute condoms, they just need to ask someone at the healthcare center for a box of

144 condoms. They are held responsible for these condoms through monthly reports to the healthcare centers. Participants explained:

“We give Safe Plan [oral contraceptive pills] and condoms. There are usually three others that nurses recommend. One of them is giving an injection, but I'm not sure what the other names are. So what is common for us is just giving condoms.” (TTBA FGD #4, P7)

“A few provide contraceptives. The traditional birth attendants who were trained to also be community-based distributor can provide.” (Midwife Interview #1)

C. Post-Abortion Complications

The midwives stated that one role of TTBA's in treating women with post-abortion complications is to recognize danger signs of a post-abortion complication in the villages. The participants believed that TTBA's are the best individuals to perform this role because they closely interact with the women in the villages on a daily basis and will therefore be able to identify the women's problems. The midwives explained that another role of TTBA's in providing assistance to women with post-abortion complications is to immediately refer these women to the healthcare center. The participants noted that most TTBA's are currently not trained to recognize danger signs of post-abortion complications and are therefore not performing this role in the villages.

D. Future Role in Family Planning

In the future, the participants asserted that TTBAAs should provide more health education about family planning to the community. The participants would like the TTBAAs to continue educating women about family planning, but to also include educating men about family planning. Since the TTBAAs provide education in the villages, many midwives believed that they are the best people to start educating the men about family planning. The TTBAAs should visit men and women at the same time and teach them together about family planning. Many men are opposed to family planning methods, but the participants believe that if they receive education, the men will begin to accept the family planning methods. In order to provide more education on family planning to both men and women, the participants advocated for additional trainings for the TTBAAs. In the words of a participant:

“If the TTBA went into the villages to visit men and women, they would learn at the same time. And so they would accept the idea of family planning together. I think this would be more effective. They need to start educating our men too.” (Women FGD #4, P1)

Furthermore, the majority of midwives and women and a minority of TTBAAs stated that they would like the TTBAAs to start distributing oral contraceptive pills and condoms. The TTBAAs would learn how to distribute these methods through additional trainings. The participants believed that if TTBAAs were distributors of these contraceptives, more women would be able to use a method. It would increase access to contraceptives because distance to the healthcare facility is a barrier for women who wish to start or continue family planning. Through direct interaction with women of the

villages, the TTBAAs would be able to provide contraceptives. The TTBAAs would largely work with individuals at the health post to receive the necessary contraceptives to deliver in the villages. Participants agreed that in order for TTBAAs to distribute family planning methods they needed to receive specialized training and education. The following participants expressed their views on TTBAAs distributing family planning:

“TTBA can distribute family planning because at least they can be working hand-in-hand with the person at the health posts, from where they are coming from. Maybe it can reduce the workload of that person because there will be someone supporting them.”

(Midwife Interview #3)

“We also need some training for the TTBAAs to be helping out because for some it is very far from here to get the contraceptives. So if the TTBAAs were told to distribute family planning, it would help.” (Midwife Interview #6)

Finally, the participants stated that currently most TTBA are not identifying danger signs of post-abortion complications in the villages. The participants would like the TTBAAs to receive more training in order to be able to effectively identify women who have post-abortion complications and then immediately refer these women to the healthcare centers. One participated stated:

“TTBAAs need to learn how to recognize post-abortion problems in the villages where they live. The TTBAAs should then be taught that they should send these

women to the rural health center to receive special care from us.” (Midwife Interview #4)

Part II: Further Training TTBA's

The participants stated that the role of TTBA's in prenatal care, delivery assistance, postnatal care and family planning should change in the future. In order to gain the necessary skills and knowledge needed for their future role, the participants asserted that the TTBA's need to be further trained. The participants explained that TTBA's should receive more refresher courses from the government or non-governmental organizations. Additionally, the relationship between the midwives at the rural health centers and the TTBA's should be strengthened. The midwives should provide both formal and informal trainings to the TTBA's.

A. Further Trainings from the Government or NGOs

The women, TTBA's and midwives believe that in the future TTBA's should receive more training. The participants explained that the TTBA's should receive refresher courses more frequently and for longer periods of time. Currently, the TTBA's are occasionally offered refresher courses. Some TTBA's said they have never been invited to a refresher course while others noted that they have attended one, two or three courses. The TTBA's were unhappy with the number of times they have been invited to refresher courses and wished they would be invited and attend more frequently. The TTBA's stated that they would like consistent refresher courses at least once per year. The TTBA's believe that both the government and NGOs should be responsible for these additional trainings. The TTBA's feel strongly that they need to continue learning to increase their

knowledge of maternal health. The following quotations exemplify the participants' desire for further training of the TTBAAs:

“TTBAAs need to be supported by giving them trainings. Those are the basics, the women in the villages they rely on the TBAs so they should get adequate information from them. If they are not trained and they lack some information they don't have adequate information then that means that we will help them.” (Midwife Interview #4)

“There are a lot of things that we would actually tell the Minister. Some of them are asking him to take these for further training because they lack in education. We believe if they were given enough training then they would perform better. We know they know more than we do. But they still need to be taught a lot more so that's why they need to go for further training especially where keeping secrets are concerned.” (Women FGD #4, P9)

The women and TTBAAs insist that TTBAAs need further training because there are now more complicated diseases than there were in the past, and new information on how to improve maternal health continually becomes available. The women would like to see the TTBAAs trained in teaching women how to be healthy and becoming more skilled in delivery assistance. Furthermore, the women desired that more individuals should be trained to become TTBAAs and that the government should mainly be responsible for the organization of the training programs. The women specified characteristics of TTBAAs that should be considered when determining which TTBAAs to further train. The most important factor to the women is age. Young women should not be TTBAAs. The women

explained that education level is not necessarily important. Currently, young women are being trained because they are well educated. However, the women believe that TTBAAs need to be older or else younger women will become embarrassed when they are attending to older women. The women stated that illiterate older TTBAAs often perform better than literate younger TTBAAs.

B. Training From Midwives

The midwives stated that they have a strong relationship with TTBAAs because they both formally and informally train the TTBAAs. Informally, the midwives train the TTBAAs at the rural health centers, during outreach services and at the healthcare posts. Some midwives at the rural health centers make a formal schedule for the TTBAAs to volunteer. The midwives reported that the TTBAAs come to the rural health centers to assist on average between once a week to once a month. One midwife stated that she has a TTBA who serves as a supporting staff member who assists every day. While at the rural health centers, the TTBAAs assist the midwives with health education. They also palpate the pregnant women and distribute medications and vitamins. The midwife supervises the TTBA to ensure that the TTBA is performing her duty correctly at the rural health care centers as well as during outreach clinics. If the TTBA encounters a problem or has a question, the midwife immediately comes to assist. The midwife offers advice and corrects the TTBA if she is doing anything incorrectly. The midwives asserted that it is useful for the TTBAAs to work with the midwives because the constant supervision improves the TTBAAs' skill set. This ultimately will improve the health of women in the villages. One midwife explained her relationship with TTBAAs:

“We also supervise them. Yeah, we do the examinations with them and palpate together. So when they need a correction we follow them when they need the assistance. They also come to this clinic and we are able to watch what they do. They can ask questions when they come.” (Midwife Interview #1)

Formally, one midwife stated that she holds refresher courses for the TTBAAs. The midwife explained that she invites the TTBAAs for a meeting a few times each year to discuss new information or to review old information. For example, the last time she had a refresher course with the TTBAAs, she discussed focused antenatal care. Another time she taught the TTBAAs about the prevention of mother to child transmission of HIV/AIDS. The rest of the midwives agreed that it is essential to hold these trainings with the TTBAAs because it will further advance their education. The midwives believe they have the level of knowledge needed to formally train the TTBAAs. One midwife suggested that she would like to bring in the TTBAAs whenever she encounters an interesting case at the rural health center. She would explain the case to the TTBAAs and teach them how to appropriately treat the patient. Some midwives asserted that in order to continue these trainings they need to receive the necessary funding.

Certain midwives supervise the TTBAAs through monthly reports. These midwives collect monthly report from the TTBAAs with information such as the number of women they saw for prenatal care and postnatal care, the number of women they helped deliver, and the number of times and the reason that they referred women to the healthcare center. Typically, the TTBAAs deliver the reports to individuals at the health post who deliver the reports to the midwives at the rural health centers. Some midwives use these forms to

determine the areas in which the TTBAAs should be further trained. Not all of the rural health centers receive reports from TTBAAs. However, the midwives at the rural health centers that do not receive reports would like to begin this form of reporting.

In the future, the midwives would like to work more closely with the TTBAAs. The midwives believe that the TTBAAs need more training, refresher courses and supervision. The midwives would like the TTBAAs to start, or continue, to come to the rural health centers to assist the midwives in providing prenatal care. The midwives would also like additional funds so that they can begin to organize formal trainings with the TTBAAs on a quarterly basis. The following quotations exemplify the desire of midwives to continue to work closely with TTBAAs:

“I plan to have a refresher course with them, at least. But I have no funds. But I’m planning to have a refresher course with them so maybe we can sit and learn together.”

(Midwife Interview #3)

“We midwives should make use of the TTBAAs. We shouldn’t just let them stay at home. We should involve them in most of the things. Or maybe at the hospital if there are any interesting cases we should inform the TTBAAs, so that they can also learn for that. Then maybe by having meetings with the TBAs, just to inform them on whatever information we want to deliver to them. Like a symposium, I think that would bring us closer.”

(Midwife Interview #5)

Chapter 5: Discussion

Introduction

This research aims to determine how participants view the current role of TTBAAs. Another purpose of this research is to determine how the participants would like this role to change in the future to most effectively and efficiently improve maternal health in the Mazabuka and Siavonga Districts of Zambia.

Historically, the primary duty of TBAs in rural Zambia was to assist in deliveries. As the government, healthcare workers, and various NGOs trained TBAs, they began to acquire new roles relating to maternal health. Their role today is subsequently evolving from a birth attendant to a maternal community health worker. They are currently performing duties in prenatal care, delivery assistance, postnatal care and family planning. In the future, the participants desired that the role of TBAs expand in prenatal care, postnatal care and family planning. The participants wanted the role to expand largely through an increase in referring and escorting women to the healthcare center and through educating community members about maternal health in their homes. The majority of participants believed that the TBAs should stop assisting in home deliveries but recognized that under some conditions they will be called urgently to assist. In the view of the participants, the primary role of TBAs should no longer be to assist in deliveries. The participants would like the TBAs to perform a wider variety of activities to become a multi-purpose maternal community health worker.

This research adds new results and conclusions to the existing body of literature on the current and future role of TBAs. In particular, this research adds the desired

future role of TTBA's from the perspective of TTBA's, midwives and women of reproductive age in the villages. This research also adds to the literature because it is performed in a country where TTBA's are discouraged by the government from assisting in deliveries. While much of the research is new, certain aspects of the results are consistent with previous research. Various current and future roles of TTBA's identified by the participants, such as becoming distributors of condoms, have been analyzed in previous studies.

The Implications of the Governmental Policy

The new governmental policy that requires all births to occur in a healthcare center was instituted with admirable intentions. The policy was launched in order to reduce the maternal morbidity and mortality of the country through increasing the proportion of women who deliver at the healthcare centers. However, the results of this research show that the policy was instituted prematurely because all women are not ready or able to deliver at the healthcare centers. Currently, the majority of women in rural Zambia deliver at home (66.5%). Only 31.3% of women were delivering with the assistance of a skilled provider and 30.8% were delivering with the assistance of a TTBA⁶. Many women are not able to deliver at the healthcare center because of long distances, lack of transportation, or short labors. Other women prefer not to deliver at the healthcare center. A significant portion of women were deterred from visiting the healthcare center because they did not want to visit alone or they were afraid a female provider would not be available⁶.

Instead of decreasing maternal morbidity and mortality, the new governmental policy might cause maternal morbidity and mortality to remain stagnant or even increase. The policy was established in order to increase the proportion of women who delivered at the healthcare centers. The policy therefore deters TTBAAs from assisting in delivering. As a result of the policy, most TTBAAs no longer have access to clean delivery kits. The TTBAAs and women in the villages are aware that it is against the governmental policy for the TTBAAs to continue assisting in deliveries. However, because the percentage of women who deliver at home continues to remain high, the TTBAAs are still called to assist in deliveries. The women and TTBAAs in the focus group discussions indicated that oftentimes women call TTBAAs in the late stages of labor because they do not want to deliver at the healthcare centers. When called, the TTBA can either assist in the delivery without the proper equipment or refuse to assist in the delivery in order to abide by the new governmental policy. If the TTBA continues to assist in the delivery without the proper equipment, she puts herself, the mother and the child at an increased risk of acquiring an infection. If the TTBA refuses to assist in the delivery, the mother now must deliver without the assistance of a trained provider. In either case, the health of the woman becomes further jeopardized. Ultimately, the policy could result in an increase in the level of maternal morbidity and mortality.

Recommendations

The Zambian government should retract the new policy until all women have access to healthcare facilities. Empowering TTBAAs should be the short-term goal aimed at improving maternal health. TTBAAs should continue to encourage all women to deliver

at the healthcare center. When the women cannot or refuse to deliver at the healthcare center, the TTBAAs should be prepared to assist in deliveries. Therefore, the government and various non-governmental organizations should work together to ensure that TTBAAs are provided with continual training and the equipment needed to assist in deliveries.

The long-term goal aimed at improving maternal health should be to provide every pregnant woman with access to emergency obstetric care at a healthcare center. The rural healthcare centers currently cannot provide emergency obstetric care. The women who have complications during delivery must be transported to the referral hospital. This increases the amount of time that passes before the woman receives the care she needs. The Zambian government and non-governmental organizations should upgrade the skills of the staff and give needed equipment to the rural health centers so that the rural health centers can handle emergency obstetric complications. Additionally, the government and non-governmental organizations should work closely with communities in order to find the transportation needed to bring women in labor to the healthcare centers in a timely manner.

Continued Training with Midwives

The participants recommended that it is beneficial for the TTBAAs to continue working with the midwives at the rural healthcare centers. The results of this research indicate that the best people to train the TTBAAs in maternal healthcare are midwives at the rural health centers. The TTBAAs already have a strong and positive relationship with midwives at the rural health centers. It would be beneficial if the TTBAAs strengthened their relationship with the midwives. Previous research supports this conclusion. A paper

by the International Confederation of Midwives states that midwives should provide education and practical experiences for the TTBA¹⁷. Additionally, one of the objectives of training TTBA as stated in the Safe Motherhood strategy is to strengthen the relationship between the healthcare system and the community². A strong relationship between TTBA and midwives would fulfill this objective.

The TTBA work with the midwives during prenatal care clinics at the healthcare centers and assist in deliveries under the supervision of the midwife when the TTBA escort women to the healthcare center during labor. All TTBA should be encouraged to volunteer at the prenatal clinics at least once per month under the supervision of the midwives. The midwives should lead this effort by creating a formal schedule that dictates when each TTBA is encouraged to work at the prenatal care clinic. The midwives should be available to answer questions from the TTBA about prenatal care and to supervise the TTBA while they palpate the pregnant women. TTBA should also work more closely with the midwives through personally escorting the women in labor to healthcare centers. While there, the TTBA often deliver the child under the supervision of the midwives. The midwife should answer the questions of the TTBA and provide support. This activity should be reinforced in rural Zambia.

The TTBA are currently receiving contradictory information about whether or not they should assist in deliveries. The new governmental policy states that TTBA should not be assisting in deliveries. The TTBA were trained to recognize their limitations in providing delivery assistance. The TTBA were taught that they might harm the women if they assist in deliveries and that they therefore should always refer and escort women to the healthcare centers. On the other hand, many midwives stated in

the in-depth interviews that they believe the TTBAAs should be empowered to assist in deliveries. Furthermore, the midwives encourage the TTBAAs to assist in deliveries at the healthcare center when they escorted the women for delivery assistance. These contradictions need to be reconciled.

It is beneficial for TTBAAs to be trained by midwives. The TTBAAs learn information about maternal health and are able to hone their skills when they work closely with the midwives. They can apply their acquired knowledge and skill set to their work in the villages. As TTBAAs become more skilled providers, they will be able to further improve the health of the women in the villages. Through working with the midwives during prenatal care clinics at the rural health centers, the TTBAAs learn how to recognize danger signs in pregnant women and they become better equipped to provide prenatal care to women in the villages. Through assisting in deliveries under the supervision of the midwives, the TTBAAs learn how to identify and handle obstetric complications.

The previous studies that evaluated the effect of TTBA training concluded that the training of TBAs does not decrease levels of maternal morbidity and mortality. However, the trainings that were evaluated were short trainings that lasted from a few days to a maximum of a few months. No studies have been done to determine if the continual training of TTBAAs would influence maternal morbidity and mortality. In this study, the participants noted that many TTBAAs received continual support and training from the midwives. It is likely that on-going training from a skilled provider would be more effective at improving the skills of TTBAAs than short training. An improvement in the skills of TTBAAs would correspond to a decrease in maternal morbidity and mortality.

Recommendations

The conflicting messages that the TTBAAs are receiving regarding whether they should assist in delivery should be reconciled. TTBAAs should continue to assist in deliveries and should be encouraged to assist in deliveries by the government, non-governmental organizations and midwives. They should continue escorting women to the healthcare center in order to assist in deliveries under the supervision of the midwives. Until every woman has access to emergency obstetric care, TTBAAs should be provided with equipment needed for delivery and additional training. The governmental policy should be withdrawn until interventions are implemented that allow all pregnant women to reach a healthcare facility for delivery. Furthermore, the government should focus on decreasing the proportion of women who deliver at home without the assistance of any skilled provider.

A pilot study should be conducted in Zambia to determine the effect of continual training of TTBAAs by professional midwives. If the study finds that the continual training increases the TTBAAs' skills and therefore improves maternal health, the relationship between midwives and TTBAAs should be strengthened. The midwives should receive money and supplies that would allow them to organize frequent on-going training activities with the TTBAAs.

The Expanding Roles of TTBA

Identifying Future Roles

The participants desired that the TTBA expand their roles in prenatal care, postnatal care and family planning. Many participants also wanted TTBA to be prepared to assist in deliveries when the women cannot reach the healthcare center in time. The TTBA may not be able to execute all of the desired roles in the future due to time and monetary constraints. The TTBA may need to focus on certain roles and spend less time on other roles. Their potential roles should be prioritized and the TTBA should focus on roles that are most needed and most likely to improve maternal health in the villages.

TTBA should not focus on providing prenatal care in the villages because the levels of prenatal care are already relatively high in rural Zambia. Over 90% of women received prenatal care during their last pregnancy. Only 4% of women received prenatal care from a TTBA⁶. The TTBA should attempt to reinforce the positive behavior of women seeking prenatal care at the healthcare center. Because the levels of prenatal care are already high in rural Zambia, the TTBA would best be utilized in roles other than providing routine prenatal care in the villages.

In rural Zambia levels of postnatal care and the utilization of family planning are low. TTBA should therefore focus on increasing the levels of both postnatal care and family planning utilization. Both the ZDHS and the results of this research indicate that levels of postnatal care are low. In rural Zambia, only 39.2% of women receive any form of postnatal care. Of those women, 27.6% receive postnatal care from a skilled provider and 5.8% receive postnatal care from a TTBA⁶. During the in-depth interviews, many midwives stated that they rarely provide postnatal care to the women. They noted that

women are instructed to receive postnatal care at the healthcare center, but few women come due to long distances, lack of available transport or lack of knowledge on the importance of postnatal care. While some participants report that certain TTBAAs provide postnatal care in the villages, others report that the TTBAAs do not provide postnatal care. There needs to be an increased focus on educating the women on the importance of postnatal care in the villages in order to increase the number of women who are receiving postnatal care. Participants believe that TTBAAs can assume an active role in increasing the number of women who receive postnatal care. The participants noted that the TTBAAs should educate the community members about the importance of receiving postnatal care, monitor the health of women in their homes, and continually refer and escort women to the healthcare centers.

The current utilization of family planning is low in rural Zambia. Only 27.6% of women of reproductive age are using a modern method of family planning.⁶ The TTBAAs should work to increase utilization of family planning by distributing condoms and oral contraceptives and by educating men about family planning. The TTBAAs need to receive specific training in order to be able to distribute oral contraceptives (Figure 7). Women with specific health problems are at a higher risk of experiencing adverse effects of oral contraceptives and should therefore choose another method of family planning. Training TTBAAs to recognize these potential health risks would be difficult. To circumvent this issue, the TTBAAs should distribute refills of oral contraceptives. The women should receive the initial prescription from the midwives, and the TTBAAs should subsequently deliver the oral contraceptives. At many rural health centers, the TTBAAs submit monthly

reports to the midwives. The midwife should hold the TTBA's accountable for the oral contraceptives through these monthly reports.

In order to successfully distribute condoms in their catchment area, the TTBA's may have to work closely with a male agent from the community. A study of TTBA's in Nepal found that TTBA's successfully increased the utilization of condoms in the community. However, the TTBA's found that it was more effective if male members of the communities distribute the condoms due to the embarrassment of men¹¹. The participants in the focus group discussions and in-depth interviews did not mention that females distributing condoms would cause problems. However, due to studies in other regions of the world, when TTBA's begin to distribute condoms they should be mindful that perhaps employing a male community agent in the actual distribution may further increase utilization. If men are embarrassed to receive condoms from TTBA's, the role of TTBA's should be to obtain the condoms and organize the distribution through the male agents.

The largest request of participants for the future role of TTBA's in family planning is to educate men. A far smaller percentage of men than women are educated on the importance of family planning. Participants believe that TTBA's can be instrumental in beginning the process of educating men about family planning. When the TTBA's educate women in their homes about family planning, the TTBA's should also educate men simultaneously. However, it is possible that the men will not be receptive to learning about family planning from a woman. One successful strategy that has been reported in the literature is to identify men in the community whose wives are successfully using a modern method of contraception and who are already leaders within the community²⁴.

For example, these men may be religious leaders or may have many personal ties to families in the community. The TTBA's, or community health workers, would educate the men on peer outreach and effective ways to informally educate on contraceptives. These men would then educate other men by using their own story to dispel myths about family planning²⁴. The participants asserted that TTBA's should be instrumental in beginning the process of educating men about family planning.

TTBA's as Maternal Community Health Workers

The participants wanted the TTBA's' role to expand to include activities typically performed by a community health worker. The results of this research, therefore, raise the question as to whether TTBA's are the correct people to be working as maternal community health workers. The historical role of TBAs is to assist in deliveries. In order to successfully execute this role the TBA should be reliable, dependable and have knowledge about and passion for maternal health issues. A community health worker takes on a wider variety of tasks that include outreach, education, case management, referrals, and follow-up. Individuals who are successful community health workers would need to be knowledgeable on a wide-variety of topics, dedicated to their career and respected in the community. The characteristics needed to fulfill the role of a TTBA are different from those needed to be a community health worker. If communities decided that it would be beneficial to have a maternal community health worker, perhaps individuals other than TTBA's would more successfully fulfill the roles.

On the other hand, in some many places throughout the world the historical role of TTBA's is becoming obsolete. Either the women are able to seek delivery assistance at

a healthcare center or the TTBAAs can no longer practice due to governmental policies and laws. In these places there are existing networks of TTBAAs. The community members are already familiar with their role and generally appreciative of their work. It seems inefficient and wasteful to eliminate TTBAAs completely if they are able to effectively begin a variety of new roles that improve maternal health.

Recommendations

Future research should be performed in villages in which TTBAAs are acquiring new roles. The TTBAAs should be the main individuals who decide which roles they should begin. Qualitative research should be performed with TTBAAs in order to decide which roles are needed in the communities and the interest of TTBAAs in expanding their roles.

Furthermore, as TTBAAs begin to acquire new roles, the issue of compensation becomes increasingly relevant. Typically, TTBAAs are given small gifts or a small amount of money by the woman they have assisted in delivery. However, it is unlikely that they will continue receiving gifts or money for smaller tasks they accomplish, such as monitoring the health of an infant, referring a woman to the healthcare center for prenatal care or educating community members about family planning. Research should be conducted which explores how much work TTBAAs will perform without compensation and the appropriate organizations or individuals who should be responsible for compensating the TTBAAs for their work.

Public Health Recommendations for the Future Role of TTBAAs

- Many men do not accept family planning and therefore they need to be educated about family planning. TTBAAs should become instrumental in this process and help determine the best methods to educate men.
- TTBAAs should increase the number of women they refer to the healthcare center to receive prenatal care, postnatal care, family planning methods and assistance during delivery.
- TTBAAs should escort more women to the healthcare center. This is especially true in deliveries where the women need emotional support and medical assistance en route to the healthcare center.
- TTBAAs should educate the community on the issues of prenatal care, preparing for delivery, postnatal care, caring for the newborn child, and family planning.
- TTBAAs should continually educate women about the importance of delivering at the healthcare center in order to increase the number of women who decide to deliver there.
- Instead of assisting in normal deliveries, the new role of TTBAAs in delivery should be to assist only in emergency deliveries. The TTBAAs should therefore be trained on assisting in emergency deliveries. Furthermore, the TTBAAs should help the women secure transportation to the healthcare center and provide emotional support.
- TTBAAs should begin to distribute oral contraceptives and condoms to women in the villages.

- The relationship between TTBAAs and midwives should be strengthened. The midwives should provide both formal and informal trainings with the TTBAAs.

Other Public Health Recommendations

- Government should retract the policy that deters TTBAAs from assisting in deliveries until all women have access to emergency obstetric care.
- The rural health centers should be upgraded so they can handle emergency obstetric complications. Furthermore, trainings should be provided to the staff at the rural health centers so that they can learn how to manage emergency obstetric complications.
- The Zambian government and non-governmental organizations should work with communities to provide transportation to women in labor from their homes to the healthcare centers.
- A pilot study should be conducted that determines the effect of the continual training of TTBAAs by professional midwives.
- Research should be conducted in order to learn about the perceptions of TTBAAs on beginning additional roles and to determine how TTBAAs should be compensated if they acquire new roles.

Conclusion

Traditional Birth Attendants in rural Zambia have provided delivery assistance to women in the villages for hundreds of years. The TBAs were given additional tasks to perform relating to maternal health when midwives, various NGOs or the Zambia government trained them. The current roles of the TTBAAs identified in this study indicate that the TTBAAs are more than just delivery assistants. The TTBAAs perform a wide-variety of tasks in the areas of prenatal care, delivery assistance, postnatal care, and family planning. Additionally, the TTBAAs are truly becoming an intermediary between the community and the healthcare centers. The TTBAAs refer and escort women from their homes to the rural healthcare centers and many TTBAAs work closely with midwives.

This study suggests that in the future the TTBAAs should receive additional training in order to begin to perform additional tasks relating to maternal health. TTBAAs should perform new roles in postnatal care and family planning. TTBAAs should more frequently educate women in the community on how to have a safe pregnancy and delivery. Also, TTBAAs should refer and escort the women to the healthcare center more often. The results of this study indicate that the participants believe that the future role of TTBAAs is a multi-purpose maternal community health worker.

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Appendices

Appendix A: Focus Group Discussion Guide for Women in the Villages (English)

Introduction

Good afternoon, my name is _____. I am working with Liz Corey who is a graduate student from Emory University in the United States studying public health. I would like to begin by welcoming and thanking you for taking time to be a part of this focus group.

I am conducting this focus group discussion for the Salvation Army World Service's Chikankata Child Survival Project. The purpose of this focus group is to learn more about TTBA's in the Mazabuka and Siavonga districts so that TTBA's can be used correctly throughout the Chikankata Child Survival Project in order to make women healthier. As women in the villages, you are experts and what you share with us is very important.

Everything you say during the entire focus group discussion will be held confidential. No one else in your village or anyone else besides my research team will know any of the information you tell me. None of the writings that come from this research project will have your name on it.

If it is okay with everyone, I will be taping our conversations. The purpose of this is so that I can get all of the details of your conversations, but at the same time be able to concentrate on the conversations during the focus group discussion. The tape recording will only be used for this research project and will also be confidential. Is it okay with everyone if I record this focus group discussion?

Your participation in this focus group discussion is completely voluntary, meaning that you do not have to participate and you can stop participating at any time. Additionally, you do not have to answer any of the questions I ask you.

It is important that only one person speaks at a time. There is no designated order of speakers, so you can speak whenever you have something that you want to add to the conversation. Please address anything you have to say to the entire group. I selected you for this focus group because I want to hear your opinions. There is no right or wrong answers to the questions I ask. I am not an expert and do not know the answers myself. It is expected and completely okay to disagree with others in this focus group. I expect that this focus group discussion will last approximately an hour. Does anyone have any questions before we begin?

Opening Question

1. Let's start by having everyone introduce themselves. Please state your name and the names and ages of the children that you have.

Introductory Questions

2. How is childbirth viewed in your village?

Probe: woman's challenge? public health problem? private manner?

3. How is pregnancy viewed in your village?

Probe: excitement? Dangerous? public health problem? Expensive? men and women have different views? Why?

Key Questions

Current Role

4. How are TBAs treated in the villages?

Probe: Respected? Treated special? Appreciated? Given equipment and materials to use?

5. What kind of work do TTBAAs do in the villages?

Probe: Prenatal/postnatal care, delivery assistance, family planning, health education

Probe: What do they do most frequently? Least frequently?

Probe: What should they be doing? What should only clinical providers do?

6. How does the quality of the maternal services provided by the TTBAAs compare to the maternal services provided by the midwives in clinics?

Probe: TTBAAs provide more or less services?

Probe: Which services can they do as well as midwives? Which services do they do worse than midwives (if any)?

7. In what situations should TTBAAs refer women to healthcare clinics?

Probe: should they refer women more or less often?

8. Who typically receives maternal services from TTBAAs?

Probe: Wealth? Who decides provider (the husband/family, woman herself)? Ease of use/ availability of TTBA? Distance to health facility (those closer or farther)?

9. What do you like about the work that TTBAAs do in the villages?

Probe: Why? Availability? Greater cultural understanding?

10. What do you dislike about the work that TTBAAs do in the villages?

Probe: Why? Necessary skills/equipment to perform duty?

Probe: Anything that can be improved?

Future Role

11. The government's new policy is that all deliveries should occur in a healthcare center. Because of this, how is the role of TTBAAs changing in the villages?

12. How do you think the role of TBAs should change in the future?

Probe: Larger or smaller role? More women go to healthcare centers?

Probe: What is it now? What should it change to? What activities should TTBA's do more of? Which activities should they do less of?

Probe: Should TTBA be trained more or less?

Closing Question

The discussion is nearly over, but I have two more questions where your opinions are needed.

13. Out of all the maternal services that we discussed today, which service that TTBA's perform is the most useful in improving women's health?

14. If the women of your village had 5 minutes to talk to the Minister of Health, what would they tell him about TTBA's in your village?

Appendix B: Focus Group Discussion Guide for Women in the Villages (Tonga)

Cigwasyilizya Buvwuntauzyi oobu

Bamakaintu Batumbusiyigwa Abakatola Lwiiyo Lwakutumbusya Bamuminzi

Mwaponi buti?, izinna lyangu ndime..... ndicita buvwuntauzyi a sicikolo Liz Corey uuzwa kucikolo cipati ca Emory University kucisi a America mulwiiyo lwa nseba zyangantu lujatikizya bukale bubotu. Ndilijisi kubuzya ooku akaambo kakuti niyanda kuzyiba mbomulinvwa alugwasyo ndomutambula ciindi cakatumbuka. Bwiinguzi mbotiibweze kulindinywe abamwi bamatumbu buyoogwasyilizya kusumpula nseba zyangamatumbu mu Cilikiti ca Mazabuka alimwi aca Siavonga.

Kuti kakuli eeci cilikabotu kulindinywe, ndinakubelesya amuncini uubweza majwi amusalo wesu kutegwa cindigwasyilizye kubweza mubandi wesu. Sena cilikabotu kuti inga ndacita oobu?

Zyoonse zyomutiikanane mumubandi ooyu zziyakuba zyangaseseke alimwi kunyina muntu naba oomwe wamumunzi omuno naba musilisi nokuba ni utola lubazu mukunvwuntauzya ooku uutikanvwe majwi aaya ngomukanana andime. Bulembe boonse butiikazwe kubunvwuntauzi oobu tabukalembwi izinz lyamuntu.

Kutola lubazu mukunvwuntauzya ooku nkwakulipa, eeci caamba kuti mulaangulukide kuleka kutola lubazu kufwumbwa boyo ciindi. Sena mulijisi mubuzyo katutana talika mubandi wesu?

Mibuzyo italisya

1. Sena mulakonzya kundaambila makani ajatikizya bana benu
 - **Kobuzisya:** Mweelwe , myaka yakuzyalwa, buzuba bwakazyalwa mwana nobajisi lino muniini a zina lyakwe
2. Sena bantu bankulanganya buti kutumbuka mumunzi wenu?
 - Kobuzisya: Mapenzi ajana bamatumbu, mapenzi aanseba zyangukkale naa maseseke
3. Sena kumita akutumbuka kwenu kwamamanino kwakayindine buti akumwi kumita akutumbuka kwakatalika?
 - Kobuzisya kujatikizya: lugwasyo ndobakapegwa, zyimwi zyangacitika zyangakalikulangilwa

Mibuzyo Isinziyide

Mibuzyo Ijaticizya Zyoonse

4. Sena batumbusya bamumizi balanganyiziyigwa buti abantu basyicisi?
Kobuzisya kuti: sena balalemekwa, balayandika kuba, balabayanda/tababayandi, balaamulimo nzi?
5. Kwaambila antoomwe, mwakalinvwa buti kulugwasyo ndomwakatambula kuli bamakaintu bamuminzi batumbusya, ciindi nomwakatumbuka ida lyamamanino?
6. Nkaambo nzi ncomwakasala kuti mutumbusiyigwe buyo amukaintu uutumbusya wamumunzi kuleka bamanesi nobaba bantu bamwi buyo?

Kulibamba ciindi cada

Lino ndiyanda kumubuzya mbomwakalibambila ciindi nomwakalaada lyamamanino.

7. Ciindi nomwakaala ada, ndugwasyo nzi ndomwakatambula kuzwa kubakaintu batumbusya bamumunzi?
 - **Kobuzisya:** Nzyiindi zyangakabonana amukaintu wamumunzi utumbusya, nzyiindi zyangakwabilidwe kubulwazi bwakugaanyana, zyangakatambula lyiiyo lwazyabusani amisamu iipa bulowa, kulikwabilila naa kupimwa malwazi aka

- nswende naa acivwuule nokuba zyiindi zyobakatambula musamu wakulikwabilila bulwazi bwa Ntuntumaanzi
8. Sena mulinvwa buti amisyobo yalugwasyo oolu ndomwakatambula kumukaintu ooyu ciindi nomwakaala ada?
 - **Kubozisya naa:** kwakali lumbi lugwasyo ndobakali kuyanda pesi teebakalutambula? Sena bakalikuluyandila nzi lugwasyo oolu?
 - **Kobuzisya naa:** kuli lugwasyo ndobakatambula nokuba kuti teebakali kuluyanda? Nkaambo nzi cobatakali kuluyandila?
 9. Kulugwasyo loonse ndomwakatambula, nduli ndomuyeeya kuti lwakali kwiinda kugwasya?
 10. Sena nyebo abakaintu batumbusya bamumunzi benu, mwakalibambila buti mukumbuka kwenu?
 - **Kobuzisya kuti:** Sena bakalilibambilde nikwakaba cakakatazya mucindi cakutumbuka: bakalibambila buti?
 - **Kobuzisya:** zyintu zyakubelesya ciindi cakutumbuka: sena mwakalijisi? Sena mwakazyijana kuli?, sena mwakazyibelesya? Sena mwakazyuula mali nzi?
 - **Kobuzisya nkuti:** Sena muyeeya kuti mwakalilibambilide kabatu akutumbuka kwenu? Nkaambo nzi naa nkaambo nzi ncomwatakalibambila kabotu?

Kutumbuka

Lino ndiyanda kumubuzya cakamucitikila naa mbomwakalinvwa ciinda nomwakali kutumbuka

11. Sena mulakonzya kundipandwilida cakalikucitika ciindi nomwakatumbuka ida lyamamanino?
 - **Kobuzisya kuti:** mbobakacidide nobakali kutumbuka, nguni muntu wakaliko ciindi nobakali kutumbuka (kwakali buyo mukaintu utumbusya sena bamukwasyi, naa bakatumbuka buyo kabotu, ciindi cakalampa buti kabamyongwa, naa mwana wakazyalwa kalikabotu)
12. Nkaambo nzi kakapa kuti mubaamuzeezo wakutumbusyigwa amukaintu utumbusya wamumunzi?
 - **Kobuzisya naa:** nkukulwaizyigwa abamukwasyi, beenzinyina, nkulikwabilila kuntenda, mali naa kkukkala musinzo wakuya kucibbadela
13. Sena ncinzyi ncomwayandisya kapati alugwasyo ndomwakatambula kumukaintu utumbusya mumunzi ciindi nomwakatumbuka ida lyamamanino?
 - **Kobuzisya kuti:** nkaambo nzi? Sena lugwasyo oolu nilwaliindene andomwakali kukonzya kutambula kuzwa kumunesi utumbusya? Nilwakaliindene kuti nikwakanyina munesi utumbusya?
14. Sena kuli cintu cakacitwa amukaintu utumbusya mumunzi kuli ndinye ciindi nomwakali kutumbuka ncomunga mwaamba kuti timwakaciyanda?
 - **Kobuzisya kuti:** nkaambo nzi? Sena muyeeya kuti lugwasyo ndomwakatambula kumukaintu ooyu nilwakayindana kuti nolwakapegwa amuntu uumbi kucibbadela ooko?, naa nilwakayindana kuti nokwatakali muntu uutumbusya?
 - **Kobuzisya kuti:** sena muyeeya kuti inga muyoomubelesya alimwi mukaintu utumbusya mumunzi ciindi citobela? Nkaambo nzi/ naa nkaambo nzi ncomutakabelesyi?

Kulibamba Omana Kutumbuka

Lino ndiyanda kumubuzya cicitika ciinda mwamana buyo kutumbuka

15. Amundipaludwe cakacitika ciindi nomwakamana kutimbuka
- **Kobuzisya kuti:** Sena bakamutumbusya bakamubikka mwana antoomwe andinywe, sena mwakamunyonsya mpoonya-mpoonya, sena kwali penzi lyakaliko?
 - **Kobuzisya kuti:** Sena kwali cintu cakalikukonzya kuleta ntenda mbuli kusweekelwa bulowa bunji? Sena ntenda eezyi zyakalanganyizyigwa buti?
16. Sena mukaintu ooyuwaakamutumbusya wakaboola kuti amulange naa mwakali kabotu mubuzuba mbubona mbumwakatumbuka nokuba mu nvwiki njiyona yakutumbuka?
- **Kobuzisya naa:** Ncinzi cini bakabatumbusya ncobakacita ciindi eeco akuti sena mpaali mpobakalinga eeni?
17. Sena mwakalinvwa buti akulanganyizyigwa ooku kwakacitwa abakamutumbusya?
- **Kobuzisya kuti:** Sena ncinzi ncobakali kulanganya?, nkaambo nzi? Sena zyiindi zyangzye?
 - **Kobuzisya naa:** kwakali kucinca kwakaliko, kunyina kucinca kwakaliko
18. Sena bakamutumbusya bakamwaambila nzi amakani ajatikizya mwana mbweelede kubambwa?
- **Kobuzisya naa:** bakayiisigwa kubamba mwana, busani bwamwana, mbobeelede kunyonsya akulikwabilila kubulwazi bwa Ntuntumaanzi?

Kulikwabilila kumita

19. Sena ncinzi ncomukonzya kucita kutegwa mulikwabilile kumita kuti kamutayandi kuzyala mwana uumbi?
- **Kobuzisya kuti:** Sena bakaintu aaba batumbusya mumunzi balakonzya kugwasya munzila yomwe noyiba imbi mukaambo aaka?
20. Sena mulinvwa buti amakani anzila zyibelesyegwa kwiima kuzyala?
- **Kobuzisya kuti:** Sena mulazyibelesya nzila eezyi? Sena zymubelesya muzyijana kuli?
 - **Kobuzisya kuti:** Sena mujana buyumuyumu nzi mukujana misamu eeyi?
 - **Kobuzisya kuti:** Misyobo nzi yakulikwabilila ijanika kapati (Misamu naa Tupila)? Sena mwiiyanda mubunji naa pe?
21. (Kutu naa mwakazyibelesya kale nzila eezi zyakulikwabilila kumita) Sena ncinzi ncomuyandisya kapati ambomuzyitambula? Ncinzi ncomutayandi?
- **Kobuzisya kuti:** Sena zyilajanika kufwumbwa ciindi nomuzyiyanda? Sena mulaalusyomo mukubeleka kwanzinyzo?

Mibuzyo Yakumaniizya

Muciindi buyo cisyoono, ndiyanda kuti mundaambile mbomuyeeya bubelesi bwabatumbusya mbobweelede kuba?

22. Mulizyoonse buyo zyicitwa, mulinvwa buti amakani alugwasyo lupegwa abamakaintu aaba batumbusya mummizi?
- **Kobuzisya kuti:** Nkaambo nzi ncobalinvwa boobo naa nkaambo nzi ncobatalinzwi boobo?
 - **Kobuzisya kuti:** Sena mulakonzya kukulyayizya bamwi bamakaintu kuti abalo bakajane lugwasyo oolu? Naabalakonzya, nkaambo nzi? Naatabakonzyi, nkaambo nzi ncobatakonzyi?
23. Ncintu nzi cipati ncomwakayiya kubakaintu aaba batumbusya mumunzi?
24. Sena kuli cintu cipya ncomuyeeya kuyakucita ciindi mwaakumita nokuba kutumbuka ida litobela?
- **Kobuzisya kuti:** Nkaambo nzi? Sena kuli kusumpuka mububelesi bwabamakaintu aaba batumbusya mumunzi mbomuyeeya kuti kube ?
25. Sena kuli cintu ncomuyeeya kuti muyakucita alimwi ciindi citobela mwaakumita alimwi amwaakutumbuka?

- **Kobuziisya kuti:** Nkoombo nzi?

Twalumba kapati mukutola lubazu kwenu mukuvwiila mibuzyo yoonse mubunvwuntaunzi oobu bujatikizya kutumbuka.

Ndiza inga kamujisi kamwi kaambo nkomuyeeya kuti tiindamubuzya.

Sena kuli cimwi ncomuyanda kusanganya kujatikizya cimucitikila ciindi nomutambula lugwasyo kulibamakaintu batumbusya mumunzi?.

Appendix C: Focus Group Discussion Guide for TTBA's (English)

Introduction

Good afternoon, my name is _____. I am working with Liz Corey who is a graduate student from Emory University in the United States studying public health. I would like to begin by welcoming and thanking you for taking time to be a part of this focus group. *I would also like to introduce another member of my research team. This is ____ and she will be taking notes on what you are saying during the focus group discussion.*

I am conducting this focus group discussion for the Salvation Army World Service's Chikankata Child Survival Project. The purpose of this focus group is to learn more about TTBA's in the Mazabuka and Siavonga districts so that TTBA's can be used correctly throughout the Chikankata Child Survival Project in order to make women healthier. As TTBA's, you are experts in this area and the best source of information. Your views and the information you tell us are very valuable to us.

Everything you say during the entire focus group discussion will be held confidential. No one else in your village or anyone else besides my research team will know any of the information you tell me. None of the writings that come from this research project will have your name on it.

If it is okay with everyone, I will be taping our conversations. The purpose of this is so that I can get all of the details of your conversations, but at the same time be able to concentrate on the conversations during the focus group discussion. The tape recording will only be used for this research project and will also be confidential. Is it okay with everyone if I record this focus group discussion?

Your participation in this focus group discussion is completely voluntary, meaning that you do not have to participate and you can stop participating at any time. Additionally, you do not have to answer any of the questions I ask you.

It is important that only one person speaks at a time. There is no designated order of speakers, so you can speak whenever you have something that you want to add to the conversation. Please address anything you have to say to the entire group. I selected you for this focus group because I want to hear your opinions. There is no right or wrong answers to the questions I ask. I am not an expert and do not know the answers myself. It is expected and completely okay to disagree with others in this focus group. I expect that this focus group discussion will last approximately an hour. Does anyone have any questions before we begin?

Opening Question

1. Let's start by having everyone introduce themselves. Please say your first name and the length of time you've served as a TTBA.

Introductory Questions

2. Besides providing maternal services, what other daily responsibilities do women who work as TTBA's have in the villages?

Probe: Other jobs? Family? Serve as a Community Health Worker? Other volunteer work?

Key Questions

3. How do TTBA's learn about maternal health?

Probe: Training? When? How? On what topics? How often? Refresher trainings? Sponsored by government or NGOs?

Probe: Work with nurses/midwives at clinics or hospitals? How often? What do you do there?

Probe: Learn from others in the villages? Other TTBA's? Family members? Church members?

4. How are TBAs treated in the villages?

Probe: Respected? Treated special? Appreciated? Given equipment and materials to use?

5. Who typically receives maternal services from TTBA's?

Probe: Wealth? Who decides provider (the husband/family, woman herself)? Ease of use/ availability of TTBA? Distance to health facility (those closer or farther)?

6. How does the quality of the maternal services provided by the TTBA's compare to the maternal services provided by the midwives in clinics?

Probe: TTBA's provide more or less services?

Probe: Which services can they do as well as midwives? Which services do they do worse than midwives (if any)?

Current and Future Role of TTBA's in the Villages

Activity

Now we are going to do an activity together. I have XX# cards and each card has a different maternal service listed on it. For example, this card says "Test pregnant woman for STDs, such as gonorrhea or HIV." I will give you the cards one at a time. I will read each card and I would like you to discuss whether you think the maternal service on the card should be the responsibility of the TTBA or if it should NOT be the responsibility of the TTBA. For each question, discuss which pile the card should be placed on. If you all believe it should be a responsibility of the TTBA's, place it in *this* pile. If you all believe it should not be a responsibility of the TTBA's, place it in *this* pile. Remember, there are no right or wrong answers. It is okay to disagree. If you cannot come up with a consensus answer, that is okay too. There is a separate pile *here* for the cards where an agreement cannot be reached.

Here are the maternal services that will be shown on the cards:

- Provide prenatal care
- Test pregnant women for STDs/STIs (gonorrhea and HIV/AIDS)
- Give pregnant women supplements (iron, vitamin A)
- Ensure pregnant women have clean delivery kits
- Assist women in delivery
(Probe: *hygienic delivery, cord care, placenta delivery*)
- Recognize obstetric danger signs
- Refer women to hospital
(Probe: *is there hospitals close enough? Transportation? Cell phones needed? Refer in what situations?*)
- Educate women about maternal services such as breastfeeding, family planning, and nutrition during pregnancy.
(Probe: *On which topics is it most important to educate women on?*)
- Provide post-natal care by following-up with every women after they give birth
(Probe: *How long after birth? How often?*)
- Provide family planning services, such as condoms or oral contraceptives to women
(Probe: *What kind provide, what kind want to provide, better from TTBA's or other healthcare providers*)
- Care for women who have recently had an abortion
- Recognize danger signs of complications in women who have had an abortion and refer women to a healthcare facility
- Provide information about immunizations.
- Teach about malaria and bed nets.

More on Future Role

7. As you know, the government's new policy is that all deliveries should occur in a healthcare center. Because of this, how is the role of TTBA's changing in the villages?

8. How do you think the role of TBAs should change in the future?

Probe: Larger or smaller role? More women go to healthcare centers?

Probe: What is it now? What should it change to? What activities should TTBA's do more of? Which activities should they do less of?

Probe: Should TTBA be trained more or less?

Closing Question

9. The discussion is nearly over, but I have one more question where your opinions are needed. Out of all the maternal services that we discussed today, which service that TTBA's perform is the most useful in improving women's health?

Appendix D: Focus Group Discussion Guide for TTBA's (Tonga)

Mibuzyo yakubuzya tubunga twabamakaintu batumbusya mumenzi

Matalikilo

Mwaponi buti?, izinna lyangu ndime..... ndicita buvwuntauzi a sicikolo Liz Corey uuzwa kucikolo cipati ca Emory University kucisi a America mulwiiyo lwa nseba zyantutu lujatikizya bukale bubotu. Cakusaanguna, ndaambe kuti ndamulumba kuboola kuti mutole lubazu mukuvwiila mibuzyo. Alimwi amundizumizye kuti ndipandulule uumwi ngotulaanguwe mukucita buvwuntauzi oobu. Ooyu nguunolemba zyoonse zytutibandike mumubandi ooyu.

Bunvwuntaunzi oobu bulacitwa antoomwe amoo pesi mapati aacikombelo ca nkondo yalufutuko mucisi ca America yalo eeyo yendelezya kabunga ka Mwana Apone. Muzeezo wakucita buvwuntauzi oobu ngwakusola kuzyiba milimo iibelekwa abakaintu batumbusya mumenzi mucooko cakabunga ka Mwana Apone kutegwa bamakaintu batumbusya bakabelesyegwe kabotu mukusumpula maumi abamatumbu. Mbuli bamakaintu batumbusya,

Kuti kakuli eeci cilikabotu kulindinywe, ndinakubelesya amuncini uubweza majwi amusalo wesu kutegwa cindigwasyilizye kubweza mubandi wesu. Sena cilikabotu kuti inga ndacita oobu?

Zyoonse zymutiikanane mumubandi ooyu ziyakuba zyamaseseke alimwi kunyina muntu naba oomwe wamumunzi omuno naba musilisi nokuba ni utola lubazu mukunvwuntauzya ooku uutikanvwe majwi aaya ngomukanana andime. Bulembe boonse butiikazwe kubunvwuntauzi oobu tabukalembwi izinz lyamuntu.

Kutola lubazu mukunvwuntauzya ooku nkwakulipa, eeci caamba kuti mulaangulukide kuleka kutola lubazu kufwumbwa boyo ciindi. Atala azyoonse, ncibotu kuti katupana ciindi cakubandika pesi kunyina uutegeka nguweleede kutalika kubandika, kufwumbwa buyo walinvwa kuti kuli ncajisi inga waamba. Atubone kuti twaamba kulinvwa kwesu kukabunga koonse alimwi mwakasalwa kuti mutole lubazu mumubandi ooyu akaambo kakuti ndiyanda kuzyiba mbomulinvwa nomubeleka mulimo wenu. Mumubandi ooyu kunyina bwiinguzi butegwa bulikabotu naa bulilubide mukwiingula mibuzyo njondimubuzya. Mebo tandili syaabupampu mutwaambo ootu alimwi ndinyina bwiinguzi aboobo cilizumizyidwe kukazya bamwi mutwaambo twiingulwa. Kulangilwa kuti mubandi ooyu ulatola ciindi citandila kuwoola lyomwe buyo. Sena mulijisi mubuzyo katutana talika mubandi wesu?

Mubuzyo wakujaluzya mubandi

1. Tulatalika mubandi wesu umwi aumwi kulipandulula. Mulwaambe izyinz lyenu alimwi amyaka yabubelesi bwanu mbuli mukaintu utumbusya.

Mibuzyo yakutalisya mubandi

2. Kunze aakugwasya bamatumbu kumakani aakutumbuka, milimo nzi iimbi iicitwa abamatumbu batumbusya mumenzi motukkala?

Kobuziisya kuti: Sena milimo nzi iimbi, sena milimo nzi yamumikwasyi, sena kumwi mbasilisi bamumunzi? Sena iimbi milimo mbuli yakulyaaba?

Mibuzyo iisukeme

3. Sena bamakaintu batumbusya mumenzi batola buti lwiiyo lwakutumbusya?

Kobuziisya kuti: Sena batola buti lwiiyo lwabo? Sena bayiisigwa lili? Sena bayiisigwa buti? Zyiyo nzi zoyabaiisigwa? Zyiindi zyangagaye zoyansensemunwa? Mbabani babatola kuyakunsensemunwa ooku mbanfwulumende naa trubunga tumwi buyo?

Kobuzisya kuti: Sena inga mulabeleka antoomwe bamanesi mutubbadela twamuminzi nokuka muzyibbadela zyipati? Sena mubeleka zyiindi naa mazuba ongaye? Sena inga mucita nzi ciindi nomuunka kuyoobeleka?

Kobuzisya kuti: Sena inga balaiya zyicita beenzinyina muminzi iimbi? Nokuba zyicita bamukwasyi? Nobaba basicikombelo?

4. Sena bamakaintu batumbusya muminzi balanganyizingwa buti?

Kobuzya kuti: Sena mbantu balemekwa? Sena balalumbwa kumilimo yabo? Sena balapegwa zyibelekyo zyakubelesya?

5. Sena mbabani beni bapegwa lugwasyo kuzwa kuli bamakaintu aaba batumbusya muminzi?

Kobuzya kuti: sena mbaaya bajisi mali? Sena mbabani bapa muzeezo wakuti uutitumbusye ooyu ngundaba (sena mulumi, uumwi wamukwasyi nokuba ooyo nguwana uutumbuka)? Sena ncuubauba kubabelesya bamakaintu aaba, sena balajanika? Sena nkulanfwu buti kucibbadela?

6. Sena bubelesi bwabamakintu batumbusya muminzi bwiindana buti abubelesi bwabamanesi muzyibbadela?

Kobuzya kuti: Sena mbaamakaintu batumbusya muminzi mbababeleka mulimo munji naa mbababeleka mulimo musyoonto?

Kobuzya kuti: Njiili milimo njobakonzya kubeleka mbubonya buyo kubeleka bamanesi? Sena njiili milimo njobatabeleki kabotu kwiinda bamanesi naa kuliiliko?

Milimo yalino ayaciindi ciibola iicitwa abamakanitu batumbusya muminzi?

Mulimo

Lino ndiyanda kuti tuciti mulimo umnwi antoomwe. Ndiijisi mweelwe watupepa ootu alimwi kukapepa komwe-komwe kulilembedwe mulimo wakulanga nseba zyaamatumbu. Andipe mukonzyanyo wakapepa aaka, kaamba kuti “kupima mukaintu malwazi acivwuule mbuli, kanswende, abulwazi kwasikalileke.” Ndilamupa kapepa komwe-komwe aciindi. Lino ndiyoobala kapepa komwe-komwe kwamana ndilamulomba kuti mukanane mbuli kabunga kuti naa mulimo nooyo uleelede kucitwa amukaintu utumbusya muminzi nokuba kutacitwa amukaintu utumbusya muminzi. Kumuzyo umwi aumwi ngomutiikanane, mubikke kapepa akamwi kulubazu nkokeeleda kuba. Naa muyeeya kuti mulimo wamukaintu utumbusya mumunzi, amukabikke aawa. Naa muyeeya kuti tauli mulimo wabo inga mwakabikkila waawa.

Amuyeeye kuti kuti bwalino kunyina bwiinguzi butaluleme, nokuba boobo mulaangulukide kuzya muzeezo wapegwa aummwi. Naa kunyina kuzuminana kwaba, cilibuyo kabotu. Nkokali kalwi kambi kakubikka mubuzyo watazuminanwa.

Lino njeeyi milimo iicitilwa amatumbu:

- Kupima mada
- Kupima malwazi acivwuule mbuli, kanswede alimwi asikalileke
- Kupa mukaintu nulaada misamu mbuli wa Vitamin A aipa bulowa
- Kubona masimpe kuti mukaintu ulaada oonse ulijisi zyakubelesya lyakutumbuka
- Kugwasya mukaintu kutumbuka
(*Kobuzya bulondo litumbukwa, bwakubamba kakombo, kukusya macembele*)
- Kuyiisya bamakaintu makani ajatikizya mbobeelede kunyonsya, bwakulikwabilila kumita alimwi abusani bweelede ciindi cada
(*Kobuzya kuti sena zyili zyiyo zyipzti zyobeelede kuyiisya*)
- Kubona kuti bamakaintu batumbuka boonse balatobelwa kubona kuti naa bapona kabotu

Kobuzya kuti sena kweelede kwiinda ciindi cilanfwu buti kuti mukaintu alangwe naa ulikabotu amana kutumbuka, alimwi saena zyiindi zyongaye?

- Kupa lwiiyo lwa mbobeelede kulikwabilila kumita, mbuli kupa tupila nokuba misamu yakunya
(Kobuzya kuti sena njiili misyobo iilesya kumita njoyiisya kapati, alimwi anjobapa kapati kuzwa kubamakaintu batumbusya mumenzi nokuba bamanesi?)
- Mbobalanganya bamakaintu balaada lakazwa
- Kukonzya kubona zytondezyo ziyisi ntenda mumukaintu wakazwa ida alimwi akubatimizya kucibbadela kuti bakasilikwe.
- Kwaambila bamatumbu makani amanyeleti
- Kuyiisya bulwazi bwa Ntuntumaanzi abubotu bwa tunsabwe tukwabilila mansenya

Kujatikzya milimo iyoocitwa mazuba aboola

7. Mbuli mbomunzyi kuti bwayino mulawo mupya wamfwulumende ngwakubona kuti bamakaintu boonse batumbukila kucibbadela. Akaambo kaaka, sena mbuti bubelesi bwabamakaintu batumbusya mumenzi mbobuyaabucinca mumenzi yesu?

8. Sena muyeeya kuti mbubuti milimo yabamakaintu batumbusya mumenzi mboyelede kucinca?

Kobuzya kuti: Sena milimo eeyi inoobukomena buya naa kuceya? Sena muyeeya kuti bamakaintu banji banootumbukila kucibbadela?

Kobuzya kuti: Sena ccinzyi cicitika bwaino? Sena ceelede kucinca buti? Sena milimo nzi bamakaintu njobeelede kucita kwiinda? Sena njiili milimo bamakaintu batumbusya mumenzi njobeelede kucesya kucita?

Kobuzya kuti: Sena bamakaintu batumbusya mumenzi beelede kuyiisyigwa kwiinda mbobali ono naa beelede kutayiisyigwa kwiinda waawa?

Mubuzyo wakumaniizya

9. Mbuli mubandi wesu mbuboola kumamanino, ndijisi mubuzyo walo ooyo uyanda bwiinguzi bujatikzya mbomuyeeya. Akati kamilimo njotucitila bamatumbu yoonse njotwakanana sunu, njiili milimo ilamuulo kapati iicitwa abamakaintu batumbusya mumenzi iikonzya kusumpula maumi abamatumbu?

Appendix E: In-Depth Interview Guide for Healthcare Workers

Interviewing health workers at the health centers about TTBA, PAC, and Contraceptives

Good afternoon my name is Liz Corey. I'm a graduate student from Emory University in the United States studying public health. I am conducting this interview so that I can learn about your experiences with TTBA. I am very interested in what you have to say regarding how you work with TTBA. The information I gather from talking to you and other women will be used to improve the health of mothers throughout the Mazabuka and Siavonga district.

If it is okay with you, I will be taping our conversation. The purpose of this is so that I can get all of the details of our conversation, but at the same time be able to focus on you during our interview. Is it okay if I record this interview?

Everything you say throughout this interview will be completely confidential. No one else in your village, any healthcare worker, or anyone else working on this research project will hear the tape recording or know any of the information you tell me. All of the writings that come from this research project will not have your name on it.

Your participation in this interview is voluntary, meaning you do not have to participate and you can stop participating at any time. Additionally, you do not have to answer any of the questions I ask you. Do you have any questions before we begin?

Warm-up Questions

1. Could you begin by describing the health facility you work in.

Probe: What type of facility? How many workers at the facility? What are the jobs of the healthcare workers in the facility? How many beds in the facility? How many patients does the facility see in an average day? Number of people in catchment area? Number of villages? Length of time worked here?

2. What is your job at this health center?

Probe: Describe your typical day working at the health center.

Questions about TTBA

3. What kind of work do TTBA do in the villages?

Probe: prenatal/postnatal care, delivery assistance, family planning, health education

4. Do you think that the TTBA role is changing now due to pressure from the DHMT (district health management team)? If so, in what capacity is it changing?

Probe: CDK, increase in number in health facility?

5. Do you think there should be a change in the work that TTBA do in the communities? Why or why not?

Probe: Change to what? Perform more or less work? Perform different work (e.g. promote behaviors like breastfeeding, good nutrition practices, immunizations etc?)

6. What type of relationship should TTBAAs have with healthcare workers?
 Probe: What is it now, what should it be?
 Probe: Supervisor role? Work together? More closely? Work on separate issues?
 Probe: come here for equipment/medicine? What kind?
 Probe: How many TTBAAs in your catchment region? Relationship with all? Only some?
 Probe: Have you ever met resistance with the TTBAAs? Negative interactions? If so please describe the situation.
7. In what situations should TTBAAs refer women to healthcare clinics?
 Probe: Should they refer women more or less often?
8. What do you like about the work that TTBAAs do in the villages?
 Probe: Why? Availability? Greater cultural understanding?
9. What do you dislike about the work that TTBAAs do in the villages?
 Probe: Why? Necessary skills/equipment to perform duty?
 Probe: Anything that can be improved?

Contraceptive Use

If it's ok with you, I would now like to ask you questions about family planning.

10. What are the options for a woman who does not want to become pregnant again?
 Probe: What contraceptive methods are available? Where available? Can I see them? List the brand and quantity you observe- take a picture
 Probe: Do you have a flip chart with the methods listed? (take a picture)
 Probe: Free? Most common? Are injectables common (why not like? Husband's attitudes?)
 Probe: Given to everyone? Old/young, married/single?
 Probe: Difference in contraceptive use between those who have children and those who have never had children
11. How do married couples decide if they want to begin family planning?
 Probe: Gender roles? Woman hide contraceptives or not tell husband? Men want more children than woman? Why? (masculinity, security in old age)
12. How are women who want to begin a family planning method counseled?
 Probe: Abstinence for unmarried women?
13. Who should be responsible for giving contraceptives to women? Why?
 Probe: Health centers (which ones)? TTBAAs? (Distribute?) Role of both?

Questions about Post-Abortion Care (Induced or Spontaneous)

14. How have you been trained to treat women with post-abortion complications?

Probe: Date of training? Length of training? By whom? Follow-up training? Need more training?

Probe: How many women have you treated in PAC since training? In the last week?

Probe: Has anyone in this health facility been trained? Who?

If no

-Would you like to be trained? By who?

-Then where do women go who have PAC?

-Just large hospitals that can treat these women? Which ones?

15. How do you (or the health center) treat women with post-abortions complications?

Probe: Enough equipment? Enough staff? Skills of staff adequate?

Probe: is it done by Manual Vacuum Aspiration- can I see an MVA syringe? Can you describe to me how you'd use it?

16. Would you please describe the last woman that came to the health center who had post-abortion complications.

Probe: What was her chief problem? What did they do to care for her? What would they like to do that they couldn't do?

Probe: D&C, or MVA? Antibiotics? Counseling for family planning? STD testing?

Probe: Which methods are most common after PAC?

17. How often does this clinic treat women with post-abortion complications?

Probe: Treatment successful? Your opinion: too many, not enough women treated?

Probe: Do you record each PAC event in a notebook? Can I see a record of it?

(transcribe last 6 months worth)

18. To your knowledge, has a woman ever died of a result of pregnancy complications? How about post-abortion complications?

Probe: Describe this situation. (age, socioeconomic status, marital status, sequence of events, and treatment)

19. How should TTBA's be involved in treating women with post-abortion complications?

Probe: Not involved? Recognize complications? Refer women to healthcare clinics?

Closing Questions:

20. What are your suggestions for improving post-abortion care at the health centers?

Probe: Training?

21. In your opinions, what are the best ways that TTBA's can work together with healthcare workers to improve the health of women in your catchment region?

22. If you had five minutes to talk to the Minister of Health about TBAs in your catchment region, what would you say to him?

*Anything else you would like to add?

Appendix F: Code Names and Definitions

Code	Code Definition
TTBAs Work with Midwives	This theme identifies situations when the TTBAs work with midwives, both formally and informally. Formal trainings occur when midwives organize gatherings with the TTBAs for the sole purpose of educating the TTBAs about maternal health. Informal trainings occur when the TTBAs volunteer at the healthcare center and receive advice and information from the midwives. Include proposed trainings for the future.
Prenatal Care	This theme includes all references the participants make to prenatal care. Include references to prenatal care at home, by the TTBAs, or at the healthcare center. Include advantages and disadvantages of the prenatal care received from TTBAs and from professional healthcare providers. Also include plans for receiving prenatal care in the future.
Postnatal Care	This theme encompasses all discussions surrounding postnatal care. Include postnatal care given from the TTBAs or healthcare professionals. Include discussion surrounding the need for more postnatal care in the future.
Health Education	This theme constitutes the TTBAs' involvement in educating community members (both men and women) about issues relating to health. Education includes both formally teaching community members, and informally giving advice and instructions. Include the health topics that TTBAs use to educate others, what participants believe the TTBAs should be teaching about, and potential topics that the TTBAs could teach about in the future. Do not limit this theme to only maternal and reproductive health. Instead, include all of the educating performed by TTBAs.
Family Planning	This theme identifies the information the women say regarding family planning. Include access to family planning, the role of TTBAs in family planning, the advantages and disadvantages of family planning and the role of men in family planning. Include references to

	unplanned pregnancies and discussions surrounding abortion and post-abortion care.
TTBAs Assisting in Delivery	This theme includes discussions of TTBAs assisting in deliveries. Include both positive and negative aspects of their ability to deliver. Include whether the participants believe if the TTBAs should be assisting in delivery. Also include reasons why TTBAs should and should not be assisting in delivery.
Home Delivery	This theme is comprised of information about home deliveries. Do not include information that specifically references TTBAs assisting in the home delivery. Include both the positive and negative aspects of delivering at home.
Hospital Delivery	This theme includes information about delivering at the hospital. Include the advantages and disadvantages of delivering at the hospital, the future of delivering at the hospital, and comparisons of delivering at the hospital and at home.
Nurses vs. TTBAs	This theme encompasses the comparisons of the quantity and quality of work performed by nurses compared to TTBAs. Differences and similarities in the work done by nurses and TTBAs. Also include differences in personality characteristics.
TTBA Training	This theme identifies the training and education that the TTBAs have received on maternal and reproductive health. Address both the limitations of their training and benefits of their training. Include what job duties their training allows them to fulfill and which duties they cannot perform because of lack of training. Also include the amount of training the TTBAs should/ should not receive in the future. Include formal trainings through training sessions sponsored by NGOs or the Zambian government. Do not include informal training such as experience-based learning from non-healthcare professionals.
Referring and Escorting	This theme encompasses the situations that occur when TTBAs refer and/or escort a woman from her home to the healthcare center. Refer means when TTBAs tell or encourage women to go to the healthcare center. Escort

	means when TTBA's physically accompany the women to the healthcare center. They may be accompanying the women to the healthcare centers to receive maternal or reproductive tests or treatments (include STD/STI diagnosis/ treatment). Include how/ if the TTBA's and healthcare professionals work together through referring and escorting. Also include how the future role of TTBA's should include referring and escorting. Do not include referring and escorting for non-maternal health/ reproductive health events. Do not include referrals or escorting performed by people who are not TTBA's.
Involvement of Men	This theme encompasses men's level of involvement in issues related to maternal and reproductive health. "Men" here refers to husband, boyfriend or father of a future child. This does not refer to other male members of the community (such as a son, uncle, or neighbor). Include their involvement level, reasons for their involvement level, attitudes of women surrounding men's involvement level, and perceptions regarding the responsibility of men in maternal and reproductive health. Include emotional and financial support of both unborn and living children. Also include involvement in fertility levels, family planning, pregnancy, prenatal care, childbirth and postnatal care.
Secrets	This theme identifies the issue of the TTBA's sharing women's secrets (either confirmed or denied) with others. Secrets refer to information that occurred during childbirth or any other reproductive or maternal event of which very few people know. Secrets are information that the woman would prefer to be kept confidential. Include secrets told by TTBA's that surround any issue in maternal or reproductive health. Include the topics on which TTBA's do not keep secrets, reasons they do not keep secrets, how women feel when their secrets are spread, to whom the TTBA's tell the secrets, and ideas on how to fix this problem.

Equipment/ Material Support	This theme includes expected support from NGOs, the government or other TTBA's. It includes training and material support. Include the lack or provision of support from private groups or from government institutions, education or refresher courses provided, and support from other TTBA's in neighboring villages. Include the need for equipment during delivery and women's perception on who should be providing this equipment.
Remuneration	This theme includes discussions of the TTBA's volunteering, remuneration or lack of remuneration. Remuneration is the receipt or lack of receipt of any material good for the service performed by a TTBA. Also include verbally "thanking" the TTBA. Include notions of "respecting" the TTBA for their work.
Danger/Problems of Pregnancy or Birth	This theme includes all information that the women say regarding problems and dangers that occur as a result of pregnancy and birth. Include references made to the morbidity and mortality that result from pregnancy or birth. Do not include the lack of problems during pregnancy.



Community Health Worker Program
Assessment and Improvement Matrix
(CHW AIM)

Report for Chikankata Child
Survival Project Catchment Area

June 2010

Background Information

A key component to the Zambian Health System's national strategy for primary health care is the Community Health Worker (CHW). The health system extends access to rural areas through CHWs that receive several months of training, either from the Ministry of Health (MOH) or non-governmental organizations (NGO) such as The Salvation Army/Zambia. Once trained, these CHWs coordinate with and complement work at the Rural Health Center (RHC) in whose catchment area they fall. CHWs are trained to treat basic illnesses and to do health education and other preventive activities in their communities. Supervision of CHWs is generally the responsibility of the front-line Health Facilities (HF), although logistical challenges make such supervision difficult. CHWs report to and receive their drug/supply kits from health centers, ideally on a monthly basis. Most supervision takes place during these visits, rather than in the community setting. NGOs providing rural health services work alongside the government to support training and supervision of CHWs. For community-based services in Chikankata, CHWs treat minor illnesses, provide health education, and refer patients to HFs when necessary.

At the request of the USAID MCH team, the Health Care Improvement (HCI) Project, contracted by University Research Co., LLC (URC), developed a tool that defines a set of key elements that are needed for community health worker programs to function effectively and measures how well programs meet these criteria. These elements were defined based on a review of recent literature on CHW programs and suggestions from expert reviewers. The tool is called the Community Health Worker Program Assessment and Improvement Matrix (CHW AIM).

General Objective

The Chikankata Child Survival Project (CCSP) realizes the importance of CHWs and thus decided to apply the CHW AIM tool, in an effort to benefit their catchment area. The assessment would provide data on the functionality of the existing CHW program and also help to identify problem areas. From there, activities could be proposed to improve the current program.

Process

The draft tool, prepared by University Research Co. LLC and last revised in March 2010, was utilized in June 2010 to assess the Community Health Worker Program in the Chikankata Child Survival Project Catchment Area. The assessment was carried out by Emory MPH student Stephanie DuBose, with the assistance of the CCSP team. The CHW AIM tool was applied in five basic steps. The first step consisted of adapting the tool to the area of interest. Stakeholders were consulted to determine the focus and scope of the local program. Additionally, it was decided that the tool would remain in English, the official language of Zambia. Facilitators would be available at the workshop to explain or clarify things in the local language if necessary. The second step involved coordinating and planning for the workshop. Because of the size of the area of interest and the focus on similarly trained CHWs, it was decided that one workshop would be sufficient. Next, participants were identified. It is important to include multiple stakeholders who are knowledgeable about the program. Therefore the list of invitees included CHWs, field supervisors from CCSP, and representatives from USAID, Ministry of Health, and Chikankata Health Services. These individuals were invited and asked to bring documents related to the program with them for reference. As part of the preparation for the workshop, key documents were reviewed and key staff consulted to obtain a better understanding of the program itself. Almost all of the invitees attended the workshop; unfortunately a representative from USAID could not be present.

The next step involved facilitating the actual workshop. An introduction of the tool was provided to the participants and their role in the process was explained. The programmatic components (listed below) that were to be rated were explained to the participants.

1. Recruitment: How and from where a community health worker is identified, selected, and assigned to a community.
2. The CHW Role: The alignment, design and clarity of role from community, CHW, and health system perspectives.
3. Initial Training: Training is provided to the CHW to prepare for the role in MNCH services delivery and ensure he/she has the necessary skills to provide safe and quality care.
4. Continued Training: Ongoing training is provided to update CHW on new skills, reinforce initial training, and ensure he/she is practicing skills learned.
5. Equipment and Supplies: The requisite equipment and supplies are available when needed to deliver the expected services.
6. Supervision: Supervision is conducted on a regular basis to carry out administrative tasks and to provide individual performance support (feedback, coaching, data-driven problem-solving).
7. Performance Evaluation: Evaluation to fairly assess work during a set period of time.

8. Incentives: A balanced incentive package that includes financial incentives, such as salary and bonuses and non-financial incentives, such as training, recognition, certification, uniforms, medicines, etc. that is appropriate to the work expectations.
9. Community Involvement: The role that community plays in supporting a CHW.
10. Referral System: A process for determining when referral is needed, a logistics plan in place for transport and funds when required, a process to track and document referrals.
11. Opportunity for Advancement: The possibility for growth and advancement for a CHW.
12. Documentation, Information Management: How CHWs document visits, how data flows to the health system and back to the community, and how it is used for service improvement.
13. Program Performance Evaluation: General program evaluation of performance against targets, overall program objectives and indicators that it is being carried out on a regular basis.
14. Community-Health Facility Linkages: How the CHWs and communities are linked to the larger health system through involvement in recruitment, training, incentives, supervision, evaluation, equipment and supplier, use of data and referral.

The participants were asked to rate each component individually. After these ratings had been completed, the participants were divided into small groups of three to four people. They then discussed the ratings amongst themselves and came to a consensus for each component. Finally, the group as a whole had to come to a consensus for each rating. Any programmatic component that did not receive a 2 or greater was not considered functional. These components were examined further during the action planning portion of the workshop, when gaps and problems were discussed and improvement activities were proposed.

Step four involved conducting field visits to validate findings from the workshops. CHWs from different communities than were represented at the workshop were consulted to determine if the ratings previously decided upon were accurate. They were also asked to reveal the main problems they continuously face in their daily work.

Finally, an Action Planning Meeting was held to discuss problems with the current program. The participants of this meeting included CHWs, chairmen of Care and Prevention Teams, and representatives from the Ministry of Health, and Chikankata Health Services. The attendees were broken up into small groups to brainstorm on improvement activities for each problem or gap. The proposed ideas were then discussed as one large group and plans were finalized.

Results of Assessment

The CHW Program in the Chikankata Child Survival Project catchment area cannot be considered functional, as each programmatic component did not receive a rating of 2 or greater. The components that received a less than

functional rating include supervision, continued training, individual performance evaluation, community involvement, documentation, and program evaluation. CHW interviews during site visits further revealed that other areas also need improvement, including equipment and supplies, incentives, and referral system.

Discussion and Recommendations

The following table illustrates the key gaps or problems in the current CHW program and proposed activities to improve each issue.

Community Health Worker Program Functionality Action Plan Framework

CHW Program Component	Issue	Improvement Activity	Person Responsible	Resources Needed	Timeline	Indicator
Supervision	No formal supervision in place	• Design new or adopt existing supervision checklist and CHW reporting form • Train RHC staff in supervision methods and mentorship • Set up monthly meetings between CHWs and RHC staff (including supervision checklist and reporting forms); coordinate with drug kit pickup • Hold meeting at Seminar Centre (with CSP support) to motivate both CHWs and RHC on mentorship • Promote PHC support visits	• CH&DR • RHC staff • CHWs	• Stationary • Printers • Transport • Human Resources	August 2010	• Presence of supervision checklist • Presence of reporting form • Minutes from meetings • # PHC support visits • Monthly report forms to center
Individual Performance	No formal evaluation	• Design new or adopt existing evaluation form • RHC staff to provide	• In-charge at RHC • CH&RD	• Stationary • Printers • Human	August 2010	• Presence of evaluation form • Presence of

Evaluation		feedback to CHW on individual performance during monthly supervision visits • Design Action Plan for Monitoring and Evaluation for CHWs		Resources • Transport		Action Plan • # reported supervisory meetings
Incentives	Lack of non-financial incentives from community	• Reorganize NHCs and CPTs (after community meeting) • Encourage quarterly CHW meetings with CPT and NHCs • Inform NHCs on role (link between CHWs and community) and have them advocate for food donations and help for CHWs (sensitization meetings) • NHCs or CPTs receive food from community to distribute to CHWs (to prevent excess that would stimulate jealousy in community) • Strengthen CHW committees (and encourage meetings to discuss issues) • CHW committee to lobby with influential people in community to motivate others (ex. headmen)	• RHC staff (EHT) • CPT chairperson • NHC chairperson • CHW committee	• Human Resources • Transport	August 2010	• # sensitization meetings • NHC and CPTs reshuffled • Minutes from NHC meetings

		• Look for source to fund income generating activities for CHWs (ex. providing a hammer mill)				
Referral System	* Referral tracking system needs improvement * No formal counter-referral system * Transport needed (namely bikes)	• Adoption of ZMAPS referral slip (government or donor support for printing and distribution) • Inform patients to return counter-referral to CHW after consultation at H/C • Develop more advanced record system (folders, etc) • Develop system for follow-up when patients do not return to CHW with counter referral (ex. when registry not completed, CHW travels to patient's home to follow-up) • Convince CHWs to maintain bicycles and repair existing bikes of hard workers (as motivation) • Donor support to provide bicycles to CHWs without one	• CH&DR • DHMT • HMIS • H/C • Donors	• Stationary • Printers • Money • Technical support	August 2010	• Presence of referral slip • % of referrals that return with counter-referral slip • # CHWs with functioning bicycles

Documentation	No official monitoring forms to record data	• Develop new or adopt existing standardized monitoring form (get HMIS involved to approve form) • Create activity timesheet (to replace notebook) • Have RHC staff check forms on monthly supervision visits and review data for potential problems	• CH&DR • HMIS	• Stationary • Printers	August 2010	• Presence of monitoring form
Program Evaluation	No feedback to CHWs	• Provide feedback to CHWs during supervision visits concerning progress on program targets (national threshold)	• RHC Staff	• Human Resources	August 2010	• Feedback provided
Continued Training	Ongoing or refresher courses not provided every 6 months	• Advocate for government or donor support to provide refresher trainings every 6 months • Remain mindful of duplication (don't train numerous CHWs in one area and none in another); consult other stakeholders	• Mazabuka DHO • Siavonga DHO • NGOs • Other donors	• Money • Transport	January 2011	• # courses each year • # attending each course
Equipment and Supplies	Drug kits not provided regularly or frequently enough	• Lobby to change national policy (contract with drug company should be revised more frequently than once a year as # of CHWs that need drug kits increases throughout the year)	• Mazabuka DHO • Siavonga DHO • NGOs • Other donors	• Money • NGOs and donors lobbying for change	January 2011	• # drug kits available each month • % of CHWs who receive drug kits monthly • Availability of malaria

		• Lobby to change national policy of not providing malaria drugs (CHWs trained to treat malaria but do not have resources) • MOH improve supply (increase # of drug kits they provide each month so that each CHW receives one kit per month) • Continued funding for supplements				medications in CHW drug kit

*RHC=Rural Health Center

*CPT=Care and Prevention Team

*NHC=Neighborhood Health Committee

*CH&DR=Community Health and Development Research

*CSP=Child Survival Project

*PHC=Primary Health Care

*H/C=Health Center

*DHMT=District Health Management Team

*HMIS=Health Management Information Systems

Conclusion

The CHW Program is a vital part of the health care system in the CCSP Catchment Area and is lacking in many regards. This assessment has helped to identify areas which need improvement. Now, steps must be taken so that quality care is provided at the community level. While some improvements can be made at the local level, it is also crucial that NGOs and other donors step in to fund some of the larger scale changes that must be carried out.



FINAL CAPACITY ASSESSMENT REPORT FOR COMMUNITY GROUPS:
NEIGHBORHOOD HEALTH COMMITTEES (NHC)/ CARE AND PREVENTION TEAMS (CPT)

Chikankata Child Survival Project (CCSP)

The Salvation Army, Zambia

Salvation Army World Service Office (SAWSO)

May 2010

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ACRONYMS

CBD	Community based distributors
CCSP	Chikankata Child Survival Project
CPT	Care and Prevention Team
CSP	CHILD Survival Project
CHS	Chikankata Health Services
CHW	Community Health Worker
CPT	Care and Prevention Teams
HBC	Home Based Care
IGA	Income Generating Activities
MCH	Maternal and Child Health
MOH	Ministry of Health
NHC	Neighborhood health committee
SAWSO	Salvation Army World Service Office

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1. Introduction

In its quest to provide quality health care as close to the community as possible, the Zambian Ministry of Health (MOH) developed the concept of Neighborhood Health Committees (NHCs). NHCs are comprised of community leaders who organize and work with people in the community on health matters. They are democratically elected into leadership by the community. To be elected, NHC members stand for positions such as Chairperson, Secretary, Treasurer or Committee Member in the elections. They work on a voluntary basis for a period of two years.

As community leaders, the NHC members have certain responsibilities to carry out. These responsibilities fall into three categories: to the health center; to the community; and to themselves. Responsibilities to the health center include linking the health center to the community, informing health center staff about health problems and activities carried out in the community, and participating in health activities such as meetings to represent the views of their communities and provide community-based information and required data to the health center.

NHC responsibilities to the community include informing community members about activities happening at the health facility; working with the community to jointly identify health problems found within the community; carrying out identified health activities in the community; assisting the community in the identification and selection of community-based agents for training such as Trained Traditional Birth Attendants (TTBAs), Community Health Workers (CHWs), Community Health Promoters (CHPs), Community-Based Distributors (CBDs), malaria agents and others; supporting community-based agents/volunteers; linking with other partners at community and district level to solve problems affecting their communities; and ensuring full participation by the community in health programs.

Responsibilities to themselves and their households include promoting good health and being exemplary role models. The NHC members are also trained by the MOH in different areas such as planning, organizational skills, monitoring, evaluation and budgeting. Other training provided to NHCs include property and material management, report writing, conflict resolution, communication, resource mobilization and project proposal writing.

Building on the NHC model, Chikankata Health Services (CHS) worked with communities to form Care and Prevention Teams (CPTs) in the late 1980s when they developed their innovative Home-Based Care (HBC) program. CHS improved the MOH concept of NHCs by ensuring that CPT members were those directly involved in the activities in the community, not just managers. CPT members, unlike NHCs, are comprised of CHWs, TTBAs, Home-Based Care Volunteers (HBCVs), community counselors, headmen, teachers, businessmen, church leaders, farmers, sanitary workers, nutrition demonstrators and MOH workers. CPTs only exist in CHS catchment area.

CPT roles and responsibilities include the following:

- Working together with the community in analyzing health problems in their area
- Identifying the most important health problems in the communities
- Agreeing upon possible solutions
- Developing joint work plans with the community
- Implementing and evaluating progress jointly with the community

- Jointly mobilizing resources
- Providing technical expertise when needed
- Extending vital services to high risk or communities with special needs
- Improving quality and efficiency of care and preventing duplication of efforts
- Ensuring that communities take an active role in identifying and solving their own health problems, creating healthy environments and fostering the art of well being

In October 2005, SAWSO and TSA began jointly implementing a USAID-funded child survival project in Mazabuka and Siavonga, the Chikankata Child Survival Project (CCSP). One of the primary strategies of this project is to strengthen capacity of CPTs and NHCs and link them closely with newly formed Care Groups (groups of volunteer women who provide health education for their neighbors).

In 2007, The Chikankata Child Survival Project (CCSP) carried out the first capacity assessment of CPTs and NHCs in the project area. The process brought an enhanced understanding of the capacities of community health structures in the Chikankata and Siavonga catchment areas. The findings of the assessment were that CPTs and NHCs were well established and active in the project area, albeit with varying capacity levels.

In the final year of the CCSP, the partners wanted to assess for any improvements to CPT/NHC capacity as a result of the project's efforts. This report shares results of the assessment and makes recommendations for sustainability and ownership of child survival strategies by CPTs/NHCs and CHS beyond the project cycle.

2. Methodology

Process: SAWSO hired a consultant, Thebisa Chaava, (who also conducted the baseline) to conduct a follow-up capacity assessment of CPTs and NHCs in the project, using the tool developed for the baseline in 2007. (See tool attached.) The Consultant held a half-day meeting with the CCSP Field Supervisors to develop a work plan for capacity assessment and provided guidance to the project team on facilitation of community meetings utilizing the assessment tool. The team agreed that Supervisors would not work in their usual project areas to avoid bias. All Supervisors used the following process for the assessment work:

- a. Convene a meeting of the CPT/NHC
- b. Explain the objectives of capacity assessment
- c. Explain the process of administering the questionnaire (Tonga version) and do a trial completion of one of the areas with all present
- d. Divide the CPT/NHC into five working groups (women, men, youth, executive and facilitators)
- e. Distribute questionnaires and allow two to four hours for completion of questionnaire by each group
- f. Ensure all groups work from the same venue
- g. When a group finishes the work, check that all questions have been answered before dismissing the group
- h. Thank the groups and assure groups of feedback later
- i. Submit completed questionnaires to consultant at end of each day

The participatory process utilized the tool to solicit descriptions of each stage of capacity for all CPTs/NHCs in the project area, dividing each of the nine capacities into five categories. To increase reliability of the findings, the responses were triangulated; each CPT/NHC used five working groups of CPT executives, male adults, female adults, youths and field facilitators to assess capacity areas and indicators. Responses from each of the five groups were averaged and the aggregated score was considered as the overall score of the CPT/NHC for the capacity area under review.

Following consolidation of the assessment scores by a team of CCSP staff, an initial draft of the results was presented to the project team and other departments at Chikankata Health Services related to the project. The scores were given following discussions within the groups; the whole assessment meeting lasted between three and four hours per CPT/NHC.

Participation was voluntary with a clear understanding of the purpose of the assessment exercise. All the 31 CPTs and 12 NHCs (43 groups) in the project area that participated in 2007 baseline also participated in the 2010 assessment. The names of participating CPTs/NHCs are listed below:

Table 1: CPTs and NHCs in alphabetical order

NAME OF CPTs/ NHCs		
1. Bbakasa NHC	16. Kabbanana NHC	31. Mwanamangala CPT
2. Chaanga CPT	17. Kaleyia CPT	32. Nabbanda CPT
3. Chikani CPT	18. Kapurulira NHC	33. Nabuteezi NHC
4. Chikankata CPT	19. Kariba NHC	34. Nadezwe CPT
5. Chikanzaya CPT	20. Kasiwe CPT	35. Nameembo CPT
6. Chizilika CPT	21. Katulo CPT	36. Nanzele CPT
7. Dambwe CPT	22. Kooma CPT	37. Ngangula CPT
8. Dibbwi CPT	23. Lwaala CPT	38. Siavonga NHC
9. Dundu CPT	24. Mabwetuba CPT	39. Siayumbu NHC
10. Hampande CPT	25. Malala CPT	40. Sikoongo NHC
11. Handulwe CPT	26. Matua NHC	41. Simwaambwa CPT
12. Hanyulu CPT	27. Mujinko CPT	42. Sitinkwi NHC
13. Hapiku CPT	28. Mukwela CPT	43. Turn-off NHC
14. Hapwaya CPT	29. Munyama NHC	
15. Jamba CPT	30. Mwala CPT	

Tool: The Consultant led the five Child Survival Project Field Supervisors in data collection and review of the capacity/performance of all CPTs/NHCs in the project area. The team used the Tonga version of the Capacity Assessment Tool. (The English version is attached as Appendix 1).

The tool was used without any modifications, using previously agreed-upon capacity areas and indicators to assess the local capacity of community groups. The capacity areas assessed were

decision-making and planning, democratic leadership, resource management, coordination, community health care and support, participation, local resources utilization, human resource development, and reflection and review.

Analysis of Results: A total of 43 CPTs/NHCs were assessed on all nine capacity areas and their indicators. A maximum score based on a five-point scale was allocated for each indicator; each of the working groups gave a matching score for each capacity area. For example, in the decision making and planning area, there were four indicators:

Example: Decision-making and planning

Indicator	Score (1-5)	Score (1-5)	Score (1-5)	Score (1-5)	Score (1-5)	Average
	(Women)	(Men)	(Youth)	(Executives)	(Facilitators)	
Decision-making process	3	4	3	5	3	3.6
Annual activity plan	2	5	4	3	4	3.6
Plan preparation	3	2	5	4	3	3.4
Implementation according to written plan	2	3	4	3	3	3
Total out of possible 25 points	10	14	16	15	13	13.6 (54%)

As seen the above example, scores from all five groups were averaged for each indicator and then summed for the capacity area. Then a percentage was calculated based on total possible score (in this example, $13.6/25 = 54\%$). The consultant and CCSP staff consolidated the scores for all CPTs/NHCs and all capacity areas. The percentages were used to determine performance levels and allow comparison between capacity areas and CPTs/NHCs by classifying them into four performance categories by capacity area:

- a) Weak: 0-25%
- b) Satisfactory: 26-50%
- c) Good: 51-75%
- d) Very good: 76-100%

3. Results

The assessment results are presented in tables and graphs beginning with the 2010 overall scores by all 43 CPT/NHC. The results are further classified into the four performance categories by capacity area as mentioned above (weak, satisfactory, good, or very good). To ease comparison, 2010 performances are also presented alongside the scores of the 2007 capacity assessment.

The overall scores of CPTs/NHCs by capacity areas in 2010: These scores are based on the raw data in Appendix 3.

Table 2: CPTs/NHCs scores by Capacity Areas

Community	Community Health, Care and Support	Participation	Coordination	Democratic Leadership	Decision Making and Planning	Human Resource Development	Reflection and Review	Local Resource Utilization	Resource Management	Overall score
Dundu	97	82	77	84	77	82	85	87	85	84
Kooma	97	80	82	83	82	77	75	82	97	84
Mabwetuba	91	89	86	83	83	81	73	81	83	83
Sitinkwi NHC	92	80	86	87	76	80	79	73	87	82
Hampande	87	88	81	87	77	79	85	69	73	81
Ngangula	94	83	82	83	76	81	72	71	71	79
Siyumbu NHC	90	74	83	89	72	61	93	66	84	79
Mukwela	91	85	75	83	78	73	75	67	77	78
Nadezwe	95	73	81	85	81	69	65	90	55	77
Katulo	99	75	81	79	67	70	64	71	88	77
Hanyulu	96	74	70	87	70	80	73	71	61	76
Dibbwi	67	81	67	71	88	87	71	77	72	76
Munyama NHC	82	74	76	84	78	75	74	66	68	75
Kabbanana NHC	92	79	78	66	63	69	83	82	61	75
Mujinko	85	77	74	70	80	83	60	69	71	74
Turn-off NHC	81	65	74	77	75	70	83	72	63	73
Handulwe	86	81	79	68	60	76	68	62	68	72
Chikankata	81	78	58	67	61	76	71	64	81	71
Chikanzaya	81	75	67	65	64	75	64	75	63	70
Nabbanda	61	56	83	75	78	78	66	71	55	69
Chaanga	83	70	79	71	60	67	57	61	71	69
Jamba	59	52	49	74	89	78	74	75	68	69
Nabuteezi NHC	79	77	66	77	72	60	72	52	61	68

Annex 16. Operations Research Activities: NHC and CPT assessment

Kasiwe	85	77	74	61	61	69	68	69	48	68
Hapwaya	74	74	77	68	62	67	68	60	49	67
Sikoongo NHC	80	67	63	64	51	65	68	68	72	66
Malala	77	74	70	71	70	63	56	46	69	66
Simwaambwa	77	74	70	71	70	63	56	46	69	66
Nameembo	85	70	71	64	71	60	67	62	45	66
Nanzele	75	70	77	62	68	64	65	53	60	66
Mwanamangala	80	70	73	70	64	61	71	57	36	65
Chizilika	63	59	50	72	63	65	65	53	69	62
Matua NHC	62	77	67	93	61	45	64	52	29	61
Lwaala	87	62	62	52	52	65	53	85	31	61
Bbakasa NHC	69	79	46	71	60	54	69	53	44	61
Mwala	69	62	57	49	57	62	63	56	67	60
Kariba NHC	76	70	60	61	52	50	61	73	37	60
Chikani	69	50	60	69	61	25	49	94	49	58
Dambwe	49	65	70	68	62	45	59	46	52	57
Hapiku	84	66	66	49	58	53	40	60	37	57
Kaleya	53	62	33	60	53	69	51	58	59	55
Siavonga NHC	60	60	60	47	51	67	53	55	43	55
Kapurulira NHC	39	50	46	43	40	40	32	43	52	43

Figure 1: CPT/NHC performance 2010

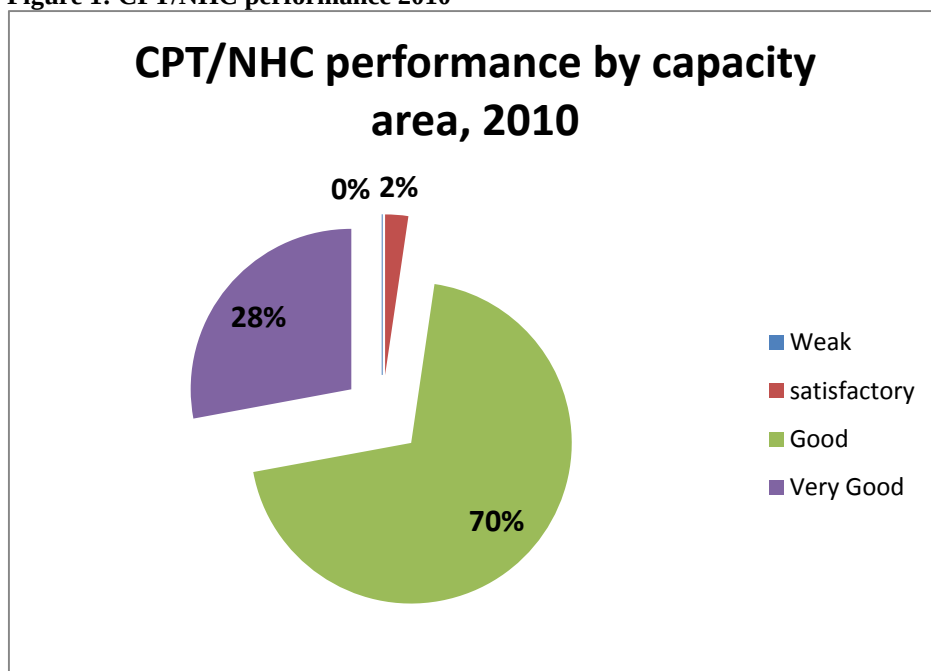
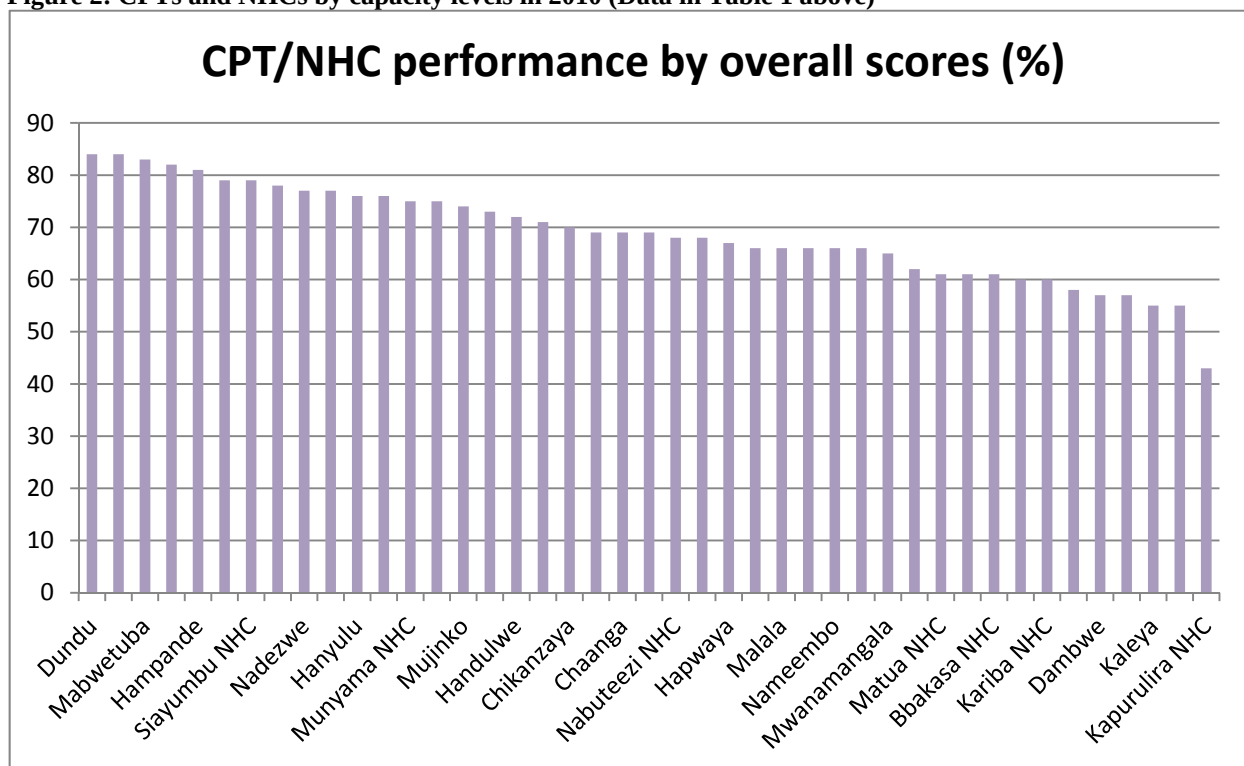


Figure 2: CPTs and NHCs by capacity levels in 2010 (Data in Table 1 above)



The aggregate scores for all CPTs/NHCs show that over half the total number of CPTs and NHCs scored above 50%. Only two scored below 25% (weak). Performance was satisfactory and good.

The following table presents the analysis by capacity area:

Table 3: CPTs/NHCs performance summary 2007 and 2010

Capacity area	Year	# CPT/NHC Weak	# CPT/NHC Satisfactory	# CPT/NHC Good	# CPT/NHC Very good
Decision making process	2007	4 (9.3%)	12 (28%)	20 (46.5%)	7 (16.2%)
	2010	0 (0%)	1 (2.3%)	29 (67.4%)	13 (30.2%)
Democratic leadership	2007	1 (2.3%)	11 (25.5%)	18 (41.8%)	13 (30.2%)
	2010	0 (0%)	4 (9.3%)	24 (55.8%)	15 (34.9%)
Resource management	2007	7 (16.2%)	14 (32.5%)	17 (39.5%)	5 (11.6%)
	2010	0 (0%)	11 (25.6%)	20 (46.5%)	9 (20.9%)
Coordination	2007	4 (9.3%)	14 (32.5%)	13 (30.2%)	12 (28%)
	2010	0 (0%)	5 (11.6%)	22 (51.2%)	16 (37.2%)
Community health care and support	2007	1 (2.3%)	6 (13.9%)	23 (53.4%)	13 (30.2%)
	2010	0 (0%)	2 (4.7%)	12 (27.9%)	29 (67.4%)
Participation	2007	3 (6.9%)	9 (23.2%)	17 (39.5%)	13 (30.2%)
	2010	0 (0%)	2 (4.7%)	25 (58.1%)	16 (37.2%)
Local resource utilization	2007	4 (9.3%)	19 (44.1%)	15 (34.8%)	5 (11.6%)
	2010	0 (0%)	4 (9.3%)	29 (67.4%)	8 (18.6%)
Human resource development	2007	1 (2.3%)	14 (32.5%)	17 (39.5%)	11 (25.5%)
	2010	1 (2.3%)	4 (9.3%)	23 (53.5%)	13 (30.2%)
Reflection and review	2007	3 (6.9%)	15 (34.8%)	17 (39.5%)	8 (18.6%)
	2010	0 (0%)	3 (7.0%)	30 (69.8%)	6 (14.0%)

*Performance by Capacity Areas - 2007 and 2010 comparisons***Decision Making and Planning:**

This capacity area refers to ability of CPT/NHC to determine activities on a monthly/quarterly/yearly basis, ensuring maximum utilization of local resources according to community needs and priorities. This capacity has four indicators: decision making process; annual activity plan; plan preparation; and implementation according to written plan.

Table 4: 2007 & 2010 CPT/NHC Performance in Decision Making and Planning

Year	# of CPT/NHC Weak	# of CPT/NHC Satisfactory	# of CPT/NHC Good	# of CPT/NHC Very good
2007	4 (9.3%)	12 (27.9%)	20 (46.5%)	7 (16.3%)
2010	0 (0%)	1 (2.3%)	29 (67.4%)	13 (30.2%)

Performance of most CPTs/NHCs in decision making and planning improved between 2007 and 2010. In 2007 only 62.8% of the CPT/NHC's performance was rated in the good and very good categories. In the 2010 assessment this number rose to 97.6% for the same categories - a 24.8% increase.

Democratic Leadership

This capacity refers to ability to organize CPT/NHC-operated health and development programs according to the plan and in a timely manner. This capacity area has four indicators: decision making and accountability, knowledge of scope of work, management training and alternative leadership.

Table 5: CPT/NHC Performance in Democratic Leadership

Year	# of CPT/NHC Weak	# of CPT/NHC Satisfactory	# of CPT/NHC Good	# of CPT/NHC Very good
2007	1 (2.3%)	11 (25.6%)	18 (41.9%)	13 (30.2%)
2010	0 (0%)	4 (9.3%)	24 (55.8%)	15 (34.9%)

The 2010 assessment shows 90.7% of CPTs/NHCs in the "good" and "very good" categories compared to 72.1% in 2007 (an 18.6% increase).

Resource Management

This capacity area refers to capability of collecting money and other materials from different sources at the community level, distributing resources according to defined policies, and presenting the income expenditure accounts in public. This capacity area has three indicators which were scored as in the table below.

Table 6: CPT/NHC Performance in Resource management

Year	# of CPT/NHC Weak	# of CPT/NHC Satisfactory	# of CPT/NHC Good	# of CPT/NHC Very good
2007	7 (16.3%)	14 (32.6%)	17 (39.5%)	5 (11.6%)
2010	0 (0%)	11 (25.6%)	24 (55.8%)	8 (18.6%)

The capacity area shows some improvement: the percentage of CPTs/NHCs performing in the “good” and “very good” categories rose from 51.1% in 2007 to 74.4% in 2010 (a 23.3% increase).

Coordination

This capacity area focuses on establishing interrelationships among different stakeholders, individuals and institutions working in the area. The capacity has five indicators. Distribution of CPTs/NHC under this capacity is as shown below.

Table 7: CPT/NHC Performance in Coordination

Year	# of CPT/NHC Weak	# of CPT/NHC Satisfactory	# of CPT/NHC Good	# of CPT/NHC Very good
2007	4 (9.3%)	14 (32.6%)	13 (30.2%)	12 (27.9%)
2010	0 (0%)	5 (11.6%)	22 (51.2%)	16 (37.2%)

In 2010, 88.4% of CPTs/NHCs are in the “good” and “very good” categories, compared to 58.1% in 2007 (a 30.3% increase).

Community Health Care and Support

This capacity refers to facilitation of community-driven responses to health problems and bringing all community health cadres together to deliver effective prevention messages. It has four indicators. The scoring is as below:

Table 8: CPT/NHC Performance in Community Health Care and Support

Year	# of CPT/NHC Weak	# of CPT/NHC Satisfactory	# of CPT/NHC Good	# of CPT/NHC Very good
2007	1 (2.3%)	6 (14.0%)	23 (53.5%)	13 (30.2%)
2010	0 (0%)	2 (4.7%)	12 (27.9%)	29 (67.4%)

In 2010, 95.3% of CPTs/NHCs were in the “good” and “very good” categories, compared to 83.7% in 2007 (an 11.8% increase).

Participation

This capacity area refers to involvement of both sexes and multiple generations in carrying out CPT/NHC roles in the community. The CPT/NHC scores were as follows:

Table 9: CPT/NHC Performance in Participation

Year	# of CPT/NHC Weak	# of CPT/NHC Satisfactory	# of CPT/NHC Good	# of CPT/NHC Very good
2007	3 (7.0%)	9 (20.9%)	17 (39.5%)	13 (30.2%)
2010	0 (0%)	2 (4.7%)	25 (58.1%)	16 (37.2%)

In 2010, 95.3% of CPTs/NHCs were in the “good” and “very good” categories, compared to 69.7% in 2007 (a 25.6% increase).

Local Resources Utilization

This capacity seeks out public and private health service-providing institutions to improve the community's health. The capacity has four indicators. Distribution is as shown in the table below:

Table 10: CPT/NHC Performance in Local Resource Utilization

Year	# of CPT/NHC Weak	# of CPT/NHC Satisfactory	# of CPT/NHC Good	# of CPT/NHC Very good
2007	4 (9.3%)	19 (44.2%)	15 (34.9%)	5 (11.6%)
2010	0 (0%)	4 (9.3%)	31 (72.1%)	8 (18.6%)

In 2010, 90.7% of CPTs/NHCs were in the “good” and “very good” categories, compared to 46.5% in 2007 (a 44.2% increase).

Human Resource Development

This capacity area includes actions taken in preparing CPT/NHC members to address health and development problems of the community through supportive programs such as training and awareness building. The capacity has six indicators which were distributed by the 43 CPT/NHC as shown in the table below:

Table 11: CPT/NHC Performance in Human Resource Development

Year	# of CPT/NHC Weak	# of CPT/NHC Satisfactory	# of CPT/NHC Good	# of CPT/NHC Very good
2007	1 (2.3%)	14 (32.6%)	17 (39.5%)	11 (25.6%)
2010	1 (2.3%)	4 (9.3%)	25 (58.1%)	13 (30.2%)

The percentage of CPTs/NHCs in the “good” and “very good” categories increased from 58.1% in 2007 to 88.3% in 2010 (a 23.2% increase).

Reflection and Review

Reflection refers to regularly examining the progress of health and development programs while review refers to periodically looking back at CPT/NHC programs to assess results. There are three indicators under this capacity area; the performance in reflection and review was rated as shown in the table below:

Table 12: CPT/ NHC Performance in Reflection and Review

Year	# of CPT/NHC Weak	# of CPT/NHC Satisfactory	# of CPT/NHC Good	# of CPT/NHC Very good
2007	3 (7.0%)	15 (34.9%)	17 (39.5%)	8 (18.6%)
2010	0 (0%)	3 (7.0%)	34 (79.1%)	6 (14.0%)

In 2010, 83.1% of CPTs/NHCs were in the “good” and “very good” categories compared to 58.1% in 2007 (a 25.0% increase).

4. Major findings and discussion of results

Overall performance by capacity areas has improved significantly between 2007 and 2010.

There seems to be a difference in performance between CPTs and NHCs with CPTs performing better than NHCs. Only two of the 12 CPTs/NHCs in the 76-100% quartile are NHCs; the one CPT/NHC in the lowest quartile is a NHC. It is important to note that all NHCs are in Siavonga district. This assessment did not allow for exploration of variations in technical support provided, life span and facets that distinguish CPTs from NHCs which might shed light on the difference in scores.

Both CPTs and NHCs show differences in strengths by capacity areas, scoring highly in some capacity areas and not so well in others. In general, the ***strongest capacity areas are Community Health Care and Support***, Participation, Coordination and Democratic Leadership, with Resource Management, Human Capacity Development, and Reflection and Review being the weakest capacity areas.

Specifically, Community Health Care and Support is the strongest and only area where 67% (more than 50%) of CPTs/NHCs scored between 76-100%, with no CPT/NHC being rated as “weak” (scoring below 25%). This area seems well developed both for the NHCs and CPTs. The practice of HIV/AIDS community home care and care and support for orphans through CPTs may have contributed to the strengthening of this area even prior to the CCSP. The 2007 assessment rated this area as well developed with 30% of the CPTs/NHCs scoring 76-100%. However, no one CPT scored 100% even in this well developed area, showing that there is still room for growth.

Participation of community groups was rated the second highest capacity area with 37% of CPTs/NHCs scoring between 76-100%, and none falling below 25%. CPTs and NHCs have shown an improvement of performance in this capacity area from their 2007 positions. In 2007, 6% of the CPTs/NHCs were classified as “weak” in Participation (scores between 0- 25%).

The third strongest capacity area is Decision Making and Planning. This strongly suggests that a significant number of CPTs/NHCs are showing the ability to determine their own activities on a monthly, quarterly, and yearly basis, ensuring maximum utilization of local resources according to community needs and priorities. In 2007, 16% of CPTs scored “very good”, and in 2010, the score has almost doubled to 30% of CPTs/NHCs being rated as “very good” in Decision making and Human Resource Development (HRD) capacity areas. In 2010, no community scored less than 25% in DMP, making it a stronger capacity area than HRD in which 2% of CPTs/NHCs were rated “weak”. (In 2007, 9% and 2% of communities rated “weak” in DMP and HRD, respectively).

Human Resource Development is about building capacity for addressing health and development problems of the community through supportive programs such as training, and awareness building. The poor performance in this area suggests that not all CPTs/NHCs have received adequate training and awareness, depicting the area as one requiring attention. The other ***weak areas are Resource Management and Local Resource Utilization (LRU)***; the two have only 19% of CPTs/NHCs scoring in the “very good” category, coupled with 2% scoring below 25% in LRU.

Reflection and Review had the least number of communities scoring above 75%, as only 14% of the CPTs/NHCs were rated as “very good” in this capacity area. This finding suggests that the practice of regular self-examination to analyze progress of community health and development programs is not well developed in the CPTs/NHCs. The scores also depict a drop in performance from 19% in 2007 to 14% in 2010.

5. Recommendations

- Feedback sessions should be conducted with all CPTs/NHCs through Field Supervisors and Facilitators, clearly showing the scores by capacity areas and overall scores. A plan for improvement of scores should be one of the outcomes of the feedback sessions.
- As a matter of urgency, the CCSP (with support of CHD) should provide technical assistance to CPTs/NHCs in the project areas as part of the project Exit Strategy, focusing on strengthening the weakest capacity areas of Resource Management, Human Capacity Development, Reflection and Review, while not neglecting those areas already developed. Assistance should be linked to actual scores of individual CPTs/NHCs to avoid duplication for communities that are doing well in the specified areas.
- With CHD support, the CCSP should consider refresher training of CPTs and initial training for NHCs in community capacity enhancement (CCE) to improve reflection, envisioning and community decision-making and planning. The training is available through the wider CHD team.
- CHD should consider utilizing the CCSP Care Group Model in related MCH areas to ensure ongoing support to CPT/NHC child survival activities beyond the project cycle.
- CPTs/NHCs should engage in another assessment as part of the end of project evaluation, as well as strengthening of reflection and review practices.
- Facilitated community-to-community transfer of lessons learned should be undertaken to help CPTs/NHCs learn from one another, matching weaker CPTs/NHCs with stronger ones.
- The CCSP exit strategy and hand-over should include a plan for full integration of CCSP Care Groups with other volunteer cadres in the wider CPT. This will maximize ownership of CCSP Care Groups by CPTs, leading to ownership of both successes and challenges by the CPTs.

6. Conclusion

CPTs/NHCs are performing well, with most of them being rated as “good” or “very good” in overall scores. There has been an increase in capacity in all nine capacity areas between 2007 and 2010 with room for further strengthening in the remaining nine months of the project. This can be achieved through targeted interventions in the identified weak areas while strategically working within the CHD framework of the CHS for sustainability beyond the project life.

Appendix 1: Capacity Assessment Tool

Chikankata Child Survival Project (CCSP)

The Salvation Army, Zambia

Salvation Army World Service Office (SAWSO)

(Tool adapted from Concern Worldwide, Bangladesh Child Survival Program)

Capacities Areas and Definitions

No.	Name of the Capacity Area	Definition / What it means	Possibility Statement
1	Decision Making & Planning	Determining the CPT/NHC activities on a monthly/quarterly/yearly basis ensuring maximum utilization of local resources according to community needs and priorities.	• We know how to prepare plan for CPT/NHC. • We prepare plans based on shared decisions by all. • We know when and how the activities will be implemented. • There is a written plan of the CPT/NHC activities. • We implement activities according to the plan.
2	Democratic Leadership	Organizing CPT/NHC operated health and development programs in the community timely and according to plan with capable and efficient development partners.	• There is a democratically elected leader. • There is an alternative leader. • CPT/NHC leaders are trained and solve the problems of the group with support from community leaders.
3	Resource Management	Collecting money and other materials from different sources at the community level and spending that money and /or distributing resources according to defined policies and presenting the income-expenditure accounts in public.	• A bank account exists in the name of CPT/NHC. • We know the proper accounts of income and expenditure and maintain those accounts properly. • We identify distinguished community members and engage them in contributing to the CPT/NHC agenda. • We raise money and other resources locally and spend them for improving the health system of the community. • We understand the necessity of financial management. • We know the possible sources of financial support and other resources. • We keep accounts properly and timely. • We inform all about our accounts, i.e., we have transparency and accountability.

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			• We check the accounts regularly. • We preserve the documents with care.
4	Coordination	Establishing inter-relationship among the different stakeholders, individuals, and institutions working in the area and holding them accountable for their responsibilities.	• For the improvement of health status and development in the area, we contact and use both public/private institutions. • We have the competency to establish contact with different stakeholders.
5	Community Health Care and Support	To facilitate community-driven responses to health problems and bring all community health cadres together to deliver effective prevention messages and provide quality care and support for affected members.	• We facilitate identification of community health needs. • We inform the health facility when there is an out break of disease. • We serve as a link between the health facility and the community. • We identify needy individuals and families (e.g. chronically ill patients), and ensure they receive adequate care and support. • We teach about disease prevention and care in the community. • At monthly community forums, we encourage all trained community cadres (TBAs, CHWs, Care Group Volunteers, HBCVs, etc.) to provide feedback about their work
6	Participation	To make the programs of CPT/NHC successful men and women from all strata of society will come forward actively and with enthusiasm to carry out their roles and responsibilities.	• We know about the necessity of participation. • We ensure intergenerational balance in participation. • We encourage participation from all social and economic strata of the community. • We create opportunities for gender-balanced participation in CPT/NHC.
7	Local Resources Utilization	Finding out different public and private health service providing institutions and using the facilities for the purpose of improvement of the health system in the community.	• We know the places where local resources are available. • We use funds to meet community needs in accordance with donor rules and regulations
8	Human Resource Development	Preparing the CPT/NHC member to address the health and development problems of the community through supportive programs (training, awareness building through health education).	• We identify concerns in human resource development. • We arrange training according to identified concerns. • There is system of evaluation done by stakeholders and

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			- partners at all levels. • Good work is rewarded.
9	Reflection and Review	Reflecting: Examining on an ongoing basis the progress of health and development programs, ensuring activities are carried out as planned. . Review: Reviewing CPT/NHC programs at defined intervals to determine the results, impact, and benefits to community members.	• We supervise to ensure that all tasks are done properly as planned. • We provide support for proper implementation of work. • We initiate new activities based on results of reviews. • We keep the data collected from different reviews and discuss those with all other reviews. • We keep different data for providing improved health services. • We assess progress on a monthly, quarterly and yearly basis.

Capacity Indicators

Decision Making & Planning

Indicator	1 st Stage	2 nd Stage	3 rd Stage	4 th Stage	Final Stage
Decision making process	Decisions taken in the previous meeting are not reviewed at the monthly meeting.	Decisions taken in the previous meeting are reviewed irregularly at the monthly meeting.	Decisions taken in the previous meeting are reviewed regularly at the monthly meeting.	Quality review of the decisions taken in the previous meeting is done at the monthly meeting.	Quality review of the decisions taken in the previous meeting is done at the monthly meeting and accordingly future steps are taken.
Annual activity plan	There is no written plan for CPT/NHC activities and the CPT/NHC has no experience in preparing the annual activity plan. The CPT/NHC is doing whichever activities are appearing before them, i.e., the activities are not pre-planned.	Annual activity plan prepared with participation of CPT/NHC members exists in written form and the CPT/NHC has acquired experiences in preparing plan, which was initiated and assisted by other organizations.	Annual activity plan is prepared because of the experiences and opinions of all the members and the targets not achieved in the previous year are included while preparing the plan. The preparation of plan is initiated by CPT/NHC with support of other organizations.	The plan is prepared based on the problems/demands of the locality and opinions of the members. The CPT/NHC has its own initiatives with minimum support from other organizations.	NHC/CPT on its own prepares plan and has acquired the required experience in collaboration of the members and representatives of the local people and without the support and cooperation of any other organization.
Plan Preparation	There is no idea about preparation of plan according to the demand.	Activities in line with the demand of the community get less priority in being included in the activity plan.	Plan is prepared according to the demand of the community (cleanliness, EPI, sanitation, mother etc.).	New activities are included according to the demand of the community.	New activities are included and implemented according to the demand of the community.
Implementation according to written plan	CPT/NHC does not have any written plan; however, a few programs are being implemented in a scattered manner.	70% of the plan is being implemented in the year.	80% of the plan is being implemented in the year.	90% of the plan is being implemented in the year.	All the activities in the plan are being implemented.

Democratic leadership

Indicator	1st Stage	2nd Stage	3rd Stage	4th Stage	Final Stage
Decision making and accountability	The NHC/CPT Chairperson has no accountability and s/he controls all the activities and takes decisions on her/his own.	The Chairman raises the activities in CPT/NHC (what does this mean?) and 30% of the people participate in decision-making.	50% of the people participate in decision-making.	70% of the people participate in decision-making.	CPT/NHC has an efficient, experienced, literate, and active leader who is accepted by all, ensures clarity and accountability and takes decisions and implements based on opinions of all the members and people.
Knowledge of scope of work	The Chairman does not have the required knowledge, skills and training for leading the CPT/NHC, , and members lack understanding of the CPT/NHC scope of work. The Chairperson lacks understanding on the role and responsibilities of the leader in CPT/NHC.	The leader discusses in the meeting to augment the understanding of the members on CPT/NHC, its scope of work and the role and responsibilities of the members. Less than 40% of the members including the chairperson understand the CPT/NHC scope of work.	40-50% of the members including the chairperson understand the CPT/NHC scope of work.	60-70% of the members including the chairperson understand the CPT/NHC scope of work	Over 80% of the members including the Chairperson understand the CPT/NHC scope of work.
Management training	The Chairperson does not feel any need for training to operate the CPT/NHC .	At least 3 members including the chairperson do not have training on CPT/NHC management	At least 3 members including the Chairperson have training on CPT/NHC management.	The skills earned from the training are being used in the activities of CPT/NHC.	There exists efficient trained leadership in the CPT/NHC .
Alternative leadership	Members do not know about the importance of alternative leadership.	Monthly meetings are not being held in absence of the Chairperson CPT/NHC feels the lack of alternative leadership.	The process of creating alternative leadership is ongoing.	Alternative leadership has been created to lead the CPT/NHC in absence of the chair.	There exists a recognized and active alternative leader in the CPT/NHC and s/he runs the CPT/NHC efficiently in absence of the leader.

Resource Management

Indicator	1st Stage	2nd Stage	3rd Stage	4th Stage	Final Stage
Finance Policy	There is no arrangement for finances in the CPT/NHC.	The process of income generation only through irregular collection of subscription from the CPT/NHC members is ongoing. The CPT/NHC is thinking of preparing policies for fund management.	There exist definite policies for finance/resource management. Funds are being supplemented through collection of donations from people in addition to the subscriptions collected from members. Sources of financial contributions are being identified.	Resources are being spent in health and development related welfare activities as per the decision of two-thirds of the members.	Mechanism for increasing funds through several sources such as CPT/NHC members, contribution from distinguished personalities, government/private donations continues. Money is being properly spent for the welfare of people.
Documentation	There are no financial/resource documents	There is a lack of knowledge and skills for regular maintenance of the finance/resource related registers and documents.	Accounts of income and expenditure are maintained using registers.	Accounts of income and expenditure are maintained and reviewed using registers.	All accounts of income and expenditure (documents, registers, files, money-receipts, seal voucher) are maintained properly.
Community Fund	No community fund exists.	Process of updating fund has started.	At the monthly meetings, members of the CPT/NHC are being informed about the state of the account. Accounts of income and expenditure are being discussed with the CPT/NHC members regularly (monthly). Committee can handle bank transactions and bank account, which is in the name of the CPT/NHC.	Financial statement is discussed with all the members of the CPT/NHC, monthly, quarterly, and annually	Once in a year the statement of income and expenditure is presented before the local people, through which clarity and accountability are being ensured.

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Coordination

Indicator	1 st Stage	2 nd Stage	3 rd Stage	4 th Stage	Final Stage
Understanding	There is no understanding on coordination and contact with different service providing institutes.	There is lack of understanding on coordination and contact with different service providing institutes.	Understand the necessity of working through coordination with different institutions, coordinate, and observe several days.	In addition to observing several health days, several health and development- related activities are being implemented through coordination.	Several activities of the CPT/NHC are being implemented through coordination.
Process	There is no idea about the meaning of coordination and how to do it-	There is very little understanding of the meaning of coordination and how to do it	30% of the CPT/NHC members know what coordination is, how to do it, and its necessities.	60% of the CPT/NHC members know what coordination is, how to do it, and its necessities.	80% of the CPT/NHC members know what coordination is, how to do it and its necessities.
Relationship among CPT/NHC	There is no coordination among different CPT/NHC.	Process is underway to coordinate among CPT/NHC.	Meetings for sharing opinions are being held to coordinate among CPT/NHC (among 2/3 CPT/NHC).	Lessons learned from coordination among more than 3 CPT/NHC are being utilized. Coordination meeting among all the CPT/NHC once a year has been initiated.	A coordination meeting is being held once a year among all the CPT/NHC.
Relationship with stakeholders	Relationship of the CPT/NHC with different service providing institutes is weak.	Initiatives are underway to improve the professional relationship of the CPT/NHC with different stakeholders	Formal friendly relationship is being created with the stakeholders working in the health and development sector.	Informal friendly relationship is being created with different health and development stake holders	Inter-relationship has been improved and established with different stake holders.
Coordination with stake holders	Coordination with different stakeholders has been little.	Process of establishing rapport with different stakeholders through meetings is underway.	Health and development-related activities are being initiated through coordination with different stakeholders	Coordination meetings with different stakeholders are being held twice a year.	Health services are being ensured through exchange of facilities among different institutes.

Community Health Care and Support

Indicator	1st Stage	2nd Stage	3rd Stage	4th Stage	Final Stage
Community Home based care (CHBC) for chronic illnesses	There is no CHBC program supported by CPT/NHC.	Development of CHBC is underway.	CHBC program has been developed; volunteers have been identified and engaged.	CHBC has been operational for more than 2 years, volunteers have been trained, and visits to homes of chronically ill are happening on a regular basis.	CHBC is fully functional; volunteers have been trained, are supervised and linked to health services for home nursing supplies and guidelines.
Disease outbreak notification	CPT/NHC is not aware that outbreak notification is their responsibility.	Some CPT/NHC members recognize that disease outbreak reporting is their responsibility, there is no knowledge of how to identify and report on outbreaks	Some CPT/NHC members have been trained in outbreak identification , they conduct community meetings to alert communities on possible outbreaks	Most CPT/NHC members are trained in outbreak investigation, regular meetings are held with communities to alert on possible out breaks	All CPT/NHC members are trained, regular meetings to share information on out break prevention Suspected outbreaks are reported to health services for follow up
Child survival interventions	Less than 40% of the members know about the child survival interventions.	40%-60% of the members have heard about child survival interventions.	60%-70% of the members know the child survival interventions.	70%-80% of the members know about the child survival interventions. CS Initiatives are undertaken with full knowledge of the CPT/NHC.	More than 80% of members know of the child survival interventions. The Care Group Volunteers are recognized and rewarded as CPT/NHC members , presenting reports at monthly reviews.
Health promotion	CPT/NHC is not involved in development of health promotion messages and activities	CPT/NHC has trained cadres in health promotion in one or two areas of Health promotion.	CPT/ NHC create opportunities for trained community health promotion. Volunteers share messages during community meetings. Two to three areas of health promotion represented in CPT./NHC.	Three or more areas of health promotion represented in CPT/NHC. Sometimes health promotion cadres are asked to contribute during monthly reviews.	Trained community volunteers in safe motherhood, child health and nutrition, water and sanitation, HIV/AIDS prevention carry out work within CPT/NHC activity plan, report progress and challenges during monthly reviews.

Participation

indicator	1st stage	2nd Stage	3rd Stage	4th Stage	5th Stage
Meeting attendance	Presence at the CPT/NHC meetings is 50%-60%.	Presence at the CPT/NHC meetings is 60%-70%.	Presence at the CPT/NHC meetings is 70%-80%.	70%-80% of the CPT/NHC members participate with enthusiasm.	70%-80% of the CPT members participate with enthusiasm and with their opinions.
Meeting participation	Different programs are undertaken at the Chairperson's wish.	Programs are undertaken on the basis of the opinions of the 3-4 members including the chairperson.	Programs are undertaken based on the opinions of 60% of the members including the chairperson.	Programs are undertaken on the basis of the opinions of 90% of the members including the chairperson	Programs are undertaken and implemented on the basis of the opinions of 100% of the members including the chairperson.
Participation by Gender	Membership of CPT/NHC is restricted to men/women only.	CPT/NHC Membership is open to both men and women , but executive positions are reserved for men. Women are not involved in decision making	Less than 30% of positions are filled by women in the executive CPT/NHC. Sometimes women are involved in decision making about programs.	More than 40% of executive committee is composed of women. Women are taking initiative and speaking out in meetings, their input is solicited in most decisions about CPT/NHC programs.	All CPT/NHC programs are designed and implemented on 50/50 involvement of men and women, including appointment of executive committee
Active participation	Participation of the members in different activities of the CPT/NHC is 40%.	Participation of the members in different activities of the CPT/NHC is 50%.	In addition to the members, general people are being involved with different activities of CPT/NHC.	People participate in the EPI programs, health days, cleanliness campaigns, and other health related programs.	People participate willingly and with enthusiasm in different programs of CPT/NHC.
Youth participation	There is no youth representation on the CPT/NHC.	Sometimes youth attend CPT/NHC meetings, but are not involved in implementation of activities.	Sometimes youth are involved in implementation of activities. There is no youth on the executive committee	Youth represented on executive committee and involved in implementation of most programs.	Youth are considered stake holders in CPT/NHC programs,. They are on the executive committee, and participate in decision -making and implementation.

Local Resource Utilization

Indicator	1st Stage	2nd Stage	3rd Stage	4th Stage	Final Stage
List of local resources	CPT/NHC has started working without a list of local resources.	Process of preparing list of local resources is underway.	CPT/NHC has definite list of local resources.	Good relationship with all the institutions has been established.	There is a definite list of local resources and new resources are being included in the list e.g. government/private service provision institutes, business associations, bus owners' association, different clubs etc. Good relationship with all the institutes has been established.
Composition of local resources	CPT/NHC is created with distinguished personalities and representatives of all levels.	The CPT/NHC realizes the necessity of the use of local resources.	Definite list of local resources exists and is early stages of utilization.	The CPT/NHC activities implemented with local resources.	Use of resources of the local distinguished people is being ensured as required maintaining good relationship with them.
Knowledge of available services	Less than 40% of the members know about the kinds of services from local resources and those are being utilized without any plan.	40%-60% of the members know about the kinds of services from local resources.	60%-70% of the members know about the kinds of services from local resources. The committee knows about the kinds of services from the local service providing institutes. Plan of the Committee is prepared because of availability of local resources.	70%-80% of the members know about the kinds of services from local resources. Initiatives are undertaken for taking services from different institutes.	Local resources and the service institutes are being used for improving the health status of the locality.
Office space	The CPT/NHC has no office of its own so meetings are held at the residence of the CPT/NHC or any other member.	CPT/NHC is realizing the need for seal and pad for different activities of it.	CPT/NHC has its signboard, seal, and pad. Meetings of the CPT/NHC are being held at any local school, college or club. Process of renting office for the CPT/NHC is underway.	CPT/NHC is using seal and pad according to its activity plan.	Local people know the CPT/NHC office. Office has been rented within the community (the CPT/NHC has office).

Annex 16. Operations Research Activities: NHC and CPT assessment

Human Resource Development

indicator	1 st Stage	2 nd Stage	3 rd Stage	4 th Stage	Final Stage
Knowledge	Volunteers, TBAs, and other members and the health service providing individuals do not know about their roles and responsibilities in the CPT/NHC.	Training needs for different members of the CPT/NHC. have been identified (with assistance from other organizations or The Salvation Army, Chikankata Health Services	All have been trained in light of the objectives of the CPT/NHC., capacity of the participants, and training needs.	Supportive supervision is going on from the part of CPT/NHC for improving the standard of services provided by the volunteers, TBAs and the health service providers.	Skilled human resources exist in CPT/NHC.
Written roles and responsibilities	Roles and responsibilities of the CPT/NHC members (president, members and member-secretary) are not available in written form.	Roles and responsibilities of the CPT/NHC members (president, members and member-secretary) are available in written form and 40-50% of the members can explain their roles and responsibilities.	Roles and responsibilities are available in written form and 60-70% of the members can explain their roles and responsibilities.	Maximum 80% of the members including the president and the member-secretary can explain their roles and responsibilities.	The CPT/NHC and other members know about their roles and responsibilities and can inform the new members about those.
Reward system	Indicators of good performance are not defined and there is no provision for rewarding.	The performance indicators are defined for rewarding and the CPT/NHC is thinking about rewarding the good CHWs, TBAs, and volunteers.	Once in a year, with the own fund or with help from others, CHWs, TBAs and volunteers are being rewarded for good performance.	Provision is there for rewarding volunteers, CHWs, TBAs and supportive forces of the CPT/NHC for good performance.	Active TBAs, CHWs, and volunteers rewarded
Skills and Performance	The CPT/NHC does not know that its performance depends on the skills of the committee members.	The CPT/NHC knows little that its performance depends on the skills of the committee members.	The CPT/NHC knowledge is increasing about the fact that its performance depends on the skills of the committee members.	The CPT/NHC has clear idea about the importance of improving the skills of committee members.	The CPT/NHC is undertaking initiatives to arrange training, workshop for improving the performance of the committee members.
Training	Members of CPT/NHC (religious leader, schoolteacher, RMP (this is for Bangladesh), homeopath doctors, and indigenous practitioner) have no training on health.	Selected leaders among the members have been trained (on health).	Initiatives are being undertaken to arrange training, or training is going on for those members not receiving training previously.	All members of CPT/NHC have been trained on health and are been provided refresher training.	Understanding about health issues and the goal, objectives and activities of CPT/NHC is clear.
Skilled Personnel	There is no skilled person for carrying out the work.	30-40% of the people have acquired skills to work.	40-50% of the people have acquired skills to work.	50-60% of the people have acquired skills to work.	60-70% of the people have acquired skills to work.

Reflection and Review

Indicator	1st Stage	2nd Stage	3rd Stage	4th Stage	Final Stage
Knowledge	CPT/NHC have no idea about review and evaluation.	CPT/NHC realize the need for assessing the progress of planned activities.	CPT/NHC can assess the progress of work in some scattered cases	Three individuals of CPT/NHC has received training on review and evaluation.	The trained members can assess (at the monthly meeting) the progress of work according to the annual plan and other members know about it.
System	There is no system for evaluation at the CPT/NHC.	Oral discussions are held at the meeting and some of the decisions and information are kept in the register.	Process of improving the review system is ongoing.	There are systems for reviewing different activities of CPT/NHC.	Review continues using the system for review.
Review Process	There is no process of informing the members about the progress of the CPT/NHC.	Results of review and progress are not shared.	Progress of different activities of CPT/NHC is shared with members.	Progress of different activities of CPT/NHC is shared with members as well as the community.	Progress of different activities of CPT/NHC is shared with members as well as the community and future steps are taken because of their opinions.

Appendix 2: List of Field Supervisors

Data collection and tabulation was done by the following individuals who are Field Supervisors in the CCSP. No supervisor collected data in his own area; instead they swapped to avoid conflict of interest in case findings could be linked to supervision provided to the CPT/NHC by the program.

Table 13: Field Supervisors

Sl. No	Name	Designation	Signature
1	Phisher Simutwe	Monitoring & evaluation coordinator	
2	Milon Dumbula	Field Supervisor	
3	Billy Mwiinga	Field Supervisor	
4	Majory Nanzele	Field Supervisor	
5	Hangoma Telford	Field Supervisor	
6	Rannoh Kalinda	Field Supervisor	

Appendix 3: Scope of Work

Objective and Duration: To lead the Chikankata Child Survival Project (CCSP) in the utilization of a previously developed tool to reassess the capacity of community groups--Care and Prevention Teams (CPTs) and Neighborhood Health Committees (NHCs). The consultancy will last a total of **14 days** between March 20 and April 2, 2010.

Product: The final product of this consultancy will be an assessment of the capacity of CPTs/NHC's in the Chikankata Child Survival Project area in comparison with the initial baseline capacity assessment previously conducted.

Tasks:

1. Meet with project team to develop a work plan for capacity assessment.
2. Provide guidance to project team on facilitation of community meetings utilizing the assessment tool.
3. Use tool to solicit descriptions of each stage of capacity for all CPTs/NHCs in the project area, dividing them into three groups.
4. Lead a team of CCSP staff in consolidating the assessment scores.
5. Write initial draft of results.
6. Share initial draft with project team and make changes as necessary.
7. Lead final meeting with project team to share results.
8. Work with SAWSO staff to finalize report.

Schedule:

Dates	Activities	# Days
Mar 20-21	Travel to Lusaka	2
Mar 22	Travel to Chikankata and meet with CCSP staff to discuss schedule and logistics for community meetings	1
Mar 23-24	Carry out capacity assessment for CPT & NHC in Mazabuka.	2
Mar 25-27	Travel to Siavonga. Carry out capacity assessment for CPT & NHC in Siavonga	3
Mar 28	Return to Chikankata	1
Mar 29	Assemble results, write first draft	1
Mar 30	Meet with CCSP to discuss conclusions	1
Mar 31-Apr 2	Travel to Lusaka, on to US	2
Apr 5-9	Work with SAWSO to finalize report	1
		Total= 14

Appendix 4: Raw data – tabulations from completed capacity assessment tool

CPT/NHC	Capacity Area	Total Capacity Area Score	Women	Men	Youth	Executives	Facilitators	Total score by CPT/NHC	Percentage score
Munyama	Decision making and planning	100	13	17	18	14	16	78	78
	Democratic leadership	100	15	16	19	18	16	84	84
	Resource management	75	13	11	11	6	10	51	68
	Coordination	125	17	20	20	18	20	95	76
	Comm Health, care and support	100	19	14	18	14	17	82	82
	Participation	125	19	21	23	16	14	93	74
	Local Resource Utilization	100	17	9	16	11	13	66	66
	Human resource development	150	20	22	25	22	24	113	75
	Reflection and review	75	12	10	13	8	13	56	75
	Totals	950	145	140	163	127	143	718	75
Mukwela	Decision making and planning	100	16	14	15	15	18	78	78
	Democratic leadership	100	15	17	17	17	17	83	83
	Resource management	75	13	14	8	10	13	58	77
	Coordination	125	20	16	19	20	19	94	75
	Comm Health, care and support	100	19	18	20	20	20	97	97
	Participation	125	22	19	20	22	23	106	85
	Local Resource Utilization	100	11	16	8	18	14	67	67
	Human resource developmt	150	19	16	22	20	27	104	69
	Reflection and review	75	9	7	13	12	15	56	75
	Totals	950	144	137	142	154	166	743	78
Mwala	Decision making and planning	100	14	14	7	14	8	57	57
	Democratic leadership	100	8	4	11	13	13	49	49
	Resource management	75	11	21	5	4	9	50	67
	Coordination	125	19	15	19	11	7	71	57

Annex 16. Operations Research Activities: NHC and CPT assessment

	Comm Health, care and support	100	15	19	11	14	10	69	69
	Participation	125	21	14	10	21	11	77	62
	Local Resource Utilization	100	10	14	7	13	12	56	56
	Human resource developmt	150	19	21	19	16	18	93	62
	Reflection and review	75	12	12	6	8	9	47	63
	Totals	950	129	134	95	114	97	569	60
Kariba	Decision making and planning	100	5	17	5	10	15	52	52
	Democratic leadership	100	8	16	10	11	16	61	61
	Resource management	75	3	10	3	9	3	28	37
	Coordination	125	11	17	10	20	17	75	60
	Comm Health, care and support	100	12	19	17	14	14	76	76
	Participation	125	18	22	14	17	16	87	70
	Local Resource Utilization	100	14	14	16	19	10	73	73
	Human resource developmt	150	8	26	15	11	15	75	50
	Reflection and review	75	10	12	5	9	10	46	61
	Totals	950	89	153	95	120	116	573	60
Nameembo	Decision making and planning	100	16	17	8	13	17	71	71
	Democratic leadership	100	13	14	13	13	14	67	67
	Resource management	75	9	10	5	10	11	45	60
	Coordination	125	21	17	15	15	21	89	71
	Comm Health, care and support	100	15	20	13	18	19	85	85
	Participation	125	17	21	11	20	19	88	70
	Local Resource Utilization	100	14	12	7	13	16	62	62
	Human resource developmt	150	21	19	11	18	21	90	60
	Reflection and review	75	7	12	9	10	12	50	67
	Totals	950	133	142	92	130	150	647	68
Jamba	Decision making and	100	12	13	6	15	13	59	59

Annex 16. Operations Research Activities: NHC and CPT assessment

	planning								
	Democratic leadership	100	-	10	6	17	19	52	52
	Resource management	75	-	7	6	13	11	37	49
	Coordination	125	20	22	14	16	20	92	74
	Comm Health, care and support	100	13	19	19	20	18	89	89
	Participation	125	15	18	19	23	22	97	78
	Local Resource Utilization	100	12	15	12	18	17	74	74
	Human resource developmt	150	18	24	18	26	27	113	75
	Reflection and review	75	10	14	0	13	14	51	68
	Totals	950	100	142	100	161	161	664	69
Kaleya	Decision making and planning	100	14	8	14	5	12	53	53
	Democratic leadership	100	11	19	14	7	11	62	62
	Resource management	75	3	10	5	4	3	25	33
	Coordination	125	16	18	12	11	18	75	60
	Comm Health, care and support	100	9	15	9	11	9	53	53
	Participation	125	16	22	15	19	14	86	69
	Local Resource Utilization	100	8	14	12	12	5	51	51
	Human resource developmt	150	16	20	22	18	11	87	58
	Reflection and review	75	7	14	9	6	8	44	59
	Totals	950	100	140	112	93	91	536	55
Nadezwe	Decision making and planning	100	16	17	13	17	18	81	81
	Democratic leadership	100	14	16	18	18	19	85	85
	Resource management	75	3	8	15	12	3	41	55
	Coordination	125	23	16	17	20	25	101	81
	Comm Health, care and support	100	20	18	18	20	19	95	95
	Participation	125	20	20	15	18	18	91	73
	Local Resource Utilization	100	18	13	15	16	28	90	90

Annex 16. Operations Research Activities: NHC and CPT assessment

	Human resource developmt	150	28	24	18	20	14	104	69
	Reflection and review	75	19	12	9	9	0	49	65
	Totals	950	161	144	138	150	144	737	77
Simwaambwa	Decision making and planning	100	14	14	15	12	15	70	70
	Democratic leadership	100	14	9	19	10	19	71	71
	Resource management	75	12	10	12	7	11	52	69
	Coordination	125	18	12	17	21	20	88	70
	Comm Health, care and support	100	16	16	14	15	16	77	77
	Participation	125	12	23	19	16	23	93	74
	Local Resource Utilization	100	6	3	10	13	9	41	41
	Human resource developmt	150	19	16	20	17	22	94	63
	Reflection and review	75	10	9	9	7	7	42	56
	Totals	950	121	112	135	118	142	628	66
Kabbanana	Decision making and planning	100	7	15	17	9	15	63	63
	Democratic leadership	100	18	16	12	4	16	66	66
	Resource management	75	5	11	11	8	11	46	61
	Coordination	125	16	21	22	18	21	98	78
	Comm Health, care and support	100	16	20	16	20	20	92	92
	Participation	125	19	20	22	15	23	99	79
	Local Resource Utilization	100	15	19	17	12	19	82	82
	Human resource developmt	150	14	24	25	17	24	104	69
	Reflection and review	75	9	15	13	10	15	62	83
	Totals	950	119	161	155	113	164	712	75
Mabwetuba	Decision making and planning	100	17	17	17	17	15	83	83
	Democratic leadership	100	17	17	17	17	15	83	83
	Resource management	75	11	13	13	13	12	62	83
	Coordination	125	23	23	21	21	18	106	85

Annex 16. Operations Research Activities: NHC and CPT assessment

	Comm Health, care and support	100	19	20	19	19	14	91	91
	Participation	125	23	18	24	22	24	111	89
	Local Resource Utilization	100	16	16	16	16	17	81	81
	Human resource developmt	150	23	25	26	22	25	121	81
	Reflection and review	75	9	9	14	9	14	55	73
	Totals	950	158	158	167	156	154	793	83
Chikankata	Decision making and planning	100	14	6	16	13	12	61	61
	Democratic leadership	100	17	8	17	16	9	67	67
	Resource management	75	15	9	13	13	11	61	81
	Coordination	125	22	13	17	21	0	73	58
	Comm Health, care and support	100	20	13	16	18	14	81	81
	Participation	125	22	11	24	22	19	98	78
	Local Resource Utilization	100	15	5	17	17	10	64	64
	Human resource developmt	150	21	18	26	26	23	114	76
	Reflection and review	75	11	12	11	9	10	53	71
	Totals	950	157	95	157	155	108	672	71
Chikanzaya	Decision making and planning	100	17	8	11	12	13	61	61
	Democratic leadership	100	17	10	14	11	17	69	69
	Resource management	75	12	3	6	6	10	37	49
	Coordination	125	22	9	18	7	19	75	60
	Comm Health, care and support	100	15	6	16	13	19	69	69
	Participation	125	20	17	18	22	24	101	81
	Local Resource Utilization	100	14	10	14	11	14	63	63
	Human resource developmt	150	16	18	18	14	28	94	63
	Reflection and review	75	6	6	7	9	9	37	49
	Totals	950	139	87	122	105	153	606	63
Handulwe	Decision making and	100	15	16	13	6	10	60	60

Annex 16. Operations Research Activities: NHC and CPT assessment

	planning								
	Democratic leadership	100	14	17	13	5	19	68	68
	Resource management	75	10	13	8	8	12	51	68
	Coordination	125	22	20	18	20	19	99	79
	Comm Health, care and support	100	15	20	15	16	20	86	86
	Participation	125	21	22	19	14	25	101	81
	Local Resource Utilization	100	10	13	13	18	8	62	62
	Human resource developmt	150	21	23	20	27	23	114	76
	Reflection and review	75	9	14	9	11	8	51	68
	Totals	950	137	158	128	125	144	692	72
Mujinko	Decision making and planning	100	19	14	19	14	14	80	80
	Democratic leadership	100	19	15	10	10	16	70	70
	Resource management	75	3	10	11	11	18	53	71
	Coordination	125	25	21	25	12	9	92	74
	Comm Health, care and support	100	20	20	20	14	11	85	85
	Participation	125	22	18	25	8	23	96	77
	Local Resource Utilization	100	13	9	18	14	15	69	69
	Human resource developmt	150	25	25	24	25	25	124	83
	Reflection and review	75	8	10	9	6	12	45	60
	Totals	950	154	142	161	114	143	714	74
Hapwaya	Decision making and planning	100	14	14	8	11	15	62	62
	Democratic leadership	100	14	15	11	15	13	68	68
	Resource management	75	5	8	11	3	10	37	49
	Coordination	125	21	18	20	18	19	96	77
	Comm Health, care and support	100	19	14	12	12	17	74	74
	Participation	125	19	24	14	15	21	93	74
	Local Resource Utilization	100	16	10	13	13	8	60	60

Annex 16. Operations Research Activities: NHC and CPT assessment

	Human resource developmt	150	19	24	20	19	19	101	67
	Reflection and review	75	12	10	8	12	9	51	68
	Totals	950	139	137	117	118	131	642	67
Nanzele	Decision making and planning	100	14	17	8	14	15	68	68
	Democratic leadership	100	9	17	9	15	12	62	62
	Resource management	75	6	9	8	10	12	45	60
	Coordination	125	13	24	21	17	21	96	77
	Comm Health, care and support	100	13	14	17	15	16	75	75
	Participation	125	17	16	12	20	23	88	70
	Local Resource Utilization	100	6	10	11	9	17	53	53
	Human resource developmt	150	18	13	19	22	24	96	64
	Reflection and review	75	8	9	6	12	14	49	65
	Totals	950	104	129	111	134	154	632	66
Dundu	Decision making and planning	100	17	13	13	16	18	77	77
	Democratic leadership	100	18	19	14	19	14	84	84
	Resource management	75	13	13	10	14	14	64	85
	Coordination	125	19	17	14	22	24	96	77
	Comm Health, care and support	100	20	20	20	19	18	97	97
	Participation	125	21	22	19	22	19	103	82
	Local Resource Utilization	100	16	19	20	18	14	87	87
	Human resource developmt	150	26	26	29	18	24	123	82
	Reflection and review	75	9	15	14	14	12	64	85
	Totals	950	159	164	153	162	157	795	84
Hampande	Decision making and planning	100	16	12	16	15	18	77	77
	Democratic leadership	100	20	16	18	15	18	87	87
	Resource management	75	9	10	13	10	13	55	73
	Coordination	125	17	20	25	20	19	101	81

Annex 16. Operations Research Activities: NHC and CPT assessment

	Comm Health, care and support	100	14	18	18	20	17	87	87
	Participation	125	25	16	25	22	22	110	88
	Local Resource Utilization	100	12	13	14	15	15	69	69
	Human resource developmt	150	28	19	22	23	26	118	79
	Reflection and review	75	15	10	14	11	14	64	85
	Totals	950	156	134	165	151	162	768	81
Mwanamangala	Decision making and planning	100	12	12	8	17	15	64	64
	Democratic leadership	100	10	17	11	15	17	70	70
	Resource management	75	3	4	13	3	4	27	36
	Coordination	125	17	21	15	19	19	91	73
	Comm Health, care and support	100	14	15	14	20	17	80	80
	Participation	125	19	21	11	19	18	88	70
	Local Resource Utilization	100	10	11	11	9	16	57	57
	Human resource developmt	150	15	21	12	20	23	91	61
	Reflection and review	75	9	11	10	12	11	53	71
	Totals	950	109	133	105	134	140	621	65
Matua	Decision making and planning	100	10	10	12	14	15	61	61
	Democratic leadership	100	18	19	18	18	20	93	93
	Resource management	75	8	4	4	3	3	22	29
	Coordination	125	13	16	13	24	18	84	67
	Comm Health, care and support	100	10	8	14	20	10	62	62
	Participation	125	16	17	23	24	16	96	77
	Local Resource Utilization	100	5	8	15	16	8	52	52
	Human resource developmt	150	14	14	13	16	10	67	45
	Reflection and review	75	7	7	10	11	13	48	64
	Totals	950	101	103	122	146	113	585	61
Siavonga	Decision making and	100	14	8	12	8	9	51	51

Annex 16. Operations Research Activities: NHC and CPT assessment

	planning								
	Democratic leadership	100	17	4	13	4	9	47	47
	Resource management	75	15	3	8	3	3	32	43
	Coordination	125	20	13	16	13	13	75	60
	Comm Health, care and support	100	17	7	15	10	9	58	58
	Participation	125	17	10	17	6	15	65	52
	Local Resource Utilization	100	14	10	10	10	11	55	55
	Human resource developmt	150	28	26	17	20	12	103	69
	Reflection and review	75	9	8	14	4	5	40	53
	Totals	950	151	89	122	78	86	526	54
Dibbwi	Decision making and planning	100	12	13	12	15	15	67	67
	Democratic leadership	100	11	18	19	15	18	81	81
	Resource management	75	10	12	5	13	10	50	67
	Coordination	125	20	17	19	16	17	89	71
	Comm Health, care and support	100	19	17	17	18	17	88	88
	Participation	125	19	24	19	23	24	109	87
	Local Resource Utilization	100	14	14	14	15	14	71	71
	Human resource developmt	150	26	19	26	20	24	115	77
	Reflection and review	75	11	8	9	12	14	54	72
	Totals	950	142	142	140	147	153	724	76
Ngangula	Decision making and planning	100	18	18	13	14	13	76	76
	Democratic leadership	100	14	19	17	17	16	83	83
	Resource management	75	9	9	13	11	11	53	71
	Coordination	125	24	21	21	20	17	103	82
	Comm Health, care and support	100	19	19	17	20	19	94	94
	Participation	125	21	18	21	25	19	104	83
	Local Resource Utilization	100	9	18	13	16	15	71	71

Annex 16. Operations Research Activities: NHC and CPT assessment

	Human resource developmt	150	24	23	22	24	28	121	81
	Reflection and review	75	7	9	13	11	14	54	72
	Totals	950	145	154	150	158	152	759	79
Malala	Decision making and planning	100	14	16	17	18	19	84	84
	Democratic leadership	100	15	19	19	17	19	89	89
	Resource management	75	11	11	15	13	11	61	81
	Coordination	125	18	18	22	24	23	105	84
	Comm Health, care and support	100	16	16	19	16	19	86	86
	Participation	125	21	20	21	20	23	105	84
	Local Resource Utilization	100	12	16	17	17	17	79	79
	Human resource developmt	150	20	27	23	26	27	123	82
	Reflection and review	75	7	15	11	19	14	66	88
	Totals	950	134	158	164	170	172	798	84
Turn-off	Decision making and planning	100	16	14	16	14	15	75	75
	Democratic leadership	100	16	14	15	16	16	77	77
	Resource management	75	10	5	10	11	11	47	63
	Coordination	125	17	17	17	21	21	93	74
	Comm Health, care and support	100	18	5	18	20	20	81	81
	Participation	125	18	2	18	23	20	81	65
	Local Resource Utilization	100	17	0	17	19	19	72	72
	Human resource developmt	150	25	7	25	24	24	105	70
	Reflection and review	75	13	6	13	15	15	62	83
	Totals	950	150	70	149	163	161	693	73
Sikoongo	Decision making and planning	100	7	8	10	12	14	51	51
	Democratic leadership	100	8	18	11	13	14	64	64
	Resource management	75	9	10	8	14	13	54	72
	Coordination	125	9	20	14	19	17	79	63

Annex 16. Operations Research Activities: NHC and CPT assessment

	Comm Health, care and support	100	16	13	18	17	16	80	80
	Participation	125	16	11	19	19	19	84	67
	Local Resource Utilization	100	13	13	10	17	15	68	68
	Human resource developmt	150	23	13	15	20	27	98	65
	Reflection and review	75	8	11	7	14	11	51	68
	Totals	950	109	117	112	145	146	629	66
Bbakasa	Decision making and planning	100	12	12	12	12	12	60	60
	Democratic leadership	100	11	15	12	14	19	71	71
	Resource management	75	9	5	5	9	5	33	44
	Coordination	125	18	7	9	20	4	58	46
	Comm Health, care and support	100	15	13	13	15	13	69	69
	Participation	125	24	20	23	14	18	99	79
	Local Resource Utilization	100	14	8	12	11	8	53	53
	Human resource developmt	150	18	17	15	18	13	81	54
	Reflection and review	75	11	9	15	9	8	52	69
	Totals	950	132	106	116	122	100	576	61
Kapululira	Decision making and planning	100	8	17	4	5	6	40	40
	Democratic leadership	100	9	13	4	7	10	43	43
	Resource management	75	10	13	3	5	8	39	52
	Coordination	125	13	16	5	8	16	58	46
	Comm Health, care and support	100	4	13	3	5	14	39	39
	Participation	125	12	16	7	9	19	63	50
	Local Resource Utilization	100	7	13	11	4	8	43	43
	Human resource developmt	150	11	18	9	8	14	60	40
	Reflection and review	75	5	7	4	3	5	24	32
	Totals	950	79	126	50	54	100	409	43
Sitinkwi	Decision making and	100	12	19	19	11	15	76	76

Annex 16. Operations Research Activities: NHC and CPT assessment

	planning								
	Democratic leadership	100	16	18	20	15	18	87	87
	Resource management	75	14	11	15	11	14	65	87
	Coordination	125	20	21	24	22	21	108	86
	Comm Health, care and support	100	15	18	20	20	19	92	92
	Participation	125	15	23	25	19	18	100	80
	Local Resource Utilization	100	16	19	0	17	21	73	73
	Human resource developmt	150	18	19	30	28	25	120	80
	Reflection and review	75	11	9	15	13	11	59	79
	Totals	950	137	157	168	156	162	780	82
Siayumbu	Decision making and planning	100	13	13	16	13	17	72	72
	Democratic leadership	100	18	18	18	18	17	89	89
	Resource management	75	13	13	13	13	11	63	84
	Coordination	125	20	20	20	20	24	104	83
	Comm Health, care and support	100	18	18	18	18	18	90	90
	Participation	125	18	18	18	18	21	93	74
	Local Resource Utilization	100	13	13	13	13	14	66	66
	Human resource developmt	150	17	16	16	17	26	92	61
	Reflection and review	75	14	14	14	14	14	70	93
	Totals	950	144	143	146	144	162	739	79
Hanyulu	Decision making and planning	100	16	12	15	16	11	70	70
	Democratic leadership	100	18	19	16	20	14	87	87
	Resource management	75	13	10	4	10	9	46	61
	Coordination	125	22	19	13	24	10	88	70
	Comm Health, care and support	100	20	20	20	18	18	96	96
	Participation	125	23	19	18	18	15	93	74
	Local Resource Utilization	100	18	13	16	19	5	71	71

Annex 16. Operations Research Activities: NHC and CPT assessment

	Human resource developmt	150	27	25	23	23	22	120	80
	Reflection and review	75	12	8	15	9	11	55	73
	Totals	950	169	145	140	157	115	726	76
Hapiku	Decision making and planning	100	5	5	9	13	13	45	45
	Democratic leadership	100	7	8	13	9	12	49	49
	Resource management	75	4	4	3	3	14	28	37
	Coordination	125	14	21	9	20	19	83	66
	Comm Health, care and support	100	16	15	15	20	18	84	84
	Participation	125	10	17	22	16	17	82	66
	Local Resource Utilization	100	6	18	12	13	11	60	60
	Human resource developmt	150	13	10	17	17	22	79	53
	Reflection and review	75	6	5	3	9	7	30	40
	Totals	950	81	103	103	120	133	540	56
Lwaala	Decision making and planning	100	11	10	11	13	7	52	52
	Democratic leadership	100	9	7	9	12	15	52	52
	Resource management	75	3	6	3	8	3	23	31
	Coordination	125	13	18	14	15	18	78	62
	Comm Health, care and support	100	19	19	19	14	16	87	87
	Participation	125	15	24	13	10	15	77	62
	Local Resource Utilization	100	15	14	10	8	15	62	62
	Human resource developmt	150	15	24	17	17	24	97	65
	Reflection and review	75	11	6	7	6	10	40	53
	Totals	950	111	128	103	103	123	568	58
Chaanga	Decision making and planning	100	13	13	17	5	12	60	60
	Democratic leadership	100	12	17	18	11	13	71	71
	Resource management	75	14	11	11	6	11	53	71
	Coordination	125	24	20	27	14	14	99	79

Annex 16. Operations Research Activities: NHC and CPT assessment

	Comm Health, care and support	100	20	18	18	14	14	84	84
	Participation	125	23	20	19	12	14	88	70
	Local Resource Utilization	100	18	12	14	8	9	61	61
	Human resource developmt	150	25	24	16	16	20	101	67
	Reflection and review	75	12	9	9	7	6	43	57
	Totals	950	161	144	149	93	113	660	69
Dambwe	Decision making and planning	100	13	11	15	13	10	62	62
	Democratic leadership	100	13	10	15	16	14	68	68
	Resource management	75	7	5	8	16	3	39	52
	Coordination	125	20	8	14	24	21	87	70
	Comm Health, care and support	100	6	6	12	16	9	49	49
	Participation	125	16	13	15	16	21	81	65
	Local Resource Utilization	100	4	11	15	11	5	46	46
	Human resource developmt	150	10	13	20	16	9	68	45
	Reflection and review	75	9	13	9	10	3	44	59
	Totals	950	98	90	123	138	95	544	57
Kasiwe	Decision making and planning	100	14	11	9	13	14	61	61
	Democratic leadership	100	13	14	9	12	13	61	61
	Resource management	75	12	5	4	6	9	36	48
	Coordination	125	23	18	18	12	22	93	74
	Comm Health, care and support	100	19	19	18	16	13	85	85
	Participation	125	19	20	21	18	18	96	77
	Local Resource Utilization	100	17	12	13	11	16	69	69
	Human resource developmt	150	23	21	19	17	23	103	69
	Reflection and review	75	12	10	5	10	14	51	68
	Totals	950	152	130	116	115	142	655	68
Katulo	Decision making and	100	13	17	13	12	12	67	67

Annex 16. Operations Research Activities: NHC and CPT assessment

	planning								
	Democratic leadership	100	17	15	14	17	16	79	79
	Resource management	75	15	19	12	11	9	66	88
	Coordination	125	20	19	23	21	18	101	81
	Comm Health, care and support	100	20	23	20	20	16	99	99
	Participation	125	20	17	19	20	18	94	75
	Local Resource Utilization	100	17	15	15	14	10	71	71
	Human resource developmt	150	22	21	19	25	18	105	70
	Reflection and review	75	9	9	12	6	12	48	64
	Totals	950	153	155	147	146	129	730	77
Nabbanda	Decision making and planning	100	15	6	10	15	15	61	61
	Democratic leadership	100	15	4	5	15	17	56	56
	Resource management	75	10	12	18	10	12	62	83
	Coordination	125	20	15	20	17	22	94	75
	Comm Health, care and support	100	18	7	20	17	16	78	78
	Participation	125	21	13	23	19	22	98	78
	Local Resource Utilization	100	10	11	17	12	16	66	66
	Human resource developmt	150	19	23	18	20	27	107	71
	Reflection and review	75	10	10	3	4	14	41	55
	Totals	950	138	101	134	129	161	663	69
Nabuteezi	Decision making and planning	100	12	15	14	15	16	72	72
	Democratic leadership	100	15	17	19	12	14	77	77
	Resource management	75	10	9	9	9	9	46	61
	Coordination	125	17	11	21	17	16	82	66
	Comm Health, care and support	100	14	14	15	18	18	79	79
	Participation	125	17	18	22	19	20	96	77
	Local Resource Utilization	100	9	9	10	15	9	52	52

Annex 16. Operations Research Activities: NHC and CPT assessment

	Human resource developmt	150	22	16	17	16	19	90	60
	Reflection and review	75	13	11	12	8	10	54	72
	Totals	950	129	120	139	129	131	648	68
Kooma	Decision making and planning	100	18	17	16	15	16	82	82
	Democratic leadership	100	18	16	17	15	17	83	83
	Resource management	75	14	15	14	14	16	73	97
	Coordination	125	22	21	18	20	22	103	82
	Comm Health, care and support	100	20	19	17	19	22	97	97
	Participation	125	21	19	18	22	20	100	80
	Local Resource Utilization	100	15	15	17	16	19	82	82
	Human resource developmt	150	23	22	23	22	25	115	77
	Reflection and review	75	14	12	10	10	10	56	75
	Totals	950	165	156	150	153	167	791	84

Kate Shearer
July 8, 2009

ITN Distribution Report for Chikankata Child Survival Project

Introduction

Zambia has made significant progress in the last few years in lessening the burden of malaria on its' citizens. It has done this through the systematic scale-up of malaria interventions throughout the country, focusing on mass distribution of long lasting insecticidal nets (LLINs) and increasing indoor residual spraying (IRS). The goal of Zambia's Ministry of Health (MOH) is for each household to have 3 LLINs, regardless of the size of the household.

LLINs were mass distributed in the Southern Province, which includes the Chikankata Child Survival Project's (CCSP) catchment area, in 2006 and 2007 and are currently distributed to pregnant women and mothers through Antenatal Clinics and the Expanded Program on Immunization (EPI). While the LLINs are manufactured to last for approximately 5 years without needing retreatment or replacement, Dr. Allen Craig with USAID expressed concern over reports from the field that the LLINs were lasting just 12 to 18 months. Epidemiological studies are currently underway to determine the durability of the LLINs.

Structure of the Supply Chain

LLINs are procured at the national level by the National Malaria Control Centre (NMCC), commonly referred to as the Central Level, directly from the manufacturer. According to Cecelia Katebe, an ITN Specialist with the NMCC, the majority of the LLINs are procured using support from organizations such as The Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria, the President's Malaria Initiative, and the World Bank. The LLINs are delivered directly from the manufacturer to the district level where the District Health Management Team (DHMT) takes the responsibility for ensuring LLINs are distributed to the households in need. As the mass distribution has already taken place in the Southern Province, distribution primarily occurs through Antenatal Clinics (ANCs) and EPI at Rural Health Centers (RHCs) where mothers can receive nets at no cost to them.

Record keeping of inventory and distribution of LLINs vary by RHC, but many have stated that their supply does not meet the need of their communities. When asked about the availability of nets, Ms. Katebe stated that supply was an issue and there were never enough nets to meet demand. This problem is primarily tied to availability of funding to procure nets and will remain an issue in the future as the focus shifts from mass distribution to sustainability of benefits. Both Dr. Craig and Ms. Katebe stated that, currently, sustainability is a question for which there are few answers.

Recommendations for the DHMT

In order to maintain consistent coverage of effective LLINs, it is important that records are maintained on both coverage within communities and inventory levels at RHCs. Currently, no universal system is in place for maintaining such records and each RHC has developed its own record keeping system, sometimes with the help of an outside person or organization, or has no records at all.

To gauge the current coverage levels of insecticide treated nets (ITNs)/LLINs within the CCSP catchment area, a community based household survey was recently conducted by CCSP Care Group Volunteers. Volunteers gathered information on the number of sleeping spaces or structures within each household, the number of children under the age of 5, the number of women of reproductive age (ages 15 – 45 for this survey), the number of ITNs/LLINs, length of ownership, and condition of the nets. The data gathered by this survey is intended to serve as a baseline for maintaining records of ITN/LLIN coverage in the future and will be shared with all of the RHCs for which information was obtained.

To maintain records on coverage into the future, Care Group Volunteers will report to their Care and Prevention Team (CPT) or Neighborhood Health Committee (NHC) on the number of households in their villages with children under the age of 5 or pregnant women, and among those households, the number which own at least one ITN/LLIN. They will report this information at the CPT/NHC monthly meeting and that information will then be shared with their RHC on a quarterly basis. The RHC will be able to use this information to maintain an adequate inventory of LLINs to meet the needs of the communities within their catchment area.

At the RHC level, it is recommended that records are maintained on inventory and distribution, using a form similar to the one below:

LLIN Inventory and Distribution Chart							
# of LLINs in Stock as of July 1, 2009:							
Household	Current # of ITNs/LLINs	# of Sleeping Spaces	# of U5s	# of Women of Reproductive Age	# of LLINs distributed	Updated # of LLINs	# of LLINs remaining in stock

The above form can be completed using the baseline information obtained in the CCSP LLIN coverage survey and can be updated as mothers receive LLINs at the RHC.

In some communities, mothers may find it difficult to travel to the RHC for antenatal visits or EPI. However, in some of these areas, Trained Traditional Birth Attendants (TTBAs) make monthly visits to the RHC. It is recommended that TTBA be asked to “order” LLINs from the RHC for those mothers who are in need of LLINs but cannot make the journey to the RHC themselves. In these situations, Care Group Volunteers will report to the CPT or NHC which households are in need of LLINs and how many are needed. The CPT/NHC will then fill out an order form for the TTBA to take with her to the RHC. The order form will be used by the RHC to fill the order and to update their records. Below is an example of an order form that could be used for such a system.

LLIN Community-Based Order Form		
Household	# of LLINs Needed	# of LLINs Given to TTBA/CHW (Filled in by RHC)

With the order filled, the TTBA would transport the LLINs back to their community where they would deliver them to the CPT/NHC Secretary for distribution to the appropriate household. If the number of LLINs ordered is too many for the TTBA to carry, someone with a bicycle will be sent with the TTBA to pick up the LLINs and bring them back.

Challenges

As this system is dependent on a consistent supply of LLINs being maintained at the RHC, it may not be possible to implement it at RHCs where supply is low or non-existent.

Unfortunately, some RHCs have reported not having LLINs to distribute, which is a consequence of a lack of funding to procure enough LLINs from the manufacturers.

Furthermore, there are some areas in which TTBA do not travel to the RHC due to distance and there are also areas in which there are no TTBA at all. In these situations, if there is a CPT or NHC in place, the secretary can either take the order themselves to the RHC or if there is a Community Health Worker in the area, the secretary can place the order with them.

Kate Shearer
Chikankata Child Survival Project
July 23, 2009

ITN Coverage and Condition in the CCSP Catchment Area

Introduction

Over the course of the last 9 weeks, a census of the Chikankata Child Survival Project's catchment area was conducted to determine coverage and condition of insecticide treated nets (ITNs). Every household was surveyed and information was collected on the number of sleeping spaces, number of children under the age of 5, number of women of reproductive age, number of ITNs, length of ownership, if the net was treated at the time of receipt and if it had been treated since then, and the condition of the nets. Condition was assessed on a four point scale, with a "good" net having no holes, a "fair" net having no holes which fit a banana, a "poor" net having 1 – 4 holes which fit a banana, and an "unsafe" net having more than 5 holes which fit a banana. Nets could also be classified as "unused" or "unknown."

Coverage Results

Data was collected on over 19,000 households across all five zones of the Child Survival Project's catchment area and was sorted according to Rural Health Center (RHC) and Zone. Jamba RHC had the highest coverage, with 100% of households reporting that they owned at least 1 ITN, and Ibbwemunyama RHC had the highest average number of ITNs per household at 2.56. Nadezwe RHC reported the lowest coverage, with 57.63% of households reporting that they owned at least 1 ITN, and Nameembo RHC had the lowest average number of ITNs per household at 1.04.

In Zone 1, 2,622 households were surveyed, reporting an average of 1.22 ITNs per household with 60.56% of households reporting that they owned at least 1 ITN. In Zone 2, 3,527 households were surveyed, with an average of 1.33 ITNs per household and 74.03% reporting that they owned at least 1 ITN. In Zone 3, 2,673 households were surveyed, with an average of 1.79 ITNs per household and 87.36% of households reporting that they owned at least 1 ITN. In Zone 4, 5,427 households were surveyed, with an average of 1.41 ITNs per household and 80.36% of households reporting that they owned at least 1 ITN. Finally, in Zone 5, 5,156 households were surveyed, with an average of 1.61 ITNs per household and 87.68% reporting that they owned at least 1 ITN. Overall, for the CCSP catchment area, 19,405 households were surveyed, with an average of 1.47 ITNs per household and 79.44% reporting that they owned at least 1 ITN.

The last ITN census was conducted in the CCSP catchment area in late 2007 after the mass distribution of ITNs was completed. The catchment area has seen a significant increase in coverage since the mass distribution occurred. The results of the last census showed that the

catchment area as a whole had an average of just 0.76 ITNs per household and ranged from a low of 0.51 ITNs per household in Zone 3 to a high of 1.13 ITNs per household in Zone 5. Each zone in the catchment area saw an increase in coverage since the last census took place.

Condition Results

Data on condition is considered less reliable than the data on coverage. In some cases, condition was not reported for any ITNs in a community; in other cases, condition was reported using terms not included in the specified scale, such as “bad” or “not good.” However, these instances were far fewer than cases where condition was reported correctly, so it is hoped that the results were not biased significantly.

In Zone 1, the condition of 3,172 ITNs was assessed and 68.38% were reported as being in “good” condition. In Zone 2, 4,694 ITNs were assessed and 52.71% were in “good” condition. In Zone 3, 4,812 ITNs were assessed and 75.12% were in “good” condition. In Zone 4, 7,641 ITNs were assessed and 21.06% were reported as being in “good” condition. Finally, in Zone 5, 8,290 ITNs were assessed and 19.30% were in “good” condition. Overall, 28,609 ITNs were assessed in the CCSP catchment area and 40.08% were reported as being in “good” condition.

Distribution of Census Results

Results of the ITN census have been distributed to 10 of the RHCs of Siavonga District and will be distributed to the remaining RHCs of Siavonga and Mazabuka in the near future. It was intended for the RHCs to be able to use the results of the census as a baseline database of ITNs for their respective catchment areas that could be updated continuously as distributions occur and as a tool to lobby the District Health Office and/or other partner organizations for ITNs for their communities. Each RHC received hard copies of the census results along with recommendations on how to maintain the records with the assistance of CCSP Care Group Volunteers and local Care and Prevention Teams (CPTs) or Neighborhood Health Committees (NHCs). They were also supplied with recommendations on how to work with CPTs or NHCs in future distributions. Those RHCs with computers were also given electronic copies of the results which will make the task of updating the records far less burdensome. Representatives from each RHC visited expressed gratification upon receipt of the results and all felt that the data would assist them in reporting to the District.

Conclusion

While the CCSP catchment area has seen a significant increase in coverage since the mass distribution occurred, the average number of ITNs per household still falls short of the Zambian Ministry of Health’s goal of 3 ITNs per household. Furthermore, condition of the ITNs is a concern, especially in Zones 4 and 5 where just 21.06% and 19.30% were reported in “good” condition, respectively.

THE SALVATION ARMY Chikankata Child Survival Project



PD Hearth Assessment Report
January 25th –February 5th, 2010.

Prepared by: John S. Mumba

Forward;

I wish to thank the Salvation Army World Service (SAWSO) for considering me to conduct Positive Deviance (PD) Assessment for the Chikankata Child Survival Project. Special thanks go to Claire Boswell who contacted me to undertake this activity.

May I also thank the management at Chikankata Health Services for their usual support during the consultancy. Indeed CSP staffs were on hand to receive me and many thanks for their passion and co-operation.

Lastly but not the least, I wish to extend my sincere gratitude to the Care group volunteers for their cooperation and willingness to provide information.

Special gratitude goes to my wife and daughter for letting me undertake the responsibility. Their prayers and support were greatly invaluable.

Finally, heartfelt thanks to the Dibwi community for their support and strength rendered when the vehicle was stuck in the mud.

List of Acronyms

AIDS	Acquired Immunal Deficiency Virus
AISP	Agriculture In-put Support Programme
CCSP	Chikankata Child Survival Project
CGV	Care Group Volunteer
CHAZ	Churches Health Association of Zambia
CH&D	Community Health and Development
HEPS	High Energy Protein Supplements
HIV	Human Immune Virus
M&E	Monitoring and Evaluation Officer
MMH	Mtendere Mission Hospital
MOH	Ministry of Health
MOAC	Ministry of Agriculture and Cooperatives
NGO	Non Governmental Organization
NIDs	National immunization Days
PD	Positive Deviance
PDI	Positive Deviance Inquiry
PM	Project manager
SAWSO	Salvation Army World Service
US	United States
WHO	World Health Organization

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Introduction

The Salvation Army World Service Office (SAWSO) is implementing the Chikankata Child Survival Project in partnership with The Salvation Army Chikankata Health Services. The project was awarded through the Child Survival and Health Grants Program's Standard category. The project will benefit 124,613 people in the Mazabuka and Siavonga districts of Zambia's Southern Province, which is a rural area with limited infrastructure and extreme poverty. The program goal is to reduce maternal and under-five mortality among 50,593 direct beneficiaries (4620 children under 12 months, 4353 children 12-23 months, 13,146 children 24-59 months, and 28,474 women of reproductive age).

The Chikankata Child Survival Project is a partnership between US-based SAWSO, The Salvation Army/Zambia, and the Zambian Ministry of Health. The Salvation Army has operated in Zambia since 1924 and founded Chikankata Health Services in 1945. Chikankata Health Services has worked hand-in-hand with the Zambia Ministry of Health to provide health services to the people of Mazabuka and Siavonga for nearly 60 years, and has well-established, trusting relationships with communities. Other collaborators include the Churches Health Association of Zambia, the Zambia National Malaria Control Program, Mtendere Catholic Mission Hospital, Plan Zambia, and Harvest Help. This partnership includes all of the primary service providers in the proposed area and key leaders in maternal and child health at the country level.

The project addresses all leading causes of child death and major contributors to maternal and newborn deaths. It will build upon the successes of The Salvation Army's past and existing health programs, which have improved access and use of health services and have built community capacity to manage health activities. By expanding from Chikankata Health Services' current catchment area to the remainder of the needier contiguous Siavonga District, the program will add another 54,000 people. To further improve maternal and child health, this program will intensify behavior change efforts to reach every household in the program area, and add key interventions in malaria and maternal and newborn care that are currently not being addressed. The Salvation Army's grass-roots presence at the village level provides the foundation for the program to work towards better use of, increased demand for, and community ownership of health care services, consistent with Zambia's decentralization policies. The program also offers the opportunity to integrate The Salvation Army's current HIV/AIDS programs into maternal and child health activities, further strengthening the holistic health services that Chikankata provides.

The project uses innovative community-based strategies to address the factors contributing to the high maternal and under-five mortality. Interventions include malaria (40% effort), immunization (10%), nutrition (30% effort), and maternal and newborn care (20% effort). Key strategies will include the Care Group Model, the Hearth Nutritional Rehabilitation Model, Care and Prevention Teams, and men's groups. Care Groups include volunteer mothers from within

the community who work with their immediate neighbors to improve household behaviors. This model allows families to learn about healthy behaviors and discuss barriers and benefits with a trusted, respected community member and achieves 100% coverage of all households. The Hearth Model uses local, affordable resources and positive feeding practices (behaviors and foods) from community members with well-nourished children to develop home feeding sessions in which mothers rehabilitate their malnourished children and learn to prevent future malnutrition. Care and Prevention Teams at the community level provide leadership, model service, facilitate community action, and promote social changes to achieve better health. The Salvation Army has used these teams in the past to change deeply ingrained cultural practices that were contributing to the spread of HIV. Men's groups will reach the primary decision-makers who control resources to mobilize them to contribute to better health of women and children.

Purpose of Consultancy

The purpose of this consultancy is to lead the CCSP team in an assessment of the quality of Hearth implementation

Objective of Consultancy

The purpose of this assessment was to determine the coverage and quality of Hearth implementation in the CCSP area. The assessment I took into account the following aspects that were established during initial training.

Extent to which Hearth sessions are following protocols such as hearth rotations (menus) designed during PD hearth training, plot times of normal eating including when child has longest gap between meals and empty, ages 6-36 months, moderate to severe malnutrition, de-worming everyone two weeks prior to hearth, continue breast feeding during hearth session, up to date with immunizations and vitamin A supplements and regular weighing.

Consultancy also focused at participants, thus to see if participants are care givers who are invited, committed to attend for two weeks, agree to contribution, practice at home, have parental heart and are resident.

Specific information requested included the existence of a written protocol for hearth sessions, which parts of protocol are being implemented adequately and which ones require improvement

The assessment further looked at the process by which mothers are selected to implement hearth, criteria to determine a malnourished child, what is the minimum number of under nourished children to conduct a hearth and other essential elements to the implementation of to the implementation of an effective PD/Hearth programme such as positive deviance inquiry using community members and staff.

Assessment Design

The assessment was conducted in the entire CCSP catchments area of Mazabuka and Siavonga districts of Southern province of Zambia. Two questionnaires were administered. One

questionnaire to the project staff (Facilitator) and the other to care group volunteers involved in the hearth sessions. Therefore a total of twenty (20) questionnaires were administered to project staff while five (5) care group volunteers from each facilitator were interviewed bringing a total of care group volunteers interviewed to one hundred and five (100). The team could not interview one facilitator from Dundu community as he has recently been employed and is still being detailed about hearth and project interventions. However his care group volunteers were interviewed. It is important to note that volunteers from Munyama catchment area were not interviewed as the road network was extremely bad and impassable. Nevertheless, we managed to interview the facilitator from Siavonga town/district. Note that volunteers interviewed were those that are/were involved in the hearth sessions only and each volunteer came from a different hearth site.

To this effect, the team spent four days of field visit and interviewing in Mazabuka, five days in Siavonga while the first day was at the office with Project Manager, M&E Coordinator and supervisors designing questionnaires, translating into the local language of Tonga and putting logistics in place.

Outside assessment, the team took time to learn of various challenges the staff and volunteers meet in executing this noble responsibility of improving the nutritional status of children in the project area.

Presentation of findings

The report starts by presenting findings from Field Facilitators. Most facilitators acknowledged following hearth protocols. However when asked what protocols they followed, most of them mentioned just one or two of the protocols with some mistaking conducting of health education to protocols while some facilitators from zones 4 and 5 literally do not follow any protocols. When asked what protocols they follow, following responses were given;

Determine the nutritional status, conduct health education with care takers, weighing the child, determining age category, de-worming the child, vitamin A supplementation, wash hands with soap, continue to breast feed, age 6-24 months, age 6-36months, age 6-59 months, re-weigh after two weeks, refer children who do not gain weight, identify locally available foods, is child growing well, weighing before start of hearth, number of children required to form a hearth.

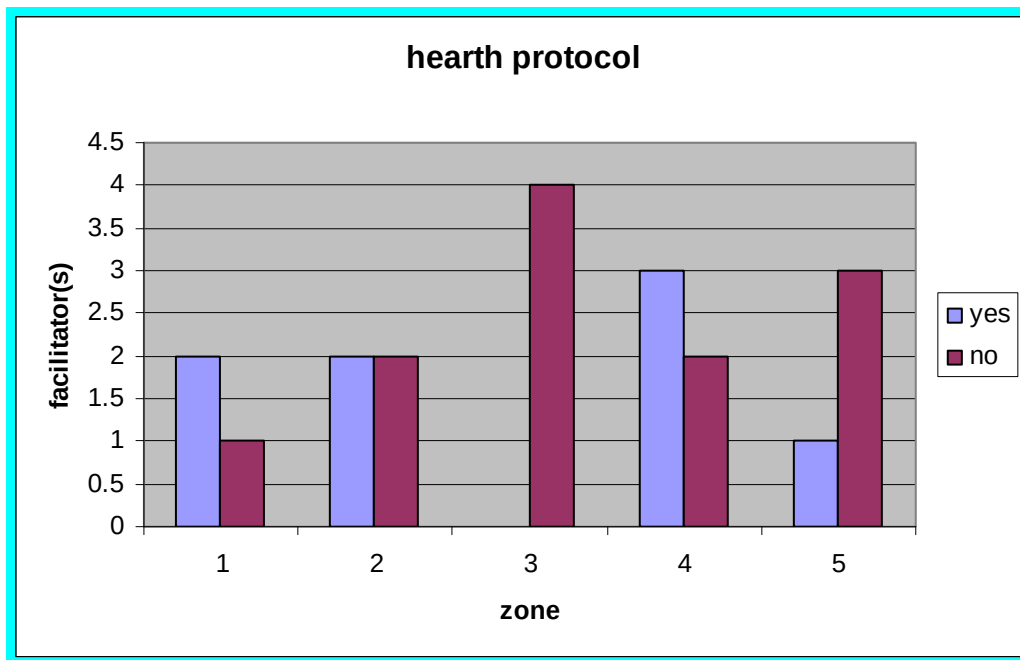
It was disheartening to note that three of the facilitators do not follow hearth protocols at all, while some only mentioned one and others did not know what hearth protocols are. There was no single field facilitator who had written hearth protocols for hearth sessions except those in the handout manual given to them during the initial training which I must say have since been shelved.

It was agreed upon prior to start of assessment that a facilitator shall be acknowledged to follow protocols if he/she is able to mention at least three protocols. *See facilitator questionnaire attached.*

In view of this agreement responses from facilitators are as summarized below:-

zone	1	2	3	4	5
yes	2	2	0	3	1
no	1	2	4	2	3

The bar chart below further demonstrates responses obtained from facilitators with respect to following of protocols.



On what parts of protocol are being implemented adequately, following were responses;

De-worming, immunization and vitamin A as this is done bi-annual by MOH during the child health week/National Immunization days (NIDS), age category.

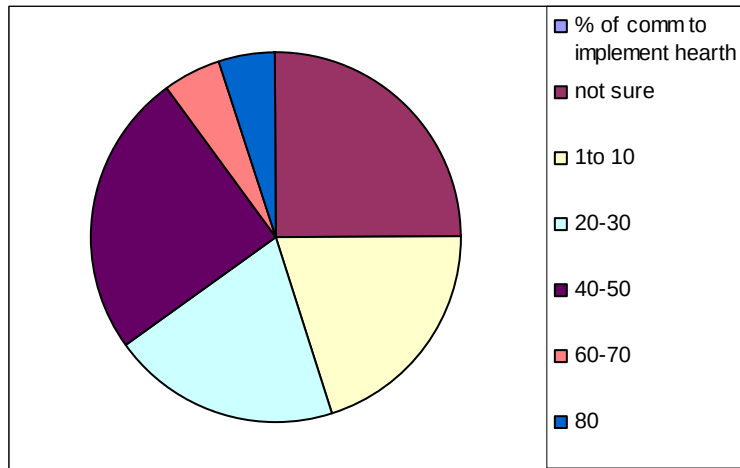
When asked, what parts of protocol need improvement, Mr. Paul Mainza from zone 2 said *washing of hands with soap before feeding, attendance by care takers*. Other responses from different facilitators included *improving links with health facilities over relief food from World Food Programme (WFP), does not know, weighing is difficult due to lack of Salter scales, re-weighing of children, determination of nutritional status, determining of Childs age, food contribution by mothers and breast feeding*.

Process is not accurately followed by some facilitators. Responses on the criteria for selecting communities to implement hearth included *when the number of malnourished children is greater than 40%, below 30%, at least 20% malnutrition of the children, where malnutrition is a problem, age, under weight ,malnutrition at least 60%, malnutrition 6-10%, at least greater than*

30%, at least 20% of children malnourished, 40-50%, up to 10% of children malnourished, 20-30%, not sure, no idea even one child can be on hearth , 80% of malnourished children.

Summary of responses is as shown below:-

% of comm./villages to implement hearth	not sure	1to 10	20-30	40-50	60-70	80 and above
# of facilitators	5	4	4	5	1	1



Asked on how the facilitators are appropriately determining when a child is malnourished, almost everyone said is using the WHO guidelines (-2 Z score) and that they have a copy of the guide. The current under five clinic cards issued by MOH have also been revised and show the Z-scores. This is assumed to be done quite well.

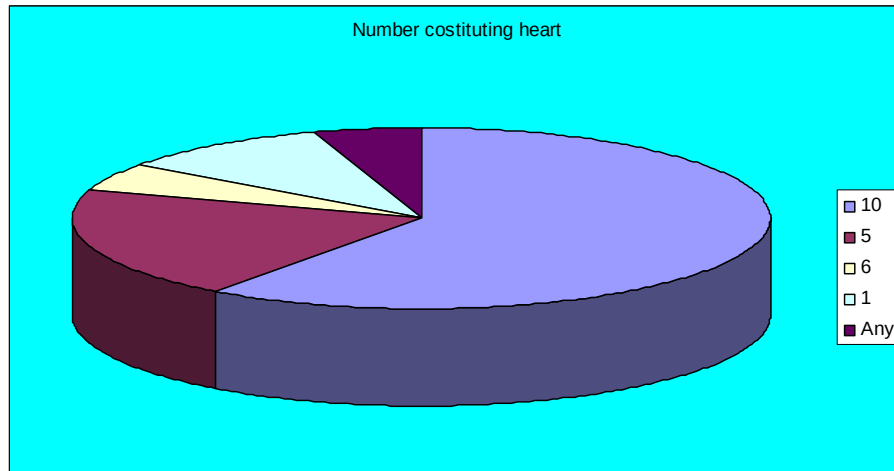
Different responses were made regarding the number of children constituting a hearth session. These included following;

10 children, 1-18 children, 10 and above, any number, even 1, 5-10 children, 6 children per session, 5 or 10,

Table and pie chart below illustrates variations in the number of children constituting a hearth by field facilitators;

Annex 16. Operations Research Activities: PD Hearth Assessment Report

# of children per hearth	10	5	6	1	Any
# of facilitator response	12	4	1	2	1



The care group questionnaire was just a confirmatory question on how they pick children for a hearth session. Several responses were obtained which included the following;

Through weighing and comparing with age,

Wrinkled skin,

If child has no appetite,

If child has a big belly,

Using under five card,

Low weight compared to age,

If child drops from normal to lower line on the card,

Child looks dull and thin,

Childs weight does not increase,

Diarrhea,

*Skin not good,
Hair texture changes (light yellow),*

Refuses to eat,

Bright skin,

Edema,

Child has no power,

Not happy,

Hair changes to brown

Sores and peeling skin,

Skin rash,

Regarding positive deviance inquiry (PDI), no single facilitator has ever done this except the one done during training. However PDI is a learning opportunity for the community, not just fact finding for project staff.. it serves an opportunity for community members (CGV) to discover that very poor families have certain good practices which enable them prevent malnutrition. Extrapolation of PDI may miss important PD practices

Discussion

The hearth sessions are conducted by all the field Facilitators and closely monitored by their Supervisors. On average each Facilitator has so far established five hearth sites. There is equally a lot of enthusiasm by care group volunteers in ensuring great success in this activity. Demand is also high by communities where this activity has not been extended to, more so that utensils are readily available.

Positive results obtained from hearth are seen by community members. Thus, children who have graduated from hearth sessions are doing well and are seen by community members. This has acted as a great motivation to the neighbors including the men folk in the villages.

The ministry of health is also doing a great job through it's National health week days which come twice a year (every after six months). During these days all children under the age of five are de-wormed and massive immunization is done. This has positively affected the hearth sessions which demand that a child be de-wormed two weeks prior to starting hearth session. Health education on exclusive feeding and nutrition are also conducted during these days. It is for this reason, therefore that even when children are not de -wormed prior to a hearth session, the de-worming done during child health week still holds.

However, there are challenges accompanied with this success story among which are:-

- **The hearth sessions are seasonal-** They are only conducted when communities finish their farming activities. During farming almost everyone in the village go to fields as early as 4 AM and return home quite late in the night. In some cases like in Siavonga villagers relocate to their fields during this farming season and only return to their homes after harvest. They do this because they have to guard their crops against birds and animals such as monkeys and elephants. It is for the above reason, therefore that hearth sessions are usually conducted after farming season. This time is equally desirable as most households at least can at least afford food to bring to the hearth.
- **Stigma-** some mothers whose children are identified as malnourished are usually stigmatized by fellow community members as either poor or have children that are HIV positive. Against this backdrop these mothers either do not come to hearth sites or stop coming before the normal hearth period of two weeks. There is also stigma within mothers coming for hearth. Thus, mothers who bring vegetables to a hearth are regarded as inferior by those that bring some high class foods such as beans, cooking oil or meat. As a result a hearth is seen as a place to exhibit some economic status and muscle.
- **Religious beliefs-** There is one community which does not want to associate with itself any thing coming from the Salvation Army. To this effect they attribute any activity as a way of changing their religious beliefs so they can join the Salvation Army church.
- **Traditional beliefs-** Some communities especially in the Siavonga district associate certain foods to traditional beliefs. For example, *eggs cause fists if eaten by children and should only be taken by the head of a household, a mother should not continue to breast feed the child if she is pregnant as this may result in the baby dying.* These and similar cultural/traditional beliefs have really hampered progress to hearth.
- **NGO competition-** There is some kind of competition among NGO's as to what service they offer in the community. A case in point is in Chirundu of Siavonga district where Mtendere Mission Hospital is offering HEPS to malnourished children. In this case mothers opt to collect food from the hospital than to attend a hearth session where they are asked to bring with them food from their home. Another example is in Chikankata's Mazabuka district where CHAZ under CH&D is issuing free fertilizers to mothers in the community as way of enhancing food security. Mothers would want to associate themselves with such groupings where they get free hand outs than to be taught how to catch the fish.
- **Lack of motivation-** Care group volunteers were quick to highlight lack of motivation in that they have not been receiving their annual incentives for the past two years. This has really de motivated them to an extent that they are not encouraging mothers to turn up for hearth sessions. Volunteers are really instrumental in the smooth running of a hearth as they live with the mothers and can easily monitor the graduant mothers in their homes; they also play a role in nutritional counseling the regular weighing of the children in their homes.
- **PDI-** It is important that each and every community conducts a positive deviance inquiry using community members and staff. The PDI is a learning opportunity for the community. It is meant to provide an opportunity for hearth volunteers to discover that poor families have certain good practices which enable them to prevent malnutrition. Just as adult learning theory dictates the need to discover by doing, so do communities need

their own PDI to discover PD practices. Extrapolating PDI results from one community to another result in losing the process of community's discovery from the PDI.

- **Lack and /or insufficient food-** Some households especially in the valley of Siavonga literally do not have food for their household consumption. This can be seen from their granaries which are usually empty. There are several reasons attributed to this situation including natural calamities such as inadequate rains, poor soil fertility that requires inputs such as fertilizers which are also quite expensive. This lack or inadequate household food security greatly impedes progress towards improving nutrition status and makes hearth sessions almost difficult to run as mothers of affected children can hardly bring food to the hearth.

Recommendations

In order to achieve desired goals with regard to PD/Hearth, it is important that the following be put in place.

1. The project staff ought to intensify their health and nutrition education in the communities. This will help to remove some cultural/traditional and religious beliefs associated with food and hearth. Interaction between staff and volunteers in some areas seem not to be strengthened. Against this background community is demotivated and not able to follow hearth to the expected end. Follow up of children after a session need to be improved as this is the only way the project can know if mothers are practicing what they learnt at the hearth at home.
2. Where as knowledge on signs and symptoms of malnutrition seem to be excellent among volunteers and staff, it is recommended that PD/Hearth protocols be made available to each facilitator in form of a laminated hard copy. Most staff do not know what protocols are and if they do it is only one or two protocols. This leaves one to wonder how hearth is conducted without the knowledge of protocols.
3. It is further recommended that stake holder coordination be strengthened to avoid clashes in implementation which exists between the project and MMH. This can best be resolved during stakeholder meetings and regular meetings on a one to one with the hospital. On the other hand, the coordination with MOH is perfect.
4. Consistency in conducting hearth sessions between villages ought to be observed. What is currently obtaining is that each facilitator conducts sessions differently. A case in point is where two facilitators indicated that they are able to conduct a hearth session even with a single child. This is completely wrong and was never encouraged during the initial training. Staff/communities also need to revise the process by which villages are selected for a hearth session. Most staff selected villages to implement hearth when malnutrition levels were above 70%. This has resulted in leaving out several children that need to be on hearth. Against this backdrop, it is recommended that staff appropriately select villages to implement Hearth. i.e. only villages with greater than 30% malnutrition.
5. Recommendation is also made to ensure that staff/volunteers appropriately determining when a child is malnourished and when there are sufficient malnourished children to hold a Hearth session. To achieve this staff/volunteers should use -2 z score as a bench mark for enrolling children to a hearth session while the number of children aged 6-36 months ought to be 10-12 per hearth session.

6. It is important that care group volunteers are held in high esteem i.e. highly motivated if the project is to achieve meaningful results. Simple things as annual incentives ought to be given to them so they can continue to mobilize the communities, in this case encourage mothers of malnourished children attend hearth.
7. As a long term measure the project need to collaborate with government MOAC. The ministry runs a programme call AISP which provides agriculture in-puts to under prevailedged households in form of seed and fertilizers aimed at improving food security. However, this initiative may not be sustainable at this time when the project is almost coming to end.

Conclusion

All in all, the project seems to be on track in its endeavors to reduce malnutrition in the project area. There is need however, to enhance supervision by both supervisors and staff at the Field office. The M&E office needs to take keen interest in tracking progress of children that graduate from hearth sessions. Reporting system of children in hearth registers need to be streamlined to ensure accuracy in the data at the facilitator to supervisor and M&E

Chikankata Child Survival Project

Schedule of Activities

Date	Activity	Community/ Station	Zone & Facilitator	Resp. Person(s)
25/01/2010	Formulation of Questionnaire, Translate to Local language of Tonga, pre-test to Care group volunteers, print questionnaire and organize transport logistics	Chikankata Child Survival Project Office	N/A	• Consultant • PM • M&E • Mazabuka Supervisors
26/01/201	Administer	Nadezwe, Chikankata,	Zone One.	• Consultant

Annex 16. Operations Research Activities: PD Hearth Assessment Report

0	Questionnaire to Field Facilitator and Care group Volunteers involved in PD/Hearth sessions	Hampande,Kasiwe, Mabwetuba,M/Mangala, Simoonga Farms, Kasaka, Chikanda Muchile, Godson farms,Stubbs,Chisoba and Caanan	<u>Facilitators</u> 1. Petronella 2. Edwin Chisenga 3. Mulonga Handabile	• M&E • Mazabuka Supervisors
27/01/2010	Administer Questionnaire to Field Facilitator and Care group Volunteers involved in PD/Hearth sessions	Simwambwa, chikanzaya, Bulongo, ching'ang'auka, Chiteula,twabuka,mannga, chulaula	Zone two <u>Facilitators</u> 1. 2.	• Consultant • M&E • Mazabuka Supervisors
28/01/2010	Administer Questionnaire to Field Facilitator and Care group Volunteers involved in PD/Hearth sessions	Chikani, chaaya, Kanyenza,luando,bbombo, Agriflora, chitete, nameembo,mwala,kasukwa	Zone two <u>Facilitators</u> 1.Paul Maiza 2.Honiger Cheelo	• Consultant • M&E • Mazabuka Supervisors
29/01/2010	Administer Questionnaire to Field Facilitator and Care group Volunteers involved in PD/Hearth sessions	Mulando,mukwela,mweete kazoka,dimba ng,andu, Malala, chikombola, tusolechikombola, lwaala, Hapiku,mautyaba hapiku B	Zone three <u>Facilitators</u> 1. milton Simule	• Consultant • M&E • Mazabuka Supervisors
01/02/2010	Administer Questionnaire to Field Facilitator and Care group	Chididi, kafwakudi, musika,mungwasyi,kamimba, Siamatika, butete,nangoba, Mwanangala, kulundu, mpongo, manchawa lake show.	Zone Four <u>Facilitators</u> 1. Daison Tembo 2. Frackson Hajaya	• Consultant • M&E • Siavonga Supervisors

Annex 16. Operations Research Activities: PD Hearth Assessment Report

	Volunteers involved in PD/Hearth sessions		3. Caphas	
02/02/2010	Administer Questionnaire to Field Facilitator and Care group Volunteers involved in PD/Hearth sessions	Sianyolo	Zone Three Facilitator 1. Moonga	• Consultant • M&E • Siavonga Supervisors
03/02/2010	Administer Questionnaire to Field Facilitator and Care group Volunteers involved in PD/Hearth sessions	Siavonga town, kaleya, matinangola, mungomba, Bulelo, simwele, kayuni, pambazana, lumbembe, syayumbu, Mangaba, sikoongo	Zones four/five <u>Facilitators</u> 1. Belwick 2. Sarah chigoma 3. Clive Hajuma 4. Herbert Chipuka	• Consultant • M&E • Siavonga Supervisors
04/02/2010	Administer Questionnaire to Field Facilitator and Care group Volunteers involved in PD/Hearth sessions	Chirundu boarder, mission, garbon, chitanga, hamalola, Sichoombolwa, zalanga, Shangwemu, kabanana, nalooba	Zone Five <u>Facilitators</u> 1. Mickle 2. Gloria	• Consultant • M&E • Siavonga Supervisors
05/02/2010	Administer Questionnaire to Field Facilitator and Care group Volunteers involved in PD/Hearth sessions	Mwana nkombo, chaanga, Nyaanga, mwanamuzya, Hakalinda, moonga chimata	Zone Three <u>Facilitator</u> 1. Obvious Ng'andu	• Consultant • PM • M&E • Mazabuka Supervisors

Chikankata Child Survival Project Hearth Assessment Questionnaire for Facilitator

Name of Zone.....

Name of Facilitator.....

Name of Supervisor.....

- Do hearth sessions follow protocols (Participant requirement such as Age Of 6-36 months, nutritional status of Moderate to severe, De-worming children two weeks prior to hearth, children to continue to breastfeed, children up to date with immunizations and Vit A. supplementation , weighing children regularly)

- Does a written hearth protocol exist for hearth session?

- If yes, does a leader of the hearth session have a copy of a protocol (Please see the copy)

- Does the leader know exactly what is in it (ask leader to mention at least 3 protocols)

- If no, is there consistence between various villages and sessions as to process (Selecting time of hearth 10am – 12pm or 3pm – 5pm, setting up of stations (food preparation area, child mats hand washing area, cooking area and health education area)

- What parts of protocol are being implemented adequately?

- Which parts of protocol need improvement?

Process

- What is the criteria for selecting communities to implement hearth (only communities with greater than 30% malnutrition)
- How do you appropriately determine when a when is malnourished? (using -2Z score)

Chikankata Child Survival Project Questionnaire for Care Group Volunteers under one Facilitator

Zone.....

Name of Facilitator.....

Name of Supervisor.....

Interviewee No.

1. How do you determine when a child is malnourished?

Annex 16. Operations Research Activities: PD Hearth Assessment Report

2. How do you determine when a child is malnourished?
3. How do you determine when a child is malnourished?
4. How do you determine when a child is malnourished?
5. How do you determine when a child is malnourished?

Annex 17. Project Data Form

Child Survival and Health Grants Program Project Summary

Dec-08-2010

Salvation Army World Service Office (Zambia)

General Project Information

Cooperative Agreement Number:	GHS-A-00-05-00033
SAWSO Headquarters Technical Backstop:	Claire Boswell
SAWSO Headquarters Technical Backstop Backup:	
Field Program Manager:	Elias Siamatanga
Midterm Evaluator:	Richard Crespo
Final Evaluator:	Henry Perry
Headquarter Financial Contact:	
Project Dates:	9/30/2005 - 3/31/2011 (FY05)
Project Type:	Standard
USAID Mission Contact:	William Kanweka
Project Web Site:	

Field Program Manager

Name:	Elias Siamatanga
Address:	
	Zambia
Phone:	260977306393
Fax:	
E-mail:	ehsiamatanga@yahoo.com
Skype Name:	

Alternate Field Contact

Name:	Edward Shavanga (Manager Administration)
Address:	P Bag S1 Mazabuka Zambia
Phone:	
Fax:	
E-mail:	Edward_Shavanga@zam.salvationarmy.org
Skype Name:	

Grant Funding Information

USAID Funding: \$1,476,719	PVO Match: \$502,622

General Project Description

Program Goal: To reduce maternal and under-five mortality through innovative community-based behavior change strategies and improved health services. Interventions: -Malaria -Immunizations -Nutrition -Maternal and Newborn Care Strategies: 1) The Care Group model 2) Positive Deviance/ Hearth model 3) Care and Prevention Teams 4) Men's Groups

Project Location

Latitude: -16.53	Longitude: 28.72
Project Location Types:	(None Selected)
Levels of Intervention:	(None Selected)
Province(s):	--
District(s):	The project area includes two districts in Zambia's Southern Province, about 130 miles southwest of Lusaka. The area is rural with few roads, limited transportation, and almost no infrastructure. The CCSP area includes all of Siavonga District and the part of Mazabuka District that falls within Chikankata Health Services catchment area.
Sub-District(s):	--

Operations Research Information

OR Project Title:	--
Cost of OR Activities:	--
Research Partner(s):	--
OR Project Description:	--

Partners

Ministry of Health - Mazabuka District (Collaborating Partner)	\$0
Ministry of Health - Siavonga District (Collaborating Partner)	\$0
Harvest Help Zambia (Collaborating Partner)	\$0
Mtendere Mission Hospital (Collaborating Partner)	\$0
Churches Health Association of Zambia (Collaborating Partner)	\$0
Plan Zambia (Collaborating Partner)	\$0
The Salvation Army Chikankata Health Services (Collaborating Partner)	\$0

Strategies

Social and Behavioral Change Strategies:	Group interventions Interpersonal Communication
Health Services Access Strategies:	Emergency Transport Planning/Financing Implementation in a geographic area that the government has identified as poor and underserved
Health Systems Strengthening:	Conducting capacity assessment of local partners Supportive Supervision Coordinating existing HMIS with community level data
Tools/Methodologies:	BEHAVE Framework Rapid Health Facility Assessment Community-based Monitoring of Vital Events LQAS

Capacity Building

Local Partners:	Local Non-Government Organization (NGO) Health Facility Staff Health CBOs Government sanctioned CHWs TBAs Faith-Based Organizations (FBOs)

Interventions & Components

Immunizations (10%) - Classic 6 Vaccines - Vitamin A - Mobilization	IMCI Integration	CHW Training HF Training
Nutrition (30%) - ENA - Hearth - Growth Monitoring	IMCI Integration	CHW Training HF Training
Vitamin A	IMCI Integration	CHW Training HF Training
Micronutrients		CHW Training HF Training
Pneumonia Case Management	IMCI Integration	CHW Training HF Training
Control of Diarrheal Diseases	IMCI Integration	CHW Training HF Training
Malaria (40%) - Antenatal Prevention Treatment - ITN (Bednets) - Care Seeking, Recog., Compliance - IPT - ACT	IMCI Integration	CHW Training HF Training
Maternal & Newborn Care (20%) - Emergency Obstetric Care - Recognition of Danger signs - Newborn Care - Post partum Care - Integration. with Iron & Folic Acid - Normal Delivery Care - Birth Plans - Control of post-partum bleeding - PMTCT of HIV - Emergency Transport	IMCI Integration	CHW Training HF Training
Healthy Timing/Spacing of Pregnancy	IMCI Integration	CHW Training HF Training
Breastfeeding	IMCI Integration	CHW Training HF Training
HIV/AIDS		CHW Training HF Training
Family Planning	IMCI Integration	CHW Training HF Training
Tuberculosis	IMCI Integration	CHW Training HF Training

Operational Plan Indicators

Number of People Trained in Maternal/Newborn Health			
Gender	Year	Target	Actual
Female	2010	1780	
Female	2010		2095
Male	2010		127
Male	2010	292	
Female	2011	6	
Male	2011	12	
Female	2012	0	
Male	2012	0	
Number of People Trained in Child Health & Nutrition			
Gender	Year	Target	Actual
Female	2010	1771	
Female	2010		2074
Male	2010		117
Male	2010	283	
Female	2011	0	
Male	2011	0	
Female	2012	0	
Male	2012	0	
Number of People Trained in Malaria Treatment or Prevention			
Gender	Year	Target	Actual
Female	2010		1975
Female	2010	1680	
Male	2010		117
Male	2010	283	
Female	2011	0	
Male	2011	0	
Female	2012	0	
Male	2012	0	

Locations & Sub-Areas

Total Population:

124,613

Target Beneficiaries

Zambia - SAWSO - FY05	
Children 0-59 months	22,119
Women 15-49 years	28,474
Beneficiaries Total	50,593

Rapid Catch Indicators: DIP Submission

Sample Type: LQAS				
Indicator	Numerator	Denominator	Percentage	Confidence Interval
Percentage of children age 0-23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population)	23	178	12.9%	4.9
Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	55	67	82.1%	9.2
Percentage of children age 0-23 months whose births were attended by skilled health personnel	77	185	41.6%	7.1
Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child	36	185	19.5%	5.7
Percentage of infants age 0-5 months who were exclusively breastfed in the last 24 hours	43	92	46.7%	10.2
Percentage of infants age 6-9 months receiving breastmilk and complementary foods	90	95	94.7%	4.5
Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	30	92	32.6%	9.6
Percentage of children age 12-23 months who received a measles vaccine	47	92	51.1%	10.2
Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only)	34	174	19.5%	5.9
Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	134	186	72.0%	6.4
Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	4	140	2.9%	2.8
Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection	115	183	62.8%	7.0
Percentage of mothers of children age 0-23 months who wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated	16	185	8.6%	4.1

Rapid Catch Indicators: Mid-term

Sample Type: LQAS				
Indicator	Numerator	Denominator	Percentage	Confidence Interval
Percentage of children age 0-23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population)	21	188	11.2%	4.5
Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	0	0	0.0%	0.0
Percentage of children age 0-23 months whose births were attended by skilled health personnel	44	95	46.3%	10.0
Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child	0	0	0.0%	0.0
Percentage of infants age 0-5 months who were exclusively breastfed in the last 24 hours	35	49	71.4%	12.6
Percentage of infants age 6-9 months receiving breastmilk and complementary foods	0	0	0.0%	0.0
Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	54	95	56.8%	10.0
Percentage of children age 12-23 months who received a measles vaccine	72	95	75.8%	8.6
Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only)	126	190	66.3%	6.7
Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	0	0	0.0%	0.0
Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	0	0	0.0%	0.0
Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection	0	0	0.0%	0.0
Percentage of mothers of children age 0-23 months who wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated	0	0	0.0%	0.0

Rapid Catch Indicators: Final Evaluation

Sample Type: LQAS				
Indicator	Numerator	Denominator	Percentage	Confidence Interval
Percentage of children age 0-23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population)	35	183	19.1%	5.7
Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	57	74	77.0%	9.6
Percentage of children age 0-23 months whose births were attended by skilled health personnel	100	190	52.6%	7.1
Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child	72	190	37.9%	6.9
Percentage of infants age 0-5 months who were exclusively breastfed in the last 24 hours	85	100	85.0%	7.0
Percentage of infants age 6-9 months receiving breastmilk and complementary foods	84	88	95.5%	4.4
Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	53	95	55.8%	10.0
Percentage of children age 12-23 months who received a measles vaccine	70	95	73.7%	8.9
Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only)	111	190	58.4%	7.0
Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	164	190	86.3%	4.9
Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	16	149	10.7%	5.0
Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection	133	190	70.0%	6.5
Percentage of mothers of children age 0-23 months who wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated	24	190	12.6%	4.7

Rapid Catch Indicator Comments

Mid-Term Data: The malaria indicator (bednets) was collected in February 2007. Vaccination (full and measles), weight for age, and exclusive breastfeeding data were collected in February 2008. The data for skilled delivery were collected in February 2009.

Annex 18. Grantee Plans to Address Final Evaluation Findings

SAWSO and TSA/Zambia are extremely pleased with the success of the Care Group Model in the CCSP and plan to ensure its continuation and replicate it wherever possible. From the outset of the project, the design attempted to link Care Groups to existing Care and Prevention Teams (also called Neighborhood Health Committees in Siavonga) both for improved coordination of community-level activities and for sustainability. Most Care Groups are now effectively part of their community CPTs and can continue to function with community support. Additionally, in the Chikankata catchment area (Mazabuka), the Community Health and Development department of Chikankata Health Services will be able to support Care Groups as part of their support and training for CPTs and other volunteer cadres (such as CHWs and TTBAAs).

SAWSO will incorporate Care Groups into other projects in the same area – such as the PEPFAR-funded OVC program STEPS. STEPS is using a behavior change model that will incorporate existing community groups to address HIV-related concerns. Care Groups will be a perfect method for effecting behavior change in HIV programming, as well. SAWSO will attempt to use the model not only in health programming, but also in other technical areas, such as anti-human trafficking.

Annex 19. Photographs Taken During the Evaluation

Mothers and Children









Care Group Volunteers and Beneficiary Mothers





Project Staff and Offices





Chikankata Health Services



Village Life





Facility-Based Health Services



Activities of the Final Evaluation Team





