

Detailed Implementation Plan

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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USAID
FROM THE AMERICAN PEOPLE

DIP Writers

Those who contributed to the design of the DIP are too many to list. Claire Boswell, SAWSO Health Program Officer did most of the writing. Jean Capps, consultant, assisted in writing and editing. Bram Bailey, SAWSO Program Coordinator, also helped with editing.

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List of Acronyms

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
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
PDI	Positive Deviance Inquiry
PLA	Participatory Learning and Action
PMTCT	Prevention of Mother-to-Child Transmission
PVO	Private Voluntary Organization
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

A. Executive Summary

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). These figures do not include children born over the life of the project.

The under-five mortality rate is 182/1000, and the infant mortality rate is 103/1000. The primary causes of under-five mortality are malaria and malnutrition. Factors contributing to malaria deaths include low use of insecticide-treated nets (about 20% of children under five) and lack of knowledge of the symptoms of severe malaria and/or the importance of immediately seeking care from an appropriate health care provider. Many people wait to seek care, self-treat, or visit traditional healers. Child malnutrition deaths can be attributed to poverty and poor feeding practices. Only 40% of infants under six months of age exclusively breastfeed, and children over six months eat only one to two meals each day. These behaviors lead to malnutrition in 15-20% of children. Full immunization by one year of age is only 35%.

The maternal mortality ratio is estimated to be 729/100,000, and the newborn mortality rate is 35/1000. Most maternal deaths are caused by hemorrhage, sepsis, malaria, or HIV/AIDS. Less than half of all births are attended by a skilled provider, and postpartum care rates are extremely low. Newborn deaths are primarily due to sepsis, respiratory distress, hypothermia, and malaria. Families struggle to make appropriate decisions during obstetrical and newborn emergencies because they do not recognize danger signs, many live far from health facilities, and transportation is expensive or unavailable.

The Chikankata Child Survival Project is a partnership between US-based SAWSO, The Salvation Army/Zambia, and the Zambian Ministry of Health. SAWSO, a 501 (c) (3) organization registered as a Private Voluntary Organization, has extensive experience in community-based health and development in Africa, Asia, and Latin America. 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 will use 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. The project expects to achieve the following results and intermediate results with these activities:

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: Continued high coverage of intermittent preventive treatment in pregnant women

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

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

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%)

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

The project started September 30, 2005 and will end September 29, 2010. Project funding totals \$2,048,402, with \$1,522,802 from USAID and \$525,601 from SAWSO. Dr. Abdirahman Mohamed, Senior Technical Advisor for Child Survival, Malaria, and Nutrition at the USAID mission to Zambia thoroughly discussed program strategy and design with SAWSO and The Salvation Army/Zambia and reviewed an early draft of the original proposal.

The main author of this document is Claire Boswell, SAWSO Health Program Officer. Others who contributed to the program's design include the entire Community Health and Development Team of Chikankata Health Services, all participants from the Detailed Implementation Plan Workshop, and Project Supervisor John Mumba. Consultant Jean Capps also assisted in the design of interventions and with final editing. Claire Boswell is the SAWSO contact person for this project.

B. CSHSP Data Form

Child Survival and Health Grants Program Project Summary

April 12, 2006

Salvation Army World Service Office

(Zambia)

General Project Information:

Cooperative Agreement Number:	GHS-A-00-05-00033
Project Grant Cycle:	21
Project Dates:	(9/30/2005 – 9/30/2010)
Project Type:	Standard
SAWS O Headquarters Technical Backstop:	Claire Boswell
Field Program Manager:	John Soste Mumba
Midterm Evaluator:	
Final Evaluator:	
USAID Mission Contact:	Andrew Rebold

Field Program Manager Information:

Name:	John Soste Mumba
Address:	P Bag S1
Phone:	Mazabuka
Fax:	260 222060
E-mail:	<u>sostenmumba@yahoo.com</u>

Alternate Field Contact:

Name:	Richard Bradbury
Address:	P Bag S1
	Mazabuka
Phone:	260 222060
E-mail:	<u>rhbradbury@yahoo.com</u>

Funding Information:

USAID Funding: (US \$) \$1,476,719

PVO match: (US \$) 527,354

Project Information:

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

Location:

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.

PROJECT PARTNERS	PARTNER TYPE	SUBGRANT AMOUNT
Ministry of Health – Mazabuka District	Collaborating Partner	
Ministry of Health – Siavonga District	Collaborating Partner	
Harvest Help Zambia	Collaborating Partner	
Mtendere Mission Hospital	Collaborating Partner	
Churches Health Association of Zambia	Collaborating Partner	
Plan Zambia	Collaborating Partner	
The Salvation Army Chikankata Health Services	Collaborating Partner	

General Strategies Planned:

Strengthen Decentralized Health System

M&E Assessment Strategies:

- KPC Survey
- Health Facility Assessment
- Organizational Capacity Assessment with Local Partners
- Participatory Learning in Action
- Lot Quality Assurance Sampling
- Community-based Monitoring Techniques
- Participatory Evaluation Techniques (for mid-term or final evaluation)

Behavior Change & Communication BCC) Strategies:

Interpersonal Communication
Peer Communication

Groups targeted for Capacity Building:

PVO	Non-Govt Partners	Other Private Sector	Govt	Community
Field Office HQ Cs Project Team	Local NGO	(None Selected)	Health Facility Staff	Health CBOs CHWs

Interventions/Program Components:

Immunizations (10 %)

(CHW Training)
(HF Training)
–Classic 6 Vaccines
–Vitamin A
–Mobilization

Nutrition (30 %)

(CHW Training) (HF Training)
–ENA
–Hearth
–Growth Monitoring
(HF Training)

Malaria (40 %)

(CHW Training) (HF Training)
–Antenatal Prevention Treatment
–ITN (Bednets)
–Care Seeking, Recog., Compliance
–IPT
–ACT

Maternal & Newborn Care (20 %)

(CHW Training) (HF Training)

- Emerg. Obstet. Care
- Recog. of Danger signs
- Newborn Care
- Post partum Care
- Integr. with Iron & Folate
- Normal Delivery Care
- Birth Plans
- Control of post-partum bleeding
- PMTCT of HIV
- Emergency Transport

Infants < 12 months:	4,620
Children 12-23 months:	4,353
Children 0-23 months:	8,973
Children 24-59 months:	13,146
Children 0-59 months	22,119
Women 15-49 years:	28,474
Population of Target Area:	124,613

Rapid Catch Indicators:

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

Indicator	Numerator	Denominator	Percentage	Confidence Interval
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%	6.5

Indicator	Numerator	Denominator	Percentage	Confidence Interval
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 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%	4.0

Comments for Rapid Catch Indicators

Since the project used LQAS to gather the data, the actual percentages should be weighted according to the population of each supervision area. Although the areas are relatively similar in population size, the estimates reported in the KPC Baseline Survey Report differ slightly from those automatically calculated by this form. The TT indicator was based on card confirmation, not self-reporting.

C. Description of DIP Preparation Process

Since the start of the project, SAWSO and Chikankata Health Services (CHS) have worked with the other Chikankata Child Survival Project (CCSP) partners to complete several of the first-year activities. After being hired, CCSP and CHS staff have conducted orientations with all project partners and with communities. SAWSO facilitated the baseline knowledge, practice, and coverage (KPC) training, and project partners participated in training, data collection, and data analysis. CCSP field staff, in coordination with health center staff, are currently conducting a census and mapping exercises of all villages in the project area. Two Task Force meetings have been held, the second being a part of the DIP preparation process. Participants at this workshop included members of Chikankata Health Services, SAWSO, the Churches Health Association of Zambia (CHAZ), District Health Management Team (DHMT) members from Mazabuka and Siavonga, World Vision Zambia, Plan Zambia, and Harvest Help Zambia. The workshop lasted two days and included a review of the CCSP objectives, review and discussion of baseline survey results, presentation and discussion of new methodologies (Care Group and Hearth Models), revisions to planned intervention activities and analysis of opportunities and potential problems, discussion of methods for optimal coordination between partners, and review of roles and responsibilities of project partners. This workshop was followed up with further meetings between SAWSO and the CCSP and CHS outreach staff. Data from the workshop and these discussions were integrated into the original proposal plan to develop this DIP. Although all partners participated in the design of the DIP, the SAWSO Health Program Officer wrote the final document.

SAWSO and TSA/Zambia are grateful to the many reviewers of the first version of the DIP and have incorporated many of their comments and suggestions into this second version.

D. Revisions from Original Application

The only significant revision to the Chikankata Child Survival Project from the application is the addition of an immunization intervention. The baseline survey revealed immunization coverage of only 35%. This intervention will receive 10% project effort, while the nutrition intervention has been reduced from 40% to 30%.

To reflect the addition of the immunization intervention and to adjust for volatility in the exchange rate between the Zambian Kwacha and the dollar, the budget has been adjusted. The kwacha has risen by as much as one third of its value against the dollar, putting strains on the project budget in the field. SAWSO has increased its match portion to help mitigate this situation.

Specific changes to the budget are detailed below:

Headquarters Budget – No changes were made to the headquarters portion of the budget.

Field Budget

I. Personnel – Most salaries were adjusted upwards to reflect the exchange rate between the dollar and the kwacha. Two additional Care Group Facilitators were hired due to the large areas to be covered and geographic challenges of the terrain. A full-time Monitoring and Evaluation Coordinator will be hired instead of utilizing only 25% of the HIMS Coordinator's time. The Community Health and Development (CH&D) department of Chikankata recently underwent a

reorganization, so both the CH&D Manager and the Assistant Manager will contribute time to the project (both in the match portion of the budget). The Senior Accountant is overseeing financial management and reporting for the project; his time (5%) will be covered by SAWSO. The fringe benefits are calculated at a rate of 9% of gross salary, so have increased due to the changes mentioned above.

III. Travel – The cost of travel for Zambia staff to attend the Mini-University and DIP review was transferred from the USAID to the SAWSO portion of the budget, as were per diem costs for the same trip and for the regional trips. Additionally, the per diem rate for the regional trips was lowered from \$245 to \$200 based on recent experience. Under local travel, costs were also lowered, as the first budget estimate was too high. Costs for the SAWSO Health Program Officer to travel within Zambia were removed (these are a part of the Headquarters Budget), and costs for travel to Siavonga were added, as these had not previously been taken into account.

IV. Equipment – In addition to the 4x4 vehicles, the project has found that the Field Supervisors will need motorcycles to visit the Care Group Facilitators, and that some of the Facilitators with large coverage areas will need bicycles to get from village to village. The vehicles will continue to be used for trips from Chikankata to Siavonga and for bringing trainees to central sites for trainings and workshops. The bicycles and two of the motorcycles are on the USAID portion of the budget, while the remaining three motorcycles will be purchased with SAWSO funds.

V. Supplies – The USAID portion now only includes the costs for two computers, as SAWSO has provided a laptop for the third. A photocopier/printer/fax combination machine was purchased instead of separate printers, so the photocopier cost was increased and the printer line item was eliminated. Office supply costs were decreased from \$150 to \$100 per month, and additional first aid kits were added for the motorcycles. The original budget of \$3 for t-shirts was too low, so the figure was raised to \$5. In order to purchase long-lasting insecticide-treated nets instead of treatable nets, the cost for ITNs was increased from \$78,010 to \$80,000, and these costs were all moved to Year One to reduce shipping and other logistics-related costs.

VI. Contractual Services – The capacity assessment consultant time was reduced from 21 to 20 days, and the fees for local consultants to do maternal and newborn care training were moved from Year Two to Year Three, based on the work plan.

Consultant travel from the US to Zambia was reduced from \$2500 to \$2250 per ticket, based on recent airfares. Consultant per diems were also reduced (from \$100 to \$75 per day), as lodging at the Chikankata Mission is inexpensive, and recent SAWSO travel costs were less than originally budgeted.

VII. Other Costs – Phone/fax costs were reduced from \$200/month to \$150/month, as updated internet equipment will make communication quicker, easier, and cheaper, particularly for international calling. Since the new photocopier will allow scanning of receipts and financial reports, express mail costs have also been reduced.

Baseline survey costs were increased to reflect the planned health facilities assessment. The costs of the final evaluation were also slightly increased, based on the experience with the baseline KPC.

Fuel costs were adjusted to reflect costs for additional motorcycles, but halved for Year One since vehicles were not immediately purchased. Costs for maintenance were reduced, since the vehicles are under warranty for the first year and most maintenance is done on-site by Chikankata mechanics. Insurance costs were moved to the match portion, since The Salvation Army/Zambia self-insures its vehicles. A rental vehicle was not needed in Year One, so these costs have been removed.

Training costs changed as follows:

- Fewer TTBAAs (32 versus 36) will need to be trained, but more CHWs (51 versus 22) are needed. This also affected the costs of refresher training in Year One. TSA/Zambia and the MOH updated actual numbers of volunteers during the DIP process, so these figures are more accurate than those included in the original application.
- The Census and Community Mapping training was combined with the KPC training, as was the Anthropometric Measurement training, eliminating these two separate trainings and increasing the KPC training from 5 to 9 days (including analysis).
- The Data Management for Action training was expanded to include formation of Care Groups (from 3 to 4 days).
- Refresher training for clinical staff (health workers) and training for project staff was added for immunization.

E. Detailed Implementation Plan

1. Program Site Information

a. Map of Project Area

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. A detailed map is included in Annex 2.

b. Population Data

According to official Ministry of Health data (from 2000) and the Chikankata Health Management Information System, the total population of the project area is 124,613. The project staff are currently undertaking a comprehensive census to determine exact numbers of beneficiaries. The census process will be completed by July 2006 and population data updates will be included in the First Annual Report. Estimates from data currently available indicate that direct beneficiaries total 50,593 people – 22,119 children under five (4620 children under one, 4353 children 12-23 months, and 13,146 children 24-59 months), and 28,474 women of reproductive age (15-49)ⁱ – who live in an estimated 298 villages organized into 57 communities each under the traditional leadership of a senior headman.

c. Health Status of Population

Zambia ranks 166th out of 177 countries on the Human Development Index,ⁱⁱ and 79th out of 119 on the Mother's Index.ⁱⁱⁱ Southern Province, which includes the large urban center of Livingstone (Zambia's second-largest city), has an under-five mortality rate of 148/1000. For rural areas, like the CCSP area, this rate increases to 182/1000. The rural infant mortality rate is 103/1000, and the neonatal mortality rate is 35/1000.^{iv}

Data from the Mazabuka and Siavonga MOH show the leading causes of morbidity and mortality for children under five are malaria, diarrhea, pneumonia, and malnutrition.^{v,vi} Respiratory distress, hypothermia, and sepsis are the main causes of neonatal mortality.^{vii} 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%).^{viii} In Siavonga, the MOH data estimate each child has nearly two malaria episodes per year.^{ix} Malaria is endemic and peaks during the rainy season (November to April). Mazabuka district show about 12% of children under five are malnourished,^x but in Siavonga, the figure is about 25%.^{xi} In the province, 23.6% of children are underweight (4.4% are < three standard deviations from the mean), with 40.2% stunted and 3.9% wasted.^{xii} Anemia is extremely high in women (39%) and in children (65%).^{xiii} Sixty-six percent of children under five had a sub-clinical Vitamin A deficiency, according to a 1997 survey,^{xiv} although this has improved due to regular sugar fortification and increased efforts for Vitamin A supplementation. According to the USAID/Zambia Country Strategic Plan, malnutrition has actually worsened in the last decade.^{xv}

Malaria is endemic throughout Zambia, being the leading cause of morbidity and mortality in the country. In 2002, a total of 4,093,401 cases of malaria were diagnosed, contributing 37% to all diagnoses and 45% to the top ten diagnoses.^{xvi} Malaria contributes 40% of overall infant mortality and 20% of maternal mortality.^{xvii}

Estimated maternal mortality ratios increased from 649/100,000 in 1996 to 729/100,000 in the 2001-2002 Demographic and Health Survey (DHS), possibly due to HIV.^{xviii} Southern Province has the third highest HIV prevalence rate of Zambia's nine provinces – 20.2% for women aged 15-49 and 14.6% for men of the same age. HIV/AIDS leaves many children without caregivers; about 630,000 children in Zambia are orphans.^{xix} CHS estimates that 12,000 orphans live in its catchment area. The total fertility rate in Southern Province is 6.1, and the median age at first birth is 18.4.^{xx} A study by the United Nations Population Fund (UNFPA) found that the primary causes of maternal mortality are hemorrhage (34.2%), sepsis (12.5%), malaria (10.6%), and HIV/AIDS (10.0%). Over 58% of maternal deaths occur postpartum, most within seven days. Women giving birth to their first child are 46 times more likely to die of maternal causes.^{xxi}

d. Other Factors Influencing Health

About 73% of Zambians live in poverty, while 58% live in extreme poverty. While rural poverty rates are higher than urban ones, poverty is increasing nationwide.^{xxii} HIV is a major cause of increased poverty. The MOH indicates that “AIDS illness and death consumes 200-400 percent of annual household income, depleting savings and pushing the marginal or transient poor into absolute poverty and indebtedness.”^{xxiii} 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 Knowledge, Practices, and Coverage (KPC) survey found that only about 20% of mothers work outside the home earning money. Those that do, 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. Almost half (48%) of the Southern Province is chronically food insecure.^{xxiv} 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 Siavonga and Mazabuka are Tonga. Many adult women have had no formal education at all (23.9%), and half have attended less than six years of school.^{xxv} 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^{xxvi}) 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 ones' 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.

e. Status of Health Services

Government health expenditures averaged 10-14% of the national budget between 1995 and 2003. The national government has taken a number of measures to increase support to combating malaria in recent years including removing tariffs on Insecticide Treated Nets (ITNs) and insecticides, increasing funding for Roll Back malaria (RBM) activities at the national and district levels, including RBM as a Highly Indebted Countries indicator, heightening resource mobilization for malaria

control, presenting RBM Task Force reports directly to the Vice President, holding sensitization meetings with members of parliament to raise awareness of malaria as a national problem, making changes in national drug policy towards more effective drugs (artemisinin combination therapy), reintroducing indoor residual spraying in selected districts, and scaling up ITN distribution to rural and hard to reach populations.

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. 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), in addition to approximately 12,000 people in Siavonga. The Siavonga District Hospital serves about 36,000 people, but 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). The health staffing situation in the CCSP area is critical. Standard staffing for an RHC includes a clinical officer, environmental health technician, nurse, and midwife, but none of the 15 centers in the project area is fully staffed, mostly because lack of adequate housing and poor transport make it difficult to attract staff to rural areas. The following table details the health facilities and staff per zone.

<i>ZONE</i>	<i>Population</i>	<i># of Hospitals</i>	<i># of RHCs</i>	<i># of Hospital Affiliated Health Centers</i>	<i># of community/village health post</i>	<i># of staff/persons in each health facility</i>	<i># of CHWs</i>	<i># of TTBAAs</i>
1-Nadezwe	24,274	1-Chikankata	2-Nadezwe, Namaila	1	9	Doctor (1)-hospital C.O (7)-6 from hospital, 1 clinic. EHTs (3)-2 from hospital, 1 clinic Nurses(5)	11	28
2-Nameembo	11,593	0	3-Nameembo, Ibwemunyama, Chikanzaya	0	13	C.Os- 0 EHTs-2 Nurses-3	11	10
3-Chikombola	22,310	0	3-Chikombola, Chaanga, Sianyolo	0	18	C.O-1 EHTs-2 Nurses-2	23	21
4-Munyama	20,533	1-Siavonga District Hospital	4-Munyama, Manchamvwa, Kariba, Matua	1	5	C.O-0 EHT-1 Nurses-5	4	8
5-Lusitu	29,575	1-Mtendere	4-Jamba, Kapululira, Chipepo, Lusitu	1	8	Doctor (1) C.O EHT Nurse	7	9

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); out-patient 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-five services, family planning and basic curative care); a school health program (education, immunization, screening, water and sanitation, 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.

Most services at the hospitals and RHCs are free, including all services for under-fives and pregnant women. A new government policy has recently mandated that rural health facilities will no longer charge any user fees, although the financial implications for these facilities has not yet been addressed.

For community-based services, 56 Community Health Workers (CHWs) 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. Communities respect CHWs and use their services, but remuneration is still low for most and coverage is well below the national standard of one CHW per 500 people. 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 coverage is much lower than the standard (one TTBA per 1000). As reflected in the above table, coverage for CHWs and TTBAs is much higher in Zones One, Two, and Three than in Zones Four and Five.

The Community Health Worker position is a part of the national strategy for primary health care. They are trained to treat basic illnesses and to do health education and other preventive activities in their communities. The CHW is a volunteer and does not receive payment from the government, but are authorized small percentages 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.

Many people seek care from both traditional providers and the formal health care system. Although very few mothers reported seeking care from a traditional healer in the baseline KPC, Participatory Learning and Action (PLA) sessions suggest that use of traditional medicine may be under-reported, particularly for malaria. PLA sessions show that many people try local herbs or visit the traditional healer for malaria symptoms before going to a CHW or health center.^{xxvii} KPC data, however, found that nearly all mothers who sought care for their children's fast/difficult breathing went to a health center, hospital, CHW, or TTBA, with over 40% going to a health center. Similarly, a majority of mothers (80%) reported seeking care for their child's fever, and 73% sought care from an appropriate source. The only private commercial providers practicing in the area are pharmacies

(*tuntemba*), and only about 6% of mothers reporting seeking care for their child's fever from a shop or drugstore.^{xxviii}

Lack of transportation, distance, and poverty make it difficult for many people to access health facilities.^{xxix} The UNFPA maternal mortality study found that in 74% of maternal death cases someone had tried to transfer the mother to a health facility, but was unsuccessful because the facility was too far away, transportation was not available, or the patient or spouse refused.^{xxx} During PLA activities in the CHS catchment area, people cited cost of treatment, preference for traditional healers, self-treatment (either with herbs or chloroquine), lack of transport, poor treatment from staff, and the long referral process^{xxxi} as the main reasons they do not seek medical help for malaria.^{xxxii} Approximately 25% of people in the CHS catchment area live more than five kilometers from a health facility. In Siavonga, the figure is higher, possibly as high as 40-50%. Baseline data for immunization and postnatal care also reflect poor access to services. (See intervention sections for more detail.)

The project has not yet done assessments to examine client-health worker interaction, but will raise this issue with community members during qualitative research that will be conducted after the DIP is submitted. Because of understaffing, many health workers are doing the job of two or three people, which negatively affects quality of care, including interactions with patients. The CCSP has not done a formal study of standard case management of malaria or of drug supply, but will include questions about these areas in key informant interviews of health workers planned over the next few months.

f. Disadvantaged Groups

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 (OVC) and people living with HIV are also especially vulnerable.

g. Linkages and Complementary Activities

Other Sector Programs – TSA: 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. These programs offer an excellent opportunity for CHS to integrate their maternal and child health services and HIV/AIDS programs. For example, the CCSP will integrate PMTCT services into antenatal care services. Also, Care Group volunteers will provide education on the effects of HIV on children, emphasizing the importance of HIV testing for mothers and promoting ART, available at Chikankata. By establishing close relationships with families, volunteers will help OVC programs identify vulnerable children and deliver services to them.

Other NGO Programs: Plan International works in four communities (about 8,700 people) of the Chikankata catchment area, with programs in water and sanitation, health education, school construction, and microfinance. CHS and Plan already coordinate activities to support volunteers and maximize efforts and resources, e.g., combined volunteer trainings to avoid duplication and

schedule conflicts. 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. They support 26 CHWs and TTBAAs, and provide outreach services (through a clinical officer and two nurses) in these low accessibility areas. Harvest Help's agriculture component can be a strong complement to nutrition activities, and the CSP will help integrate nutrition messages into agriculture trainings. Another opportunity for synergy is to collaborate with Harvest Help's civic management work for capacity building of community groups. Programs at the national level include the National Malaria Control Program and CHAZ program for clean birth kits and ITN distribution. The Zambia Integrated Health Project ended in September 2004, and the USAID mission partners with Society for Family Health for social marketing of various products, including ITNS and *Clorin* (brand-name chlorine); JSI/DELIVER; the Health Communication Partnership; and the Health Services and Systems Project. The CSP will use training materials from the Zambia Integrated Health Project, as the government has adopted many of these as national curricula. The CSP will seek to coordinate with the new programs, particularly in training and behavior change materials.

2. Summary of Baseline Assessments

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 January 22 to 28, 2006. Organizations conducting the survey included The Salvation Army/Zambia Chikankata Health Services, The Salvation Army World Service Office (SAWSO), The Siavonga District Ministry of Health, and Harvest Help/Zambia.

The objectives of the survey were as follows:

1. To provide information on the current health knowledge and practices of child caretakers, immunization and micronutrient supplementation coverage, and maternal health care coverage in the CCSP area
2. To identify areas requiring further investigation during qualitative baseline assessments
3. To train staff in methods of collecting, tabulating, and analyzing data, particularly in the use of lot quality assurance sampling (LQAS)
4. To identify priorities and provide statistical information that will inform program planning and design, particularly using LQAS to identify supervision areas and indicators needing increased program focus in specific interventions
5. To revisit and revise indicators and targets, if necessary

The training, survey, hand tabulation, and analysis of results were accomplished from January 16-February 3, 2006. Computer analysis and preparation of this report were completed in March.

Major findings included the following:

- Only 21.8% of children under two slept under an ITN the night before the survey.
- Care-seeking for fever from an appropriate source was high (73%), but less than 11% of children with a fever in the past two weeks were treated with an appropriate anti-malarial drug within one day of fever onset.

- Intermittent Preventive Treatment (IPT) coverage was much higher than expected, with over 80% of mothers of children under two reporting that they took Fansidar during their last pregnancy.
- Over one fourth of children 6-23 months ate a Vitamin-A rich food, a high protein food, and an iron-rich food in the last 24 hours before the survey.
- Just over 21% of children 12-23 months ate semi-solid food four times or more the day before the survey.
- Growth monitoring coverage was higher than expected, with nearly 70% of children under two having been weighed in the two months before the survey.
- Only 15% of children under two were reported to have been placed with their mothers immediately following birth.
- Postpartum coverage by a skilled provider was less than 20%, and documented postpartum Vitamin A supplementation was less than 10%.
- Unexpectedly, only 35% of children 12-23 months had been fully vaccinated by the first birthday.
- Only 3% of children who had been sick in the past two weeks received both increased fluids and continued feeding during the illness.

The survey confirmed many of the interventions and activities planned by the CCSP in the original proposal.

Malaria

Although recognition of fever as a danger sign is high among mothers, they are not seeking care quickly enough, and the signs of severe malaria (such as convulsions) are not generally recognized. Although net coverage was slightly higher than expected, ITN use is still very low for an endemic malarious area, and increasing access to, and promoting use of, ITNs continues to be a major focus of the CCSP. Although IPT coverage was a pleasant surprise, the project will work to support government and other NGO efforts to maintain coverage and will also work to improve record-keeping for maternal health so that self-reporting of IPT can be confirmed by antenatal cards.

Nutrition

Breast feeding and child feeding practices will also remain a priority, as the suspected low rates were confirmed by the survey. Prevalence of malnutrition was lower than expected, although still unacceptably high. The project will need to do another weight survey using LQAS during the hungry season to assess differences when food is not so readily available. Qualitative research for nutrition practices will be a part of the Positive Deviance Inquiry, which will take place in Year Two, just before implementation of the nutrition intervention and Hearth activities. The information gathered from that exercise will help staff further identify behaviors to promote and discourage and to decide which key factors are most important to address. The level of effort for nutrition will decrease by 10%.

Maternal and Newborn Care

Although coverage for prenatal care was low in the survey (as recorded on antenatal cards), these results are most likely due to poor retention of antenatal cards. The high coverage of self-reported IPT indicates that prenatal coverage is much higher. Although the project will work with community volunteers and health workers to continue to promote prenatal care, the main focus will remain on increasing postpartum care coverage and assisted deliveries. The survey confirmed earlier data that use of Trained Traditional Birth Attendants is very low, and the project will need to work closely with communities to increase that coverage when families choose home births.

Immunization

Complete immunization rates are surprisingly low (35% fully immunized by one year of age). This contrasts sharply with MOH and DHS data. The CCSP's partners have decided that the project must address the low vaccination rates and will focus on the three zones with the lowest coverage. The project will work very closely with Ministry of Health officials and frontline health workers to support the government's vaccination strategy and will emphasize community mobilization to improve communication and collaboration between communities and health facilities to improve vaccination rates. CCSP field staff will also regularly coordinate activity plans with the health facilities in their respective areas to provide logistic support for outreach activities. Before beginning the immunization intervention, staff will hold discussions with community members about their perceptions of vaccination, access, and quality of services and with health workers to determine the major barriers they encounter in providing these services. This information will help the project better identify how it can make a meaningful and effective contribution to the current vaccination program. The level of effort for immunization will be 10%.

Staffing levels will remain the same, as proposed in the original application. The budget will be adjusted slightly due to the need for immunization training and behavior change materials. (See revised budget in Annex 10.)

a. Types and Methodologies of Baseline Assessments

Knowledge, Practice, and Coverage Survey

SAWSO worked with the CCSP staff to modify the standard KPC 2000+ survey (with recent updates to the nutrition module), including key questions on each of the interventions and the Rapid Catch indicators. The baseline questionnaire was divided into three separate questionnaires, one for mothers of children 0-11 months, one for mothers of children 12-23 months, and one for mothers of children 24-59 months. The last questionnaire was included to allow malaria indicators to correspond with both national-level and Roll Back Malaria indicators, which include children 0-59 months. Both questionnaires for 0-11 months and for 12-23 months included 74 questions and lasted approximately 45 minutes. The third questionnaire had only 29 questions and lasted 20-30 minutes. In addition to the three main questionnaires, the survey team 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.

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, mothers of children 12-23 months, and mothers of children 24-59 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 existing census data on village/community size for the entire project area in order to complete sampling frames. In certain areas, only total population for a Rural Health Center

catchment area was available. In those cases, the initial sampling frame was done per RHC, and survey teams then did more detailed sampling frames once they collected specific village population data from the RHC. 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, 12-23, or 24-59) until the 19 surveys were completed for that age group and zone.

Overall, the sample included 93 mothers of children 0-11 months, 92 mothers of children 12-23 months, 95 mothers of children 24-59 months, 58 mini-questionnaires of mothers of children 0-5 months, 61 mini-questionnaires of mothers of children 6-9 months, 57 mini-questionnaires of mothers of children 0-23 months with fast breathing, and 87 mini-questionnaires of mothers of children 0-23 months with fever.

Qualitative Assessments

The KPC results raised questions for the project's partners that require further exploration with qualitative methods. The partners discussed these areas for exploration during the KPC Tabulation Workshop and during the DIP Workshop. During the third quarter of Year One, the staff will conduct focus groups and key informant interviews with communities regarding malaria behaviors (such as acceptance of ITNs, preferred styles, etc.) and about perceptions of vaccination and of quality of immunization services. Communities will also be asked about quality of other services, such as sick child, antenatal care, etc., and barriers to accessing care. Additionally, the CCSP will talk with front-line health workers about immunization, specifically focusing on challenges they face and ideas they have for improving services and coverage. Assessments will also include key informant interviews with CHWs and TTBA's about their perception of their roles so that the project can find the best way to integrate the new Care Group volunteers into the existing system.

Before the start of the nutrition intervention in Year Two, the CCSP will conduct a Positive Deviance Inquiry as a part of the Hearth activities, which will help identify positive feeding behaviors that the project will promote, as well as benefits and barriers to address in messages and activities. Similarly, before the start of the maternal and newborn care intervention in Year Three, staff will conduct focus groups and Doer/Non-Doer Analyses with communities to explore customs, beliefs, and perceptions surrounding pregnancy, labor/delivery, and the postpartum/neonatal period. This information will help the project to identify specific key factors to address and tailor planned activities and messages to encourage behavior change.

Census

The CCSP is currently in the process of conducting a project-wide census to update government population data. Each Care Group Facilitator is doing a door-to-door survey in her/his villages to determine the numbers of children under one and under five and women of reproductive age. The census also includes a mapping exercise of each village (to stay within the village) and of each Facilitator's area of responsibility. The census and mapping information will allow the project staff to make any necessary adjustments to distribution of villages among Facilitators, to plan logistics appropriately for frequency of village visits and modes of transportation for project staff, and will help Facilitators and communities select Care Group Volunteers and organize households under these volunteers.

Capacity Assessments

The project will conduct a baseline for TSA/Chikankata Health Services in May, using the Organizational Capacity Assessment tool,^{xxxiii} a participatory self-assessment process. The process will involve identifying areas for capacity building, such as financial management and data for decision-making. Based on this assessment, SAWSO and CHS will develop an action plan for increasing capacity in identified areas, as well as define indicators for measuring progress. The CHS Manager of Administration will oversee the action plan through monthly meetings, as well as semi-annual assessments. The CHS Manager and SAWSO Health Program Officer will assess progress on capacity-building indicators semi-annually, making adjustments as necessary.

To establish a baseline for community groups (Care and Prevention Teams - CPTs and Neighborhood Health Committees - NHCs), CCSP staff will facilitate a formal three-step self-assessment process, following the methodology used by Concern Worldwide. First, the group members will identify their main areas of responsibility (such as planning, monitoring, supervision, etc.). Second, with facilitated guidance, the team will develop a scale for describing the capacity progression (stages with explanations) and identify their current stage in each area. Third, they will set goals for the stage they wish to achieve by the end of the project and develop a plan to reach it. CSP Field Supervisors will help groups assess their progress on an annual basis and make any necessary adjustments.

The CCSP is currently working with Concern Worldwide to identify a consultant and develop a scope of work to begin the capacity assessment process for the community groups. Initial training and testing of the tool will take place in September and all groups will have completed a baseline before the end of Year Two.

Health Facility Assessments

At the next Task Force meeting in July, CCSP partners will work to develop simple tools (modifying existing government tools) to assess the quality of services in the RHCs and hospitals in the project area. The project will receive support from the Child Survival Technical Support Plus Project, using indicators they are developing to do Rapid Assessments of Quality and Access for Primary Health Care Services. Topics to be assessed include outreach coverage, utilization, service availability, coordination between health facility and community, personnel, infrastructure, equipment, drugs, quality improvement process, information systems, training, supervision, health worker performance, client satisfaction, and others as deemed to be necessary by the Task Force. Please see Annex 4 for a draft table of indicators to be assessed. Many of the indicators come from the Service Provision Assessment that was recently conducted in Zambia, for which results have not yet been published. That assessment will be a valuable resource for the project as it carries out its own assessment activities.

The assessment will be conducted in August with technical assistance from CSTS+. Results will be included in the First Annual Report.

b. Potential Constraints to Achieving Program Objectives

The two primary constraints facing the project are difficult access to isolated communities with poor road networks and lack of transportation, and inadequate staffing levels at rural health facilities in the project area. To address these two constraints, the project has decided to use the Care Group Model to ensure health services reach as close to the household as possible and has based Care

Group Facilitators and Field Supervisors (project staff) in the communities where they will work. The project's partners recognize the limitations of the project to address the resource shortages that the districts face. Project staff and community volunteers will foster a close working relationship with health workers at RHCs to coordinate activities and complement efforts to improve health to make the best use of limited staff time and resources. The project will concentrate on facilitating linkages between community members and the health facilities that serve them to empower families to take ownership of their community's health and be active partners with government and NGO health services.

Although Ministry of Health resource limitations are significant constraints, the project will work within these constraints of the current system, focusing on maximizing what is available, rather than creating systems and resources that are not. By building on what is realistic for current providers of services, the project anticipates fostering innovative, creative solutions that come directly from community members and health workers.

Because of the project location in the Southern Province, many previous USAID and other donor - supported health activities in Zambia were not implemented in the area. The Salvation Army is better known in Zambia as an implementer of HIV/AIDS programs and is not immediately considered when NGOs are contacted for partnerships and collaboration in Zambia. Over the life of the project, The Salvation Army will be proactive in seeking out partnerships and collaboration to bring the lessons learned in other parts of Zambia and other countries (particularly Care Groups in Mozambique) and adapt them to the local situation.

c. Coverage Estimates for Each Intervention

The following data comes from the KPC survey conducted in January 2006.

Malaria:

- 36.8% of households with a child under two own a mosquito net.
- 21.8% of children under two are sleeping under ITNs.
- 10.5% of children under two with fever receive an appropriate anti-malarial drug within 24 hours of fever onset.
- 83.8% of mothers of children under two received IPT during her last pregnancy.

Immunization:

- 35.2% of children 12-23 months completed the vaccination schedule before the first birthday.
- 54.6% of children 12-23 months have received a measles vaccine.
- The drop-out rate from DPT1 to DPT3 is 10%.

Nutrition:

- 27.2% of children 6-23 months eat a Vitamin A-rich food, a high protein food, and an iron-rich food each day.
- 21.1% of children 12-23 eat at least four times each day.
- 3.0% of children receive increased liquids and continued feeding during illness.
- 69.4% of children 0-23 months are weighed at least bi-monthly.
- 87.4% of children 0-23 months have an appropriate weight for age.
- 37.3% of children 12-23 months have received a Vitamin A dose in the past six months.
- 24.5% of mothers took at least 90 days of iron/folic acid supplements during the last pregnancy.
- 95.1% of children 6-9 months are receiving both breast milk and complementary foods.

Maternal and Newborn Care:

- 51.4% of births are attended by a trained provider (health professional or TTBA).
- 55.8% of home births use a clean birth kit.
- 15.3% of babies are placed with their mothers immediately after birth.
- 43.8% of babies are breastfed within one hour of birth.
- 18.7% of mothers receive postpartum care from a skilled provider.
- 19.2% of mothers have records of receiving at least two tetanus toxoid injections during their last pregnancy.
- 6.3% of mothers have records of receiving a dose of Vitamin A within two months of delivery.

d. Disease Surveillance Data

In both Mazabuka and Siavonga, the leading cause of under-five outpatient and inpatient consultations and deaths is malaria (incidence of 293/1000 and 1539/1000, respectively). Other leading causes of morbidity are diarrhea, pneumonia, and malnutrition (including anemia). The area still reports measles, diphtheria, and pertussis cases, although they do not represent a large proportion of morbidity or mortality.

Disease surveillance is collected through records of outpatient consultations, hospital admissions, and deaths. Because of the emphasis that the DHMTs place on the data, quality is expected to be good. The weakness of the data is that it only reflects cases seeking care in the health facilities, not community-based data.

(Data for Rapid CATCH indicators are included in the KPC Survey Report in Annex 3.)

3. Program Description

OVERALL PROGRAM STRATEGY

Goal and Results: This CSP proposes to address the main causes of mortality among women and children as described in the situational analysis: malaria, malnutrition, and deaths of newborns and postpartum women. The goal of the project is to reduce maternal and under five mortality among the 72,025 women of reproductive age and children under five through innovative community-based behavior change strategies and improved health services. CSP Results and Intermediate Results (IR) are below, and objectives are in intervention sections. See the Program Monitoring and Evaluation Plan on page 57 for the Monitoring and Evaluation Matrix with indicators.

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 danger signs; and IR 1.3: Continued high coverage of intermittent preventive treatment for malaria in pregnant women

Result 2: Increased immunization coverage in children

Result 3: Improved nutritional status of children and pregnant women: IR 2.1: Improved child feeding practices; IR 2.2: a) Improved detection of malnutrition, b) Improved 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 4: Improved maternal and newborn care practices: 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 services in health facilities; IR 3.3: Increased coverage of postpartum care for home deliveries

The CCSP will build upon the successes of the USAID-funded Matching Grant (which ended in 2004), which improved access and use of health services and built community capacity to manage health activities. It will expand to the remainder of the needier contiguous Siavonga District (adding another 54,000 people), intensify behavior change efforts to reach every household in the project area, and add key interventions in malaria and maternal and newborn care that are currently not being addressed. The project will capitalize on TSA’s grass-roots presence at the village level for better use of, increased demand for, and community ownership of health care services, consistent with Zambia’s decentralization policies. The project also offers the opportunity to integrate TSA’s current HIV/AIDS programs into maternal and child health activities, further strengthening the holistic health services that CHS provides.

The project will use a combination of conventional and innovative community-based strategies at household, village, and community levels: 1) the Care Group model for community volunteers^{xxxiv} at the household level; 2) the Positive Deviance/Hearth model for rehabilitation of malnourished children^{xxxv} at the household and village levels; 3) Care and Prevention Teams, which combine leadership of several villages at the community level; and 4) men’s groups at the village level.

1. Care Groups – Care Groups, developed by World Relief Mozambique, are groups of volunteer mothers who meet together for training and then spend time with 15 families closest to them to encourage adoption of key behaviors. Care Group mothers act as early adopters of new health behaviors and model these to their neighbors. The CCSP Project Manager has visited World Relief in Mozambique to learn about using Care Groups to improve household level health behaviors. To form Care Groups, project staff will conduct a census and mapping exercises with communities to identify clusters of homesteads and then facilitate community selection of volunteers. The women must be mothers, whom the community respects (which generally means older women), and who are willing to serve. Each volunteer will cover 15 households, visiting each of them biweekly to find out how they are doing and hold discussions about healthy behaviors focusing on age-specific and timely health information tailored to the household’s situation. This method of frequent interpersonal communication with a respected community member has shown astounding results in other programs in Africa. In World Relief’s Mozambique project, under-two ITN coverage increased from 0% to 85% over the life of the project.^{xxxvi}

The Care Group model is a uniquely powerful way of training and encouraging volunteers for community change that results in new community norms in a relatively short time.

The introduction of the Hearth model is an exciting opportunity to see dramatic change as people learn to rehabilitate their own malnourished children and gain hope, skills, and support to keep them well-nourished.

2. Positive Deviance/Hearth Nutritional Rehabilitation Model – Project staff will use locally-developed strategies (behaviors and foods) that achieve good nutrition with limited resources to design community feeding sessions for mothers and their malnourished children. Using volunteers to help mothers rehabilitate their children, the Hearth model is based on practices of neighbors whose children

are adequately nourished even though they share the same resources and face the same risks. Hearth sessions allow mothers to practice healthy behaviors and provide an extra meal to rehabilitate under-nourished children. This Hearth program will be the first of its kind in Zambia.

3. Care and Prevention Teams (CPTs) – CHS worked with communities to form CPTs in the late 1980s when they developed their innovative home-based care program. CHS improved the MOH concept of the Neighborhood Health Committee by ensuring that CPT members were those directly involved in activities in the community, not just managers. This volunteerism made the home-based care, community counseling, and orphan support programs successful. CPT members include CHWs, TTBAAs, home-based care volunteers, community counselors, and others involved in service to their community. CPTs currently exist in the CHS catchment area (71,000 people), and the project will work with Neighborhood Health Committees in Siavonga (54,000 people) to integrate the successful participatory approaches of the CPT model.

The Matching Grant final evaluation highlighted the success of CPTs, noting “the local partners...excelled in their ability to facilitate leadership development through training leaders in how to use a participatory leadership mode... Community leaders on the CPTs changed their approach from being autocratic to participatory. In the 14 communities that were visited by the evaluation team, all communities had documentation of having done community diagnoses and problem solving.”^{xxxvii}

4. Men’s Groups – As men control resources and are decision-makers for spending on health and nutritional inputs, CCSP partners have identified the need to increase men’s involvement in health care. The CSP will capitalize on the presence of TSA churches and their existing men’s fellowship groups as an entry point to pilot 20 men’s groups. In short learning sessions using adult education methodologies,^{xxxviii} men will learn about and discuss child health, nutrition, malaria prevention, VCT, family planning, domestic violence, and maternal health. TSA/Zambia’s Adult Services Coordinator will receive intervention training along with project staff and then train local church leaders to facilitate discussions on health topics. To reach men who are not in churches, members of men’s fellowship groups will start men’s groups in their villages to discuss family health issues and promote supportive actions from fathers and husbands. The project will encourage men’s groups to meet at least once a month, but actual frequency will depend on each group. If these groups are successful in starting other groups, CHS will expand this strategy to Siavonga, building on existing structures.

Behavior Change

The CCSP will focus on several key behaviors in each of its four interventions:

Result 1: Improved Malaria Prevention and Treatment Practices

- Pregnant women and children under five sleep under ITNs every night
- Pregnant women access antenatal care to receive three doses of IPT
- Families re-treat their ITNs every year
- Families bring children under five with fever to an appropriate care provider (CHW or health facility) within 24 hours of fever onset

Result 2: Increased Immunization Coverage in Children

- Families take their children to under five clinics (either in communities or health facilities) on appropriate days to receive their vaccinations according to the recommended schedule
- Health workers and communities work together to schedule vaccination activities for maximum participation

- Health workers check immunization cards for children at every opportunity, immunize if possible, and refer mothers if not

Result 3: Improved Child Feeding Practices

- Families feed their children under five foods high in Vitamin A, protein, and iron every day
- Families feed children over one year of age semi-solid food at least four times each day
- Mothers of children under five increase liquids and feeding for children during and after illness episodes
- Families take their children under five to growth monitoring sessions, either in the community (CHW or mobile clinics) or at the health facility
- CHWs and health facilities provide quality growth monitoring and counseling services monthly
- Mothers exclusively breast feed their babies until six months of age
- Families take their children to under-five clinics (in community or health facility) to receive Vitamin A supplementation
- Pregnant women take at least 90 days of iron supplements

Result 4: Improved Maternal and Newborn Care Practices

- Families utilize health facilities and/or TTBA's to attend births
- Families use clean birth kits for deliveries
- Communities establish emergency funds and transport
- Families refer neonatal and obstetric emergencies immediately to a health facility
- Families/attendants place newborns with the mother immediately after birth
- Mothers breastfeed babies within one hour of birth
- Mothers seek postpartum care from a TTBA or health professional within six days of birth
- Health workers perform infection prevention and active management of the third stage of labor for all deliveries
- Health workers refer maternal and newborn emergencies from health centers to hospitals according to protocol

As mentioned earlier, the primary communication channels for household level behavior change are Care Groups and men's groups. CCSP staff will work with communities to develop appropriate picture-based materials to assist volunteers in their behavior change efforts. For health workers, primary communication channels will be refresher trainings, reminder materials for health facilities, and supervisory visits by district MOH staff.

Quality Improvement

The quality improvement strategy has three main components: training and supervision standards and protocols at Care Group, CCSP staff, and health facility levels; monitoring and evaluation at community, project, and health facility levels; and improving communication, collaboration, and accountability between communities and health services.

For training and supervision, the CCSP will work with staff, volunteers, and health workers to jointly develop training standards, supervision protocols, and observation checklists to ensure that these activities are carried out with high quality. (Please see section on training for more detail.) The project will use the manual *Supervision and Support of High-Quality Group-Based Nonformal Education Services: The Use of Observation Checklists* produced by Freedom from Hunger^{xxxix} to develop observation checklists with and for men's group leaders, Care Group Facilitators, and Care Group Volunteers.

For monitoring and evaluation, the project will work with its partners to develop simple forms and tools to evaluate progress at Care Group, community, health facility, and project level. At Care Group and community level, Facilitators and Field Supervisors will facilitate assessment meetings for the first two years of the project to guide community members in how to compile and use data in their own villages to improve the health situation. Field Supervisors will also work with health workers and community members to assess progress within the catchment area of a Rural Health Center. The project will start with forms that are currently in use (MOH approved) and strengthen capacity to analyze and make decisions based on the data and then will work with partners to adapt forms to include information that health workers and community members think should also be included. (See Monitoring and Evaluation Plan for more details.)

Finally, the project will work with community leaders (CPTs and NHCs) and staff at health facilities to improve collaboration and coordination between the two groups. Some health facilities in the project area already have regular meetings with community leaders, but most do not. Once a month, Field Supervisors and Facilitators will meet with representatives from the community committee (either CPT or NHC) and RHC staff to review data on project progress (as described above) and jointly plan activities for the coming month/quarter. Such meetings will also offer the opportunity to discuss and resolve conflicts and miscommunication about the quality of services and community contributions.

Sustainability

The Salvation Army believes strongly in working from a human capacity development approach and the CCSP will follow that model, which grew out of the CPT work in the Chikankata area. CCSP staff will work as catalysts and mentors to help communities take leadership and action. To achieve this, the project has chosen to work closely with community groups (CPTs and NHCs) and to invest in working with local mothers to be the key agents of long-term behavior change in their communities. For sustainability of health service delivery, the project will not deliver services itself, but will work with existing providers (NGOs and MOH) and communities to improve quality, address concerns, and overcome barriers. To increase capacity of local community groups and the community itself, the project will build upon the successes of the Chikankata CPT approach. Furthermore, the project will use community monitoring and evaluation to build capacity to assess and address health problems within the community. All of the primary strategies chosen for the CCSP – Care Groups, Hearth, and CPTs – have been used successfully by development organizations to strengthen communities to take responsibility and build skills to improve health. The Care Group and Hearth models are specifically designed to change social norms that are sustainable without external inputs.

Integration with Other Activities

The Salvation Army designed the interventions of the CCSP to complement the ongoing work of Chikankata Health Services, the MOH, and other NGO partners. Even though HIV prevalence is very high and AIDS is a primary community priority, the CSP does not include an HIV component; rather, the project will work closely with Chikankata and World Vision to integrate its activities into the current HIV/AIDS projects being implemented in the area. Chikankata, in partnership with AIDS Healthcare Foundation and the Center for Disease Research in Zambia, is providing anti-retroviral therapy and PMTCT services. The Salvation Army/Zambia, as a subgrantee of World Vision, is providing services to Orphans and Vulnerable Children through the RAPIDS program. Both of these programs offer excellent collaboration opportunities for the CCSP. The household

coverage that will be achieved through the Care Group model will allow for identified OVC to be referred to services available in the RAPIDS program and through other OVC programs (such as government social welfare lists for free ITNs). The Hearth activities will also likely identify many children who could be HIV+ and can be referred for testing and treatment, if necessary.

Partners and Stakeholder Involvement

SAWSO will implement the project in coordination with a host of partners who have technical competence and accountability, a wealth of experience in the Zambia context, and an extensive network of relationships with communities in the project area. Primary partners include TSA/Zambia and Mazabuka and Siavonga DHMTs, and coordinating partners are the National Malaria Control Program, Churches Health Association of Zambia, Mtendere Catholic Hospital, Plan, and Harvest Help.

The main implementer of this CSP is **TSA/Zambia**, through Chikankata Health Services. When CHS requested help with maternal and child health programming, SAWSO saw the advantages of a strong partnership in a needy area and agreed to help develop this comprehensive child survival project. CHS has 60 years of experience and strong relationships with communities, the MOH, and other NGOs. CHS works interdependently with the **MOH** in both Mazabuka and Siavonga districts. The MOH oversees hospital and outreach activities, and CHS carries out services on the MOH's behalf. Since the MOH is the primary provider of health services in Siavonga district, working with the DHMT to expand programming to the entire district is logical and has great potential for success.

The CSP will also collaborate with Zambia's **National Malaria Control Program**, the central MOH body to set policies and coordinate malaria control activities through the country, and the **Zambia Malaria Form (CORE Secretariat)**. For ITN activities and clean birth kits, the project will work with the **Churches Health Association of Zambia**. CHAZ, the coordinating body for Zambian faith-based health organizations, recently received a grant from the Global Fund for malaria activities. TSA/Zambia is a founding member of CHAZ, and the solid relationship provides an excellent opportunity for partnership. Locally, the CSP will collaborate with **Mtendere Hospital**, a Catholic mission hospital that provides curative care to a large portion of the population and has a small outreach program. As a major health care provider in Siavonga, Mtendere's participation in the CSP is important for linking communities and health facilities, referral processes, and training and supervision of community volunteers. **Plan**, a large international health and development organization dedicated to the well-being of children, also works in the CCSP area. Plan and CHS have coordinated health activities in Mazabuka for years and Plan's participation is important for the CSP's success in the communities where they work. **Harvest Help**, a local NGO working in Siavonga, is enthusiastic about partnering with CHS, has strong relationships with its communities, and works in difficult access areas. The trust and familiarity that Harvest Help has with communities in an area new to CHS will facilitate smooth start-up of the CSP in Siavonga. Its agriculture and civic management programs will also complement the CSP's efforts. Specific roles and responsibilities for each partner are detailed in the DIP Workshop Report in Annex 5.

CHS and SAWSO staff held several strategic planning meetings about child survival activities over the past four years. In August 2004, Claire Boswell, SAWSO Health Program Officer, traveled to Zambia to review the current situation of health and services in the project area and explore new strategies such as Care Groups and Hearth. As a result, CHS staff have expressed interest in using Care Groups to reach every household and change community norms for health behaviors. CHS

staff met with the DHMT in Mazabuka and Siavonga to discuss their priorities and strategies for a CSP. The Siavonga Manager of Planning and Development was very enthusiastic about CHS expanding its community-based health programming to the entire district. CHS is fully integrated into the MOH system and has a proven organizational capacity to be a resource for continuing health programs. SAWSO and CHS met with the National Malaria Control Program's Resident Advisor for Malaria and Coordinator of the Community-Based Malaria Prevention and Control Program. They also met with USAID/Zambia, Plan, Harvest Help, and CHAZ in August and September 2004 to refine strategies and explore potential collaboration. In addition, CHS regularly holds community discussions and PLA activities at least semi-annually, so they are very aware of expressed community needs and priorities. In PLA activities in six carefully chosen representative communities, village leaders, volunteers, and community members said they are most affected by malaria, HIV/AIDS and diarrhea (viewed as one issue), and tuberculosis.^{xl} SAWSO and CHS chose the project site based on TSA's long-term presence and strong relationship with communities (CHS catchment area), on health status and need (expanding to all of Siavonga district), and gaps in programming (comprehensive work in malaria and maternal and newborn care). They chose interventions based on expressed community priorities, health status, DHMT priorities, and existing programs (such as tuberculosis and HIV/AIDS).

Since the project was awarded, TSA/Zambia and newly hired CCSP staff have held several meetings with partners and communities to discuss the planned activities. A Task Force of all stakeholders has been formed and has met twice since the project's start date. The most recent meeting was the DIP workshop (which is described in more detail in part C), in which partners reviewed baseline results; revisited planned activities from the proposal; revised some objectives, targets, and approaches, and clarified partner roles and responsibilities. The full workshop report is included in Annex 5.

The project leadership has also met several times with representatives from USAID/Zambia, most recently with Andrew Rebold, the new Health, Population, and Nutrition Officer. Mr. Rebold reviewed the first version of the DIP and provided very useful comments for the second version. After discussing the project thoroughly with Mr. Rebold, TSA and USAID agreed that USAID/Zambia will continue to receive copies of all project reports and documents and will attend Task Force meetings when possible. The mission will also help to facilitate linkages between the CCSP and mission-funded projects, such as the Health Services and Systems Project.

Agreements

A copy of the draft Memorandum of Understanding between SAWSO and TSA/Zambia is included in Annex 6. A final signed copy will be included with the First Annual Report.

Training

A detailed Training Plan is included on page 72. The training takes place at three levels – CCSP staff, health workers, and community. CCSP staff training will be primarily Training of Trainers, as they will conduct training for Care Group Volunteers and CPTs/NHCs. The project will use a variety of methods to monitor effectiveness of training and help trainees maintain and improve newly acquired skills. As mentioned earlier in the Quality Improvement section, CCSP Field Supervisors will use observation checklists for Facilitators and men’s group leaders as they train their groups. Supervisors will spend one day per week observing, supervising, and supporting each of their Facilitators as they do their work in the communities.

Care Groups will use the performance-based system developed by World Relief to ensure volunteers learn appropriate information and skills. Facilitators will use training scores for each group as a whole to help determine competence in the intervention messages. At the end of training on an intervention, the Facilitator will give the Care Group an oral quiz, asking each volunteer a different question. If the group scores 60% or more, they have “passed” that intervention. If not, the Facilitator works on problem areas and repeats the quiz later. This type of solidarity in setting goals promotes group identity and mutual support in learning.^{xii} After the mid-term evaluation, when all interventions have been phased in, Facilitators will re-visit each intervention to refresh volunteers in all that they have learned. Facilitators will also regularly accompany Care Group Volunteers as they do home visits, using a jointly developed observation checklist to improve their communication skills.

The MOH has an existing supervision system for all of the RHCs in the project area. An MOH supervisor visits each facility quarterly, reviews records, observes a consultation, and checks inventory, storage, and the overall facility environment. The supervision visit follows an established protocol, and the project will work with the MOH to assess the quality of the current supervision system and will include MOH staff in training to improve communication and supervision skills. RHC staff provide supervision and support for CHWs and TTBAAs. Although the standard is a monthly visit, transportation and staff time constraints limit visits to each quarter. No standard supervision protocol currently exists for CHWs and TTBAAs, so the project will work with the MOH, RHC staff, and volunteers to develop one that will assist volunteers in their work. CHWs and TTBAAs also receive regular refresher training once each year.

Consistency with CSHGP and USAID/Zambia Program Results

Please see Monitoring and Evaluation section on pages 69-70.

INTERVENTION SPECIFIC APPROACH

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

As malaria poses the greatest health risk and is a high felt need of community members, malaria control will be the first intervention the project implements.

Malaria is endemic throughout Zambia and is responsible for 4.8 million clinical cases and 55,000 deaths each year. Approximately 95% of these malaria infections are due to *P. falciparum*, with *P. malariae* and *P. ovale*, representing 3% and 2% of infections, respectively. *P. vivax* infections are rare. Major mosquito vectors are *A. gambiae*, *A. arabiensis* and *A. funestus*. At the community level, it has long been believed that malaria is associated with tall grass in the areas surrounding villages.

Although this concept has been disproved, slashing tall grass is still practiced in the belief that it will prevent malaria.

Approximately 80% of the Zambian population has been identified as poor, and a study found a substantially higher prevalence of malaria infection among the poorest population groups. Poor families live in dwellings that offer little protection against mosquitoes and are less able to afford insecticide-treated nets. They are also less likely to be able to pay either for effective malaria treatment or for transportation to a health facility capable of treating the disease.

Chloroquine resistance is estimated to average 47% (range 10.5% to 64%). Resistance to SP averages 14%, but is higher in many areas. A 14-day standardized study using WHO protocols was conducted at sentinel sites in 2003 to assess the in-vivo drug efficacy of artemether-lumefantrine (Coartem), sulphadoxine/pyrimethamine (SP), and SP-artesunate in patients under five years of age with uncomplicated *P. falciparum* malaria. The findings showed Coartem to have a day 14-cure rate of 98.2% to 100% with a treatment failure rate of 1.8%. The effect of the SP-artesunate combination ranged from 91.4% to 100% on day 14. The failure rate of SP by day 14 ranged from 7.5% to 32.8%. In this study, the role of the CHW was found to be vital in maintaining the number of patients complying with treatment. As of 2004, Coartem had been rolled out to 28 of 72 districts and the national goal was to supply it to all districts. Compliance study with Coartem (*iwaternwa* “we are happy”) was 65%.^{xiii}

In spite of the study supporting the efficacy of Coartem distribution by CHWs, community health workers have not received the drug yet. There are legal questions about health workers being in a position to perform diagnosis as “lay” health workers, despite the fact that they are the first people that many people consult when they are sick and many CHWs provide SP in their communities. Rapid diagnostic tests are not currently in the project area and most health facilities lack the ability to do laboratory diagnosis for malaria. This raises the question of sustainability of using Coartem if donor support for purchasing drug supplies discontinues in the future without the capacity to distinguish fevers caused by malaria from fevers caused by other diseases.

The National Health Strategic Plan includes increased ITN coverage using several different distribution mechanisms, changing drug treatment policy; increasing access to prompt, effective and safe treatment; providing health services closer to where people live, focused education/communication and a need for a national communication strategy.

Long-life impregnated nets are not currently available in sufficient quantity and they are more expensive than ITNs that require re-treatment. Restrictions on the prices that high-risk populations can be charged make cost-recovery, or revolving funds, unrealistic. There is a mixture of types of nets in the project area, so currently all nets are supposed to be retreated. Social marketing programs, including those supported by NetMark, as well as voucher programs, are not active in the project area due to the lack of commercial outlets for distributors.

The project will produce three intermediate results for malaria control:

IR 1.1: Increased ITN use among pregnant women and children under five

Program Objectives

- 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

Program Objectives

- 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

Program Objectives

- Maintain above 70% the proportion of pregnant women who receive IPT during pregnancy

a. Behavior Change and Communication

i. Formative Research

The baseline KPC confirmed that ITN use, re-treatment, and immediate care-seeking for fever are priority behaviors that need focus. ITN use and ITN re-treatment were higher than originally expected, reflecting both increased access and increased demand in the past few years. The KPC also revealed that timely care-seeking for fever was much lower than expected, with only 10% of mothers seeking care within 24 hours. Since the survey also revealed that the overwhelming majority of mothers are already seeking care from appropriate sources, the project will focus its behavior change message on *immediate* care-seeking. The project staff will do qualitative research (focus groups and key informant interviews) to complement the KPC survey results. Information that they will collect will include who the decision-makers are for procuring and using ITNs (to identify priority and supporting groups), reasons why families use ITNs or why they do not (to determine key factors), types of nets that are preferred by households (also a key factor that will inform CCSP procurement decisions), care-seeking behaviors, and accessing/receiving IPT. The project will also include an assessment of current net supply available through the National Malaria Control Program (NMCP) at health facilities.

ii. Behavior Change Strategy Development

The three Intermediate Results listed above reflect the three priority behaviors for the malaria intervention. Because access is expected to be a key factor for all three of these behaviors, it is included here in addition to the section c. Access.

IR 1.1 – Increased ITN use among pregnant women and children under five: The project will work at the community and health facility levels to increase supply and access and at the household level to increase demand and utilization. Using the national government strategy for ITN distribution in rural areas, the project will work closely with CHAZ and the National Malaria Control Program to set up mechanisms for net distribution and re-treatment at health facilities and through CPTs. (The project will not use vouchers due to lack of vendors.) A limited supply of nets is available through the NMCP in coordination with Society for Family Health, but the supply is not consistent or sufficient. The project will procure long-lasting double ITNs for sale at hospitals, RHCs and through CPTs for 3,000 kwacha (\$1). (Pricing is set by the national government and covers health facility and community transport costs; therefore, these systems will not be revolving funds.)

At the health facility level, health workers will sell ITNs during facility hours. Staff will instruct clients on proper net use, washing instructions, re-treatment, and who should receive priority for sleeping under it (children and pregnant women). Additionally, during the Under-Five Clinic days at health facilities when large groups of mothers bring their children, staff will sell nets and conduct short sessions (using adult education methodologies) to promote the benefits of using ITNs. The project will also train health workers to include malaria prevention messages regarding ITN use in all under-five and antenatal consultations to reinforce Care Group volunteer efforts. CHAZ will provide support to school-based drama groups, formed through CHS's HIV/AIDS work, to develop and perform dramas about ITN use and other malaria messages.

At the community level, CSP staff will help CPTs and headmen establish mechanisms for selling ITNs and hold re-treatment activities in communities far from a health center. Furthermore, CPTs and Care Groups can establish community funds to buy nets for the poorest families. TSA's Community-Based Orphan Support Program set a precedent for this type of community sharing, and the CSP will work closely with this project to ensure all orphans have ITNs. CPTs will sell ITNs during community activities and events, such as meetings and market days. Care Group members and CHWs (who belong to the CPT) will provide appropriate instructions at the time of the sale. Re-treatment is free, according to MOH policy, so the project will help health facilities to plan for these costs in their budget. Families can bring their nets for re-treatment to health facilities during Child Health Week (twice per year). In more distant communities, CPTs will host re-treatment events. In the Chikankata catchment area, re-treatment is a part of mobile clinics twice each year. CHAZ will provide training and assistance in implementing systems for management of ITN supply and funds to limit waste, prevent theft, and ensure a steady inventory. Logistics for ITNs and treatment chemicals will follow the current system for commodities and drugs.

At the individual and family level, Care Groups and men's groups will increase demand for ITNs. Care Groups of volunteer mothers will convey messages to mothers regarding ITN benefits, how to use nets, dispelling myths about dangers, washing, and re-treatment. The CSP will reach husbands, a key supporting group for many caretaker (mother) behaviors, through men's groups. Men's support can be encouraged by comparing the recurring costs of malaria treatment versus the costs of ITNs. Based on NetMark's research and recommendations, project messages will emphasize that ITNs are for everyone and are not just luxury items and that parents are "caring" and "health-conscious" when they put their children under ITNs.^{xliii}

IR 1.2 – Increased appropriate care-seeking for malaria danger signs: The project will work through Care Groups and men's groups to increase recognition of danger signs and mobilize early and appropriate care seeking. The KPC showed that most mothers recognize fever as a danger sign, but few recognize convulsions. Project staff will work with CPTs to identify and educate traditional healers and support CPT members to negotiate with them to refer cases of fever and other danger signs (especially convulsions). CHAZ has successfully worked with this group of traditional providers to increase care-seeking and referrals, and they have offered to provide technical support for the CCSP to follow their model. After training providers at every level, the project will begin community-wide education through school-based drama groups to disseminate malaria health messages. At the household level, Care Group volunteers will visit parents in their homes and discuss these same messages: dangers of malaria, how to recognize it, the importance of going immediately (within 24 hours) to the CHW or health facility for fever (not delaying by going first to the traditional healer); continued breastfeeding; and taking the full treatment course. Messages will also address fast/difficult breathing with or without fever to improve care-seeking for pneumonia. Fathers will

discuss this information during men’s group meetings to promote their support for immediate care-seeking. Volunteers will visit all pregnant women and children treated or referred for malaria and pneumonia, note their progress and discuss any problems in the treatment protocol, and counsel about further care-seeking if the child develops severe disease.

The project will train CHWs in malaria case management and recognition of pneumonia using the government curriculum (which follows community IMCI protocols) and develop supervision protocols for health workers to improve CHW performance in these areas. At the health worker level, the project will train hospital and rural health center staff to reinforce messages about malaria danger signs and care-seeking in all under five and antenatal consultations, and to improve implementation of referral protocols so that patients referred from a CHW or rural health center do not have to wait in line again at the hospital’s outpatient department. Additionally, the project will work with the NMCP to pilot the use of rapid diagnostic tests for malaria and provide training to improve the specificity of clinical diagnosis. A not-yet-published study conducted by the Macha Malaria Institute in Choma, Zambia found that clinical diagnosis was 88% sensitive, but only 27% specific, primarily because of health worker dependence on the presence of fever and incomplete physical exams and illness history.^{xiv} The NMCP will work with CHS to evaluate how health workers use these tests and what further training and support are required for nationwide implementation. Boston University and the MOH are also implementing a community-based management of fever project, in which the CCSP is a partner. The study will examine CHW integrated management of malaria and pneumonia and the feasibility and effectiveness of CHWs providing Coartem and amoxicillin.

IR 1.3: Continued high coverage of IPT in pregnant women: In addition to reducing low birth weight, poor birth outcomes, and maternal anemia, IPT is important because placental malaria drastically increases the risk of mother-to-child transmission of HIV.^{xiv} Care Group volunteers will make home visits to encourage pregnant women to seek ANC from a health facility, discuss how dangerous malaria is during pregnancy, and promote the effectiveness of IPT. TTBA’s will reinforce this message when they conduct their home-based ANC visits. Volunteers and TTBA’s will remind mothers when to return for their next visit and if and when the mobile clinic will be near their village. Volunteers will teach mothers the importance of keeping their maternal health cards with IPT records. To ensure women are receiving IPT once they reach the health worker, the project will train health staff to check the maternal health card at every visit, provide the necessary dose, and tell mothers (both verbally and on the card) when they should return. For supervisors, the project will provide training in the use of supervision protocol to improve performance. The CCSP will collaborate with implementers of the HIV/AIDS programs in the area, especially PMTCT, to communicate the importance of HIV+ pregnant women receiving three doses of IPT.

iii. BEHAVE Framework (Note: The information in this table will be refined once all formative research is completed.)

(Priority Group) In order to help:	(Behavior) To:	(Key Factors) We will focus on:	(Activities) Through:
Mothers of children	Place their children	-Increasing support from fathers and	-Home visits by respected Care Group Volunteers

under five	under an ITN every night	grandmothers -Increasing access to ITNs -Promoting that using ITNs is a “caring” parental behavior	-Promoting ITN use for children in men’s groups -Supplying affordable nets through RHCs, HAHCs, and CPTs/NHCs -Community-based drama groups
Pregnant women	Sleep under an ITN every night	-Increasing support from husbands -Increasing access to ITNs -Increasing awareness about ITNs preventing malaria and improving the health of mother and baby	-Care Group training -Home visits by Care Group volunteers -Promoting ITN use for pregnant women in men’s groups -Emphasizing ANC attendance -Collaborating with DHMT and other partners to ensure adequate ITN supplies
Mothers of children under five	Re-treat their ITNs every year	-Increasing access to re-treatment -Informing families that the net treatment offers real protection from malaria -Reminding mothers when re-treatment activities are taking place	-Child Health Week re-treatment activities -Facilitating meetings between communities and health workers to schedule re-treatment activities -Care Group Volunteers, CHWs, and TTBAAs remind families about Child Health Week and re-treatment -Care Group Volunteers, CHWs, TTBAAs, and health workers all reinforce the importance of re-treatment at every contact with families -Health workers document re-treatment date and the next schedule re-treatment on the mother’s or child’s health card
Pregnant women	Seek antenatal care for three doses of IPT	-Increase awareness that IPT improves the health of the baby -Increase access to IPT -Increase awareness of where to seek ANC services for IPT and how many doses are needed	-Home visits by Care Group volunteers and TTBAAs -Collaborating with RHC staff for outreach activities that include ANC/IPT -Training CPTs/NHCs and men’s groups to promote IPT -Refresher training on IPT for health workers
Mothers of children under five	Take their children with fever to an appropriate provider within 24 hours of onset	-Increasing access to quality care from CHWs -Informing families of the urgency of treatment for high fever -Increasing support from fathers and grandmothers -Increasing knowledge	-Training CHWs in areas with low coverage -CCSP staff will facilitate health worker support and supervision of CHWs (including restocking of drug supply) -Health workers receive training on supportive supervision of CHWs -Health workers receive training on communication, reinforcement of

		that treatment is free -Increasing positive reinforcement from health workers for seeking care immediately	immediate care-seeking in consultations -Posters in health facilities promoting immediate care-seeking for fever in children -Men's groups receive training on the dangers of malaria and need for immediate care -Care Group Volunteers, CHWs, TTBA's encourage decision-makers (grandmothers, fathers) to seek care immediately
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b. Quality Assurance

i. MOH Policies and Strategies

As mentioned above, the newest MOH guidelines for ITN distribution in rural areas includes distribution to vulnerable populations (pregnant women and children under five) through health facilities and through community agents (who belong to NHCs/CPTs). In rural areas, the government supports direct subsidized sales through antenatal clinics to pregnant women for 3,000 kwacha (\$1). Funds are then remitted to the DHMT. The government also supports targeted subsidies through community funds (Community-based Malaria Prevention and Control Project), in which community groups sell nets for 5,000 kwacha (\$1.50). 2,000 kwacha is kept for the community agent or group, and 3,000 is remitted to the DHMT. Official government guidelines note that, "the funds realized by sales is less than half the real purchase price...there will always be a need for financial support to the fund either through district basket funds or donors." The government encourages net specifications of 100 Denier in the largest size available. Long-lasting nets PermaNet and Olyset are also approved for sale in Zambia.

Net re-treatment is free and is done each year during Child Health Week in December, just before the peak malaria transmission season. The government encourages mass re-treatment campaigns by DHMTs, NGOs, and community and service groups. Approved insecticides include deltamethrin, alphacypermethrin, and lambda-cyhalothrin. (ITN Guidelines are included in Annex 9.)

Case management guidelines for treating malaria include artemether-lufemetrine (Coartem) as the first line treatment, with sulfadoxine-pyrimethamine (SP) as the first line for children under 10 kilograms and for IPT in pregnant women. IPT is given in three doses (first in second trimester, the second and third doses one month apart) as directly observed therapy. Quinine is approved for severe, complicated malaria and for treating uncomplicated malaria in pregnant women in their first trimester. (Specific dosage guidelines are included in Annex 9.)

The government is conducting indoor residual spraying in the town of Mazabuka (not in the project area); however, the project will follow the government strategy for rural malaria control, as the vast majority of the project's beneficiary population is not living in towns. TSA/Zambia and SAWSO did discuss spraying with the National Malaria Control Programme during project development, and the NMCP advised that it is not an effective strategy in rural areas with dispersed populations. The cost of supporting the MOH in spraying in Mazabuka was not feasible with the other project objectives to be achieved.

ii. Addressing Quality

The project will define quality according to official MOH guidelines for case management of malaria and ITN strategies. For other services, including communication, education, and supervision, the project partners will jointly decide essential elements and components of the activity or service that must be completed for quality performance. The project has identified three primary areas of opportunity for quality improvement within the existing system: communication, monitoring and evaluation, and supervision. The health facility assessment may identify additional areas for improvement that will be discussed in the First Annual Report.

For communication, the project will provide training for health workers on interpersonal communication (health worker/client interaction) and will work with MOH supervisors to include this “soft” skill in their supervisory protocols. CCSP staff will also work with community groups and health facility staff to improve communication around scheduled activities, such as outreach clinics. Ideas to improve collaboration include scheduling regular meetings between the health workers and community leaders, establishing formal means of communication (letters, messengers, etc.), and agreeing on ways to resolve disagreements or complaints.

For monitoring and evaluation, the CCSP staff will work with communities and health workers to facilitate simple analysis of data that they already collect and plan for acting on that data. Participants at the DIP Workshop discussed possible revision of approved MOH forms to improve usefulness of data at the health facility level. This activity will require intense support from CCSP leaders (Project Supervisor, Health Education Coordinator and Monitoring and Evaluation Coordinator) and SAWSO staff. They will spend significant amounts of time at the early phase of the project in the field with staff to support and guide them as they learn to support and guide communities and health workers. The Care Group information will provide extremely valuable surveillance on the effectiveness and coverage of the malaria intervention activities in the project area. Feedback from community information will help project staff and the DHMT target areas of poor coverage.

For supervision, the project will work with the MOH to develop supervision protocols for community volunteers (CHWs and TTBAAs). These protocols will guide health workers to improve the quality of the support they provide to these groups. The project will also work with the MOH to examine existing supervision protocols and improve them as needed.

iii. Supervision

As mentioned above, the health service delivery supervision system involves CHWs and TTBAAs, RHC health workers, and MOH supervisors. RHC staff are supposed to provide supervision to CHWs and TTBAAs each month, but lack of time and transport usually limit the visits to once a quarter. Staff will discuss any problems with the volunteer and provide supplies to re-stock their kits. No formal protocols exist currently for this supervision. At the RHC level, MOH supervisors visit once each quarter. They follow an approved protocol to review case logs, observe a consultation, and check inventory/equipment/environment. The project will work with its MOH partners (through joint visits) to assess the current quality of this supervision during the health facility assessment and will collaborate to develop plans for needed improvements. The project has already planned training on providing supportive supervision, which will include MOH supervisors.

iv. Tools

Multiple factors and decisions influence adoption of desired behaviors at each level. The CORE Malaria Working Group tool “Surviving Malaria: Decision Guide” will be used to help assess key factors in the CCSP communities, households, and health facilities that influence the ability to obtain prompt, safe, and effective treatment.^{xlvi}

Most intervention trainings will use government-approved curriculum. Where these do not exist, the CCSP partners will modify materials from other organizations or develop new curricula. Training materials from successful projects such as JHPIEGO’s Maternal and Neonatal Health project will be used as much as possible. As mentioned above, CCSP partners will develop or modify supervision protocols which supervisors will use to assess case management of malaria. At the community level, volunteers and community leaders will work with CSP staff to draft observation checklists for volunteer home visits and community education sessions. CCSP Facilitators will work with their Supervisors and the Health Education Coordinator to develop protocols and observation checklists for the training of Care Groups.

v. Commodity Supply

Several commodities are essential to the success of the malaria intervention, such as Coartem, SP, and quinine, and IV equipment. The CCSP will conduct a health facility assessment jointly with its partners to more fully assess the current status of the drug and commodity supply. CCSP partners currently view the drug supply as reliable and have not observed serious problems with stock-outs at the health facility level. Re-stocking of CHW kits with SP is often a problem in more remote areas because CHWs have difficulty reaching the RHC and/or health workers have difficulty reaching communities. The project will work closely with the MOH to assess problems with drug supply and assist with advocacy at a higher level, if necessary. The project will not purchase or subsidize the costs of drugs. CCSP partners will follow the government guidelines for monitoring drug quality and ensuring safety, and will support implementation of these guidelines at every level. Ensuring safety measures are followed is an important part of the supervision system that the project will support and strengthen. Re-treatment of ITNs will only be done at mass campaigns by trained, MOH-approved agents, per MOH protocols and safety guidelines.

c. Access to Services

i. Barriers to Access

Known barriers to access include distance and lack of transportation. After completing the baseline qualitative assessments, the project will know if other barriers pose significant problems, such as cost or health worker attitudes. The project approach to improving access to services is two-fold: bringing services closer to the community through training of CHWs and Care Group Volunteers and establishment of community ITN distribution systems and mobilizing communities to work together to develop community transportation systems to health facilities and to collaborate with RHC for outreach services.

Little is currently known about the quality of care barriers to access in the health facilities. Client perceptions of barriers to care of all kinds will be explored at the community level in qualitative assessments with Care Groups after they are formed. The project will investigate perceived quality of care during qualitative assessments in the communities and perceived barriers to quality care during the health facility assessment. The CORE Malaria decision tool mentioned earlier can help to pinpoint barriers to access. Since health facilities are currently the primary source of ITNs, net supplies and logistics will be included in the facility assessments.

ii. Equitable Access

The primary disadvantaged groups in the project area are those communities that are located in extremely hard-to-reach areas, connected by poor roads and minimal transportation systems, far from RHCs. The CCSP's partners are currently in the process of identifying these areas and will place priority on building capacity of community groups and RHC staff to find solutions to the access problem. Identifying the areas that are most underserved will help both communities and health workers to better prioritize and plan outreach and other services with the limited resources available.

Additionally, OVC and other HIV-affected individuals have fewer resources to procure ITNs and access treatment for malaria. The CCSP will collaborate with OVC programs in the project area to ensure that OVC receive free ITNs (as mandated by the government, these nets are available from UNICEF).

Result 2: Improved immunization coverage (10%)

The immunization component will be phased in just after the malaria intervention at the end of the first year. This result will achieve two objectives:

Program Objectives

- 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

a. Behavior Change and Communication

i. Formative Research

Until the baseline KPC survey, the project relied on existing data that showed high immunization coverage in the project area. The baseline data shows that current coverage is quite low in three zones of the project area, that coverage is average to high in two zones, and that the drop-out rate is low indicating poor access. The project partners will need to do further formative research to identify the root causes for poor coverage. This research will include interviews with health facility staff, community members, and an assessment of supplies and equipment at the RHCs. Although the project will not purchase vaccines, vaccine supplies, or cold chain equipment, identifying shortages or weaknesses in any of these areas will allow partners to advocate with those who control resources to allocate more to immunization. Solutions to identified problems will come from partners and the community. Immunization is a stated priority of the Zambian government, and the health system prides itself in achieving high coverage. The partners feel strongly that highlighting gaps will provide opportunity for collaboration to act and improve weaknesses.

ii. Behavior Change Strategy Development

Although formative research has not been completed, the CCSP partners have identified several barriers to good immunization coverage and ways to overcome it. Project input will focus primarily at the community and the health facility level. (If vaccine supply and equipment is identified as a problem, then advocacy at the District and National levels will also be a part of the strategy. However, most project partners do not believe these are the primary causes of low coverage.) Because the CCSP partners believe that many of the problems stem from lack of community involvement and poor session scheduling, improving linkages between the communities and health staff is a major priority. At the household level, Care Group Volunteers will teach mothers about

the importance of vaccinations, how to understand the vaccination cards (even if they are illiterate), and help remind mothers about scheduled vaccination days. CPTs and NHCs will also receive training in immunization basics so that they help promote vaccination in the community and advocate effectively for immunization services from the RHCs.

At the health facility level, the project will focus on refresher training for health workers to remind them of official vaccination policies. Although health workers are encouraged to reduce wastage, MOH policy supports vaccinating at every opportunity. Health workers will be reminded to check immunization status at every contact, taught about true and false contraindications, and supported in working with communities to effectively schedule vaccination sessions with high turnout. Although staff time is limited and transport is not always available, RHCs can achieve high coverage in their catchment areas if they coordinate well with communities. Less frequent sessions with very high turnout are more effective, cost less, and waste less vaccine and staff time than more frequent sessions that have to be cancelled due to poor turnout or other scheduling problems. Many health facilities have attempted to reduce wastage by only vaccinating one day per week. However, many vaccines come in vials with a smaller number of doses (such as DPT+Hib+Hep B, which comes in a two-dose vial) and/or can be opened and then stored for later use (DPT and OPV). Only measles and BCG must be used within six hours before being discarded. Since these vaccines come in multi-dose vials, scheduling vaccination sessions for a large number of people is extremely important. The project will explore materials available to remind health workers of vaccine policy and develop or modify and distribute them to each health facility for helping staff remember the guidelines.

Because the CCSP itself is not delivering vaccination services, the MOH, as a primary partner, will take the lead in addressing the current immunization problem. CCSP staff will serve as support in monitoring and evaluation to accurately assess coverage, in facilitating training of health workers, and in building linkages between the community and health services.

iii. BEHAVE Framework (Note: The information in this table will be refined once all formative research is completed.)

(Priority Group) In order to help:	(Behavior) To:	(Key Factors) We will focus on:	(Activities) Through:
Mothers of children under one	Take their children for scheduled vaccination	-Informing mothers of vaccination's role in raising healthy children -Reminding mothers of scheduled immunization days at clinics or outreach sites -Increasing support from family members (fathers and grandmothers)	-Home visits of Care Group Volunteers -Education about vaccination in men's group activities -Mobilizing CPTs and NHCs to promote immunization at community events and meetings
Health workers	Vaccinate at every	-Informing/reminding them about government	-Providing refresher training (done by direct supervisors) on vaccination

	opportunity	<p>policies and protocols</p> <ul style="list-style-type: none"> -Increasing support from supervisors to reduce missed opportunities -Reminding them to review vaccination status at every contact -Increase internal motivation to achieve high coverage 	<p>policies</p> <ul style="list-style-type: none"> -Distributing education/reminder materials to post in consultation rooms -Involving health workers in monitoring and evaluation to assess coverage in their facility's catchment area -Working with DHMTs to recognize most improved facilities
Health workers	Schedule outreach sessions in coordination with communities	<ul style="list-style-type: none"> -Increasing communication between communities and health staff -Increasing community demand for outreach sessions -Increasing community participation and support for outreach sessions 	<ul style="list-style-type: none"> -CPTs, NHCs, CHWs, and Care Group Volunteers mobilize communities to attend sessions -CPTs/NHCs meet regularly with RHC staff to plan outreach activities -CPTs/NHCs negotiate with RHCs to overcome barriers to conducting outreach, such as transport costs

b. Quality Assurance

i. MOH Policies and Strategies (See Annex 9 for the full vaccination manual.)

Zambia follows the standard childhood vaccination schedule for the six major vaccine-preventable diseases, which is presented in table form below:

Age	Vaccine
Birth or first contact	BCG
Birth to 13 days of age	OPV0
From 6 weeks	OPV1 and DPT1
From 10 weeks	OPV2 and DPT2
From 14 weeks	OPV3 and DPT3
At 9 months	Measles and OPV4 if OPV0 was missed
At 18 months	DPT booster

Zambia has recently adopted the new DPT vaccine that includes Haemophilus influenzae type b (Hib) and Hepatitis B, but the scheduling of these vaccinations remains the same.

The cost of vaccines and equipment has made it impossible for Zambia to offer vaccinations at every opportunity. Particularly in rural areas, health workers are instructed to coordinate with communities to schedule vaccination sessions in which larger numbers of children can be vaccinated. Zambia supports integrating vaccination into other health services (antenatal care, primary care, under five clinics, etc.) and gives health facilities flexibility in scheduling their outreach sessions based on community involvement, the size of the target population, and other considerations.

Zambia has adopted the multi-dose or open vial policy, in which open vials of OPV and DPT can be saved for up to four weeks provided the cold chain is maintained properly. Measles and BCG must be discarded six hours after opening. The government allows both single-use and sterilizable syringes (using steam sterilization).

The MOH places great emphasis on health workers vaccinating even when a child is sick and strongly discourages not vaccinating due to other commonly-accepted false contraindications. Symptomatic HIV is only a contraindication for measles and BCG; other vaccines are to be given to children with symptoms of HIV, and all vaccines are to be given to children with non-symptomatic cases.

In addition to routine immunization, Zambia also carries out periodic mass vaccination campaigns that include both measles and Vitamin A supplementation for all children 9-59 months of age.

ii. Addressing Quality

The project will define quality vaccination services according to government standards, coverage levels, and community perception. The health facility assessment will take into account whether or not vaccination services are meeting MOH protocols for safety, cold chain maintenance, and routine immunization services, while qualitative research will uncover perceptions from both health workers and community members about the current state of vaccination services and ways to improve them. For example, community members may feel that immunization sessions are not currently being scheduled at convenient times or that they are not communicated in advance. In such a case, scheduling and communication must be a part of the definition of quality, and community groups must work with health workers to measure and improve that aspect of the service. At the health facility, the project will work with the MOH to ensure that existing protocols for vaccination are followed, particularly multi-dose/open vial policies, recognizing true and false contraindications, and accurately recording vaccinations on the child's card. Refresher training and emphasis during supervision could help to address problems if they are discovered during the health facility assessment.

iii. Supervision

During quarterly supervision visits, MOH supervisors will check vaccine and cold chain equipment to ensure proper maintenance. Supervision of immunization services also includes reviewing monitoring data on coverage and wastage. After completion of the health facilities assessment, the CCSP partners will identify areas that need strengthening and will work with MOH supervisors to incorporate some of these areas into their supervision protocols, if they are not included already. By highlighting the low coverage in some zones, the partners are already advocating for greater attention to quality immunization services.

iv. Tools

The MOH already has high quality immunization protocols in place, but the project does not have information showing to what extent protocols are being followed, particularly at the RHC level. CCSP partners will start with existing protocols and guidelines to improve immunization services and will seek to make modifications if necessary (adaptations to supervisory checklists, for example). The project will use nationally-approved curriculum for refresher training for health workers. To improve accountability with communities, the project will work with health center staff and community leaders to define quality services and draft checklists of tasks for both health workers

and community members to complete. These checklists will be reviewed periodically at meetings between CPTs/NHCs and RHC staff so participants can discuss ideas for improving coverage and quality of services.

The project will also provide copies of “Immunization Essentials”,^{xlvii} as a technical resource for partners. In addition to the measures already mentioned, The Salvation Army will request that staff from the BASICS project review the KPC immunization data for possible insights into reasons for the coverage shortfalls. Within this publication are links to several additional tools to help analyze and take action on causes of low coverage.

v. Commodity Supply

Several commodities are necessary for a successful immunization program. In addition to vaccines, health workers need syringes, needles, sterilization equipment, and cold chain equipment (refrigerators, cold boxes, vaccine vial monitors, etc.) The government provides necessary supplies and equipment for vaccination services, although resources are limited and health workers are strongly encouraged to reduce wastage. The project has not yet assessed the supply or continuity of these commodities, but will do so during the health facilities assessment.

c. Access to Services

i. Barriers to Access

Primary barriers to immunization access are distance to facilities and lack of transportation. Others include missed opportunities at health facilities and limited resources for outreach activities. The project will work within the confines of existing resources to improve vaccination coverage. The community leaders (CPTs and NHCs) are an integral part of the solution to current low coverage and the project will seek to increase their participation and contribution. Despite limited resources, CCSP partners believe that high coverage is attainable with maximum collaboration and coordination between communities and health facilities – in educating community members about the importance of vaccination, in scheduling sessions that allow for the maximum number of participants, and in overcoming past problems with relationships due to poor communication.

The project will also be able to contribute to logistical challenges by coordinating activities with RHC staff. As CCSP Facilitators and Supervisors make their regular visits to communities, health workers can take advantage of available transport to provide immunization and other integrated health services. Although logistical support is a short-term solution and raises questions about sustainability, such low vaccination coverage must be addressed immediately with all means possible. Care Groups and CPT/NHC members can assist by monitoring children’s vaccination status at the community level and focus mobilization efforts on encouraging their caretakers to take them for vaccination.

ii. Equitable Access

Access problems are obviously greatest for those that live farthest from health facilities. As the project works to facilitate better linkages between communities and health workers, it will allow these stakeholders to plan outreach more effectively to reach populations that are currently underserved. Project staff will also work with community volunteers (Care Group Volunteers, CHWs, and CPTs/NHCs) to monitor vaccination coverage at the village and community levels so that health workers can prioritize areas with lowest coverage for outreach sessions.

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

The project will phase in the nutrition component after the implementation of the malaria intervention. The CSP expects to achieve four intermediate results for nutrition:

IR 3.1: Improved child feeding practices

Program Objectives

- 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 b) Improved community treatment of malnutrition

Program Objectives

- 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

Program Objectives

- 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)

Program Objectives

- 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

a. Behavior Change and Communication

i. Formative Research

The KPC confirmed that feeding practices for infants and children are not optimal in the project area. Many families only eat two meals each day, and many children are only fed once per day, particularly if the mother works outside the home. Only about 20% of children 12-23 months eat semi-solid food at least four times per day. Typical food includes *nshima* (maize meal), relish (cabbage, tomatoes, and onion), pumpkin leaves, chicken, and eggs. Wealthier families who have cattle and goats eat meat and drink milk. Certain food taboos, such as children and pregnant women not eating eggs, affect nutritional status even when food is available. HIV+ mothers are too sick to care for their children properly, or die while the child is very young, contributing to child poverty, malnutrition, and death. Breastfeeding practices are not optimal, particularly in such a high HIV prevalence area. Many mothers believe their breast milk can cause illness, so they stop breastfeeding if the child gets sick. Also, mothers who work on commercial farms usually wean early, and if a mother misses a feed, she will abruptly wean, believing that her milk has gone “sour.” The baseline KPC found that 44% of mothers began breastfeeding within one hour of delivery, and the same proportion of children under six months of age exclusively breastfeed. Complementary feeding is better; virtually all of the children six to nine months receive appropriate foods.^{xlviii}

The project will strengthen the coverage and quality of GM/P services at the start of the nutrition intervention to accurately identify which communities will implement Hearth. Because coverage of GM/P is already quite high, demand for these services is good, and health facilities prioritize the activity, it will be more cost-effective to use this system instead of a separate comprehensive anthropometric survey to complement the KPC. Additionally, strengthening the GM/P services also allows for continuous screening for malnutrition. (See IR 3.2a below.)

The project will conduct a positive deviance inquiry (PDI) before the start of the nutrition intervention in year two. This exercise will uncover already-existing practices in the community that contribute to good nutrition. The PDI will identify the behaviors that the project will promote in addition to the ones already mentioned (increasing feeding frequency, breast feeding, etc.)

ii. Behavior Change Strategy Development

Specific plans to influence priority behaviors are detailed below by Intermediate Result.

IR 3.1: Improved child feeding practices: At the individual and family level, volunteers will visit homes to discuss age-appropriate feeding practices with caretakers (mothers, grandmothers, and older siblings) to overcome dangerous practices of abrupt weaning, insufficient feedings, and nutrient-poor meals. They will promote key behaviors such as appropriate introduction of complementary foods at six months, frequent meals for young children (four to five times per day), foods rich in Vitamin A and iron, energy-rich meals (adding oil, beans, groundnuts, and kale), and active feeding. They will also encourage point-of-use water treatment with chlorine, hand washing, proper waste disposal, rehydration during diarrhea with recommended home fluids or oral rehydration solution, recognition of dehydration and other danger signs, and increased liquids and feeding during and after illness to speed recovery and catch-up growth (as this was extremely low in the baseline KPC). The project will develop messages based on qualitative research on determinants of these behaviors. To achieve equal access to growth monitoring and promotion (GM/P) services, volunteers will encourage caretakers to attend GM/P sessions monthly and will follow up with defaulters. Health staff will counsel mothers at the monthly GM/P sessions, which Care Group volunteers will support. Men's groups will hold dialogue-based education on proper nutrition, supporting women in breastfeeding, buying and growing nutritious, high-energy foods for children, and PMTCT/VCT.

IR 3.2a – Improved detection of malnutrition: At the individual and family level, the project will improve present GM/P services by nearly 100% follow-up of GM/P defaulters and malnourished children. The project can improve access by mobilizing volunteers to request help to establish GM/P services where they do not exist. Following the MOH strategy, the project will focus its most intense CM?P efforts on children under 24 months. In the CHS catchment area, mobile clinics, health centers, and CHWs offer GM/P services. In the non-CHS part of Siavonga, the project will improve access in communities more than a two-hour walk from a health facility by training CHWs to conduct GM/P sessions with support from Care Group volunteers. In areas where people have to walk a few kilometers to GM/P sessions, volunteers will organize families and accompany them to encourage attendance. Volunteers will visit every household and track GM/P defaulters and high-risk children, such as orphans. Each Care Group leader will refer mothers of malnourished children identified at GM/P sessions to their volunteers and will advise the volunteer to follow up with a home visit. Volunteers will learn how to ask questions, probe, counsel their 15 families, and make sure children have been weighed by checking the child health card. To ensure quality counseling, the project will develop observation checklists, which supervisors will use to help improve performance.

To mobilize communities, project staff will work with CPTs to gather data on malnutrition prevalence from Care Groups (from child health cards) and develop community-level action plans to reduce malnutrition and improve access to nourishing foods. Care Group volunteers will check growth cards and report how many children were underweight to Facilitators during their biweekly sessions. They will then plan actions to help their families. A Care Group leader from each village will take the information for her village's groups to the monthly CPT meeting where malnutrition data for the entire community will be compiled. Facilitators will help with this process in the beginning until communities are able to do it without help. The project will also train health workers (CHWs and health facility staff) to include nutrition messages during all under five consultations (as per IMCI guidelines), particularly for a sick child. These messages reinforce the volunteers' nutrition messages and promote proper nutrition to prevent and treat disease.

IR 3.2b – Improved treatment of malnutrition: The project will invite mothers of malnourished children to the Hearth nutrition education and rehabilitation project. Through the Hearth program, mothers learn to recognize malnutrition, begin to treat their own malnourished children with supervised supplemental feedings, and then go home to finish rehabilitation by feeding them sufficient nutrient-dense foods. As mothers apply healthy feeding behaviors, they will prevent repeated malnutrition in the Hearth children as well as their siblings. This model is effective, low-cost, takes only one month of project input per cycle (after initial staff training), and uses locally available materials and foods. The project will hold Hearth cycles at least four times over the life of the project (two times in the first half of the project and then again after the midterm, during the more challenging hungry season when coping mechanisms may be different).

First, project staff and Care Group volunteers will identify poor mothers with well-nourished children and analyze their feeding and child care practices, e.g., what types of food they give their children, in what manner, and how often. The Project Supervisor (a nutritionist) then designs the menu for rehabilitation and works with staff to design the Hearth session around these locally sustainable behaviors. Volunteers and staff will identify malnourished children under three years at GM/P sessions; invite mothers to participate in the month-long Hearth program; and ensure all participating children are up-to-date on their vaccinations, Vitamin A supplementation, and deworming. Project staff and volunteers conduct Hearth sessions in volunteers' homes for two weeks (six days per week for two weeks). Mothers participate actively by bringing a food contribution; washing their hands and their children's hands; feeding the children a nutritious snack to stimulate the appetite; preparing the extra, high-calorie meal; and actively feeding their children. During the session, volunteers will discuss these healthy behaviors and others identified during the initial inquiry of poor mothers with well-nourished children, such as breastfeeding, meal frequency, immunization, and proper care-seeking for illness. Over the two-week period, mothers observe differences as their children become happier and more active and develop better appetites. Volunteers will emphasize that the Hearth meal is an extra meal, not a substitute meal, and the child should still eat another three to five meals at home during the day.

After the first two weeks of Hearth, caretakers will practice the new behaviors for two weeks in the home. During this time, volunteers will make home visits to support new feeding behaviors, encourage mothers, and help them find solutions to problems. Project staff will accompany volunteers on these visits to ensure quality counseling. Staff weigh children at the beginning and end of the month and record the weights on the Hearth register with the date. Children who do not achieve adequate growth at the end of the month-long Hearth session can participate in the next Hearth. Because of high HIV prevalence, staff will also refer these children to a health facility for

further evaluation and testing. Discussion during Hearth sessions will include testing children for HIV, advantages of ART, and proper nutrition for HIV positive children.

IR 3.3 – Increased exclusive breastfeeding up to six months of age: Care Group volunteers will counsel pregnant women, mothers of children less than six months, and their families during home visits. They will promote exclusive breastfeeding up to six months for all mothers, introduction of appropriate complementary foods at six months, continued breastfeeding until two years of age (for women of unknown status, who are HIV negative, or who are on ART), and continued/increased breastfeeding during illness. TTBA's will promote exclusive breastfeeding during antenatal visits, immediate breastfeeding at the births they attend, and proper breastfeeding during postpartum visits. TTBA's and volunteers will also encourage mothers to continue breastfeeding even if they get pregnant again. These at-risk children will receive special attention to ensure they continue to gain weight. Health facility staff will counsel women on exclusive breastfeeding during antenatal visits and provide support for breastfeeding after delivery and during postpartum consultations. Care Group volunteers will also work closely with volunteers from HIV/AIDS programs to promote VCT, especially for pregnant women. Because CHS now offers ART, HIV positive women on ART can breastfeed for longer periods (up to two years) with much less risk of transmitting the virus to their children. The project will consult with AED (who implemented the Linkages project in Zambia) to incorporate appropriate breastfeeding messages for HIV+ women.

IR 3.4 – Increased coverage of micronutrient supplementation: The project will support Zambia's Vitamin A supplementation policy, improve anemia detection in children under five, and increase iron/folic acid supplementation coverage for pregnant and lactating women. Due to increased coverage of supplementation and sugar fortification, deficiency rates are probably much lower now, but maintaining the supplementation effort is still a national priority. Vitamin A supplements are available free at mobile clinics and at health facilities, and health staff record doses on the child health card. Care Group volunteers will regularly check health cards of children in their 15 families to make sure they are receiving semi-annual Vitamin A doses. Volunteers will encourage mothers of children who have already completed their immunizations to take their children to mobile clinics and health facilities for Vitamin A. Zambia does not routinely supplement children with iron/folic acid to prevent anemia. Since an estimated 65% of children have anemia, however, the project will increase screening efforts through mobile clinics and Under-Five Clinics in health facilities to detect and treat anemia. Care Group volunteers will also promote increasing foods rich in Vitamin A and iron in children's diets during home visits. Mobile clinics and Under-Five Clinics at facilities will also continue to provide a broad-spectrum anti-helminthic to children 24-59 months on a semi-annual basis.

To increase coverage of iron/folic acid supplementation and improve nutritional practices in pregnancy, Care Group volunteers will receive training in maternal nutrition. They will then encourage pregnant women to attend ANC at mobile clinics or health facilities and to increase the quantity and quality of their diets, emphasizing foods rich in Vitamin A and iron/folic acid, especially during pregnancy and lactation. The KPC found that while over 80% of mothers reported that they received or purchased iron supplements during the respective pregnancy (good supply), only 25% reported actually taking the supplements for at least 90 days. Health workers will record iron/folic acid supplements on the maternal health card, and volunteers and TTBA's will encourage women to take iron/folic acid regularly, emphasizing that it will improve their energy level, make

their babies healthy, and help them recover more quickly after delivery. Volunteers will also educate mothers about how to deal with side effects.

iii. BEHAVE Framework (Note: Other behaviors will be identified through the PDI and will then be added to the framework. The information in this table will be refined once all formative research is completed.)

(Priority Group) In order to help:	(Behavior) To:	(Key Factors) We will focus on:	(Activities) Through:
Mothers of children under five	Feed their children foods high in Vitamin A, protein, and iron every day ^{xlix}	<ul style="list-style-type: none"> -Informing families about the importance of foods containing these nutrients -Teaching mothers which locally available foods are high in these nutrients -Increasing support from other family members for feeding these foods to children (fathers and grandmothers) 	<ul style="list-style-type: none"> -Home visits by Care Group volunteers -Nutrition education in men's groups -Nutrition education at GM/P sessions -Reinforcement of nutrition messages at under-five clinics or other contacts with health workers -Nutrition education in Hearth sessions
Mothers of children 12-59 months	Feed their children semi-solid food at least four times per day	<ul style="list-style-type: none"> -Involving all family members in feeding children, including older siblings and grandmothers -Informing mothers of the importance of children eating frequently 	<ul style="list-style-type: none"> -Home visits by Care Group volunteers to discuss feeding with the entire household, not just the mothers -Nutrition education in men's groups -Nutrition education in Hearth sessions -Nutrition education in GM/P sessions -Reinforcement of nutrition messages at under-five clinics or other contacts with health workers -PD/Hearth sessions in communities with over 30% malnourished children
Mothers of children under five	Increase liquids and continue feeding during their children's illnesses ^l	<ul style="list-style-type: none"> -Informing mothers of the importance of feeding during illness -Dispelling myths about not feeding during illness -Increasing mothers' skills in encouraging children to eat and drink when they are sick 	<ul style="list-style-type: none"> -Home visits by Care Group volunteers to discuss feeding with the entire household, not just the mothers -Nutrition education in men's groups -Nutrition education in Hearth sessions -Nutrition education in GM/P sessions -Reinforcement of nutrition messages at under-five clinics or other contacts with health workers

Mothers of children under five	Take their children to GM/P sessions each month	<ul style="list-style-type: none"> -Increasing access to growth monitoring sessions -Increasing motivation to attend by emphasizing benefits that doers recognize (yet to be determined) 	<ul style="list-style-type: none"> -Training CHWs in areas with poor coverage -Home visits by Care Group volunteers to remind mothers of the importance of GM/P and when and where the sessions will take place -Promoting GM/P sessions through CPTs/NHCs and other community leaders
CHWs and health workers	Provide quality GM/P services each month	<ul style="list-style-type: none"> -Increasing importance on GM/P as a job function -Increasing health worker skills to recognize and refer malnourished children Offering training and refresher training -Increasing community demand for GM/P sessions -Increasing support (from community volunteers) in conducting sessions 	<ul style="list-style-type: none"> -Including GM/P services with emphasis on counseling in the supervision protocol for health workers -Including counseling skills and nutrition promotion in observation checklists (in addition to weighing) for CHWs -Training CPTs/NHCs in basic concepts of GM/P and nutrition -Discussing GM/P services during regular meetings between health workers and community -Providing feedback skills to health workers to give caregivers advice on the child's growth and counsel on appropriate feeding practices -Refresher training in nutrition for health workers
Mothers of infants less than six months of age	Exclusively breast feed their babies ⁱⁱ	<ul style="list-style-type: none"> -Dispelling myths about breast milk making babies sick -Promoting breast milk as the food that will help children grow well and stay healthy -Informing mothers that breast milk is the only food that children under six months need -Informing mothers that breast milk satisfies the child's thirst without extra water -Increasing support of family members (grandmothers and fathers) to exclusively 	<ul style="list-style-type: none"> -Home visits by Care Group volunteers -Breast feeding messages in Hearth sessions and GM/P sessions -Breast feeding education in men's groups -Involving grandmothers in GM/P sessions and nutrition education -Reinforcement of breast feeding messages during antenatal visits (by health workers and TTBA's)

		breast feed	
Mothers of children under five	Take their children to under five clinics for Vitamin A supplementation	<ul style="list-style-type: none"> -Informing mothers of Vitamin A's role in raising healthy children -Reminding mothers of scheduled under five days at clinics or outreach sites -Increasing support from family members (fathers and grandmothers) 	<ul style="list-style-type: none"> -Home visits of Care Group Volunteers -Education about Vitamin A in men's group activities -Integrating Vitamin A supplementation into regular services (immunization, etc.)
Pregnant women	Take at least 90 days of iron supplements	<ul style="list-style-type: none"> -Increasing awareness about iron's benefit to the baby and mother -Dispelling myths that iron may create a big baby that is difficult to deliver -Informing mothers about possible side effects and ways to manage them -Increasing continuity of supply -Increasing family support for taking supplements 	<ul style="list-style-type: none"> -Home visits by Care Group volunteers -Including education about iron supplementation in GM/P sessions -Reinforcement of messages in antenatal visits at health centers and by TTBA's -Including grandmothers in education about healthy births (through Care Group volunteer visits and GM/P sessions) -Nutrition in pregnancy messages in men's groups
Health workers	Provide nutritional counseling at every contact	<ul style="list-style-type: none"> -Increasing awareness that feeding practices during illness contribute to malnutrition -Informing health workers that mothers need to be encouraged to offer sick children food and fluids, even in small amounts -Increasing health workers' knowledge and skills about how to teach mothers recuperative feeding after illness 	<ul style="list-style-type: none"> -Refresher nutrition training for health workers -Health worker training on counseling skills -Job aids at health facilities and for outreach activities to aid in nutritional counseling

b. Quality Assurance

i. MOH Policies and Strategies (See Annex 9 for a copy of the MOH Nutrition Policy.)

The Zambian MOH proposes to eliminate malnutrition through a variety of strategies: creating an enabling environment for women to breastfeed optimally; supporting appropriate infant and young child feeding practices; supporting and promoting micronutrient supplementation and fortification programs; supporting growth monitoring and promotion strategy as a tool for early detection of growth faltering in children; facilitating capacity building in detection and management of malnutrition; and creating awareness in changing behaviors for food and nutrition improvements. The government runs and supports several nutrition programs: the Primary Health Care program (PHC), Maternal and Child health program (MCH), National Infant Feeding program (supported by the International Code of Marketing Breast milk Substitutes, and the Baby Friendly Hospital Initiative), Expanded Program for Immunization (boosted by National Immunization Days), Control of Diarrheal Diseases (CDD), Micronutrient Control Program (including Vitamin A supplementation program, sugar fortification and promotion of consumption of micronutrient rich foods), Supplementary Feeding Program for malnourished children, Integrated Management of Childhood Illness (IMCI), Community Based Growth Monitoring and Promotion Program (promoting growth monitoring every month for children under 24 months and every two months for children between two and five years), and Prevention of Mother to Child transmission of HIV/AIDS (PMTCT).

ii. Addressing Quality

Most of the behaviors that the project will promote take place at the family and household level. The health system is key to promoting and sustaining these behaviors as health workers are highly respected and have opportunities to reinforce positive nutrition practices during regular contacts with mothers and children. The project will work to define, measure, and improve quality of nutrition messages at several levels: Care Group volunteer home visits, Care Group training, GM/P services at both the community (CHW) and health facility level, Hearth sessions, and health worker consultations with women and children. Using the information from the PDI, the project partners will develop a few simple key nutrition messages that volunteers and staff from all levels will reinforce. Use of educational session protocols, supervisory protocols, and observation checklists will help all those involved in the project to improve their performance in the promotion of good nutrition.

iii. Supervision

Health workers are responsible for supervising CHWs, and this supervision usually takes place during an under-five clinic and/or growth monitoring session. The project has not yet been able to assess the quality of this supervision, but as no protocols exist, quality likely varies among health workers. MOH supervisors from the district level visit health centers quarterly for supervision purposes. The currently supervision protocol does not include nutrition promotion or growth monitoring, but mostly focuses on case management of illnesses and inventory of equipment/supplies. The project will strengthen the supervision system at the CHW level by working with CHWs and health workers to develop observation checklists that include key elements of quality GM/P and supervision protocols for health workers as they support CHWs in this work. At the health facility level, the project will work with district MOH leaders to include nutrition education and promotion in their supervision protocol, so that health workers receive the support they need for their role in encouraging good nutrition.ⁱⁱⁱ

iv. Tools

The CCSP approaches are consistent with the Essential Nutrition Actions. The approach expands the coverage of nutrition support by integrating these actions well beyond the traditional contact point of growth monitoring and promotion to other programs in the health and social sectors

The project will use existing national curriculum for training health workers, and will modify the training materials to include the messages that have been developed as a result of the PDI. The Linkages project, BASICS, and the SARA project have developed a number of excellent tools and counseling materials appropriate for adaptation to the project population, including families where mothers and children are HIV+.^{liii}

As mentioned briefly above, the project will also develop supervision protocols and observation checklists for health workers to supervise CHWs as they conduct GM/P and will work with the MOH to modify supervision protocols for health workers to include nutrition components, specifically priority nutrition messages developed by the project. At the community level, Supervisors and Facilitators will use observation checklists for supervising staff and volunteers, respectively, as they conduct training and nutrition education. Additionally, as a part of the Hearth methodology, the project will develop protocols for conducting Hearth sessions effectively.

v. Commodity Supply

Key commodities and equipment necessary for the nutrition intervention include scales and micronutrients (Vitamin A and iron). These items are supplied by the MOH, and the project will assess supply and availability during the health facilities assessment. Currently, project partners do not know of shortages or logistical problems with these items.

c. Access to Services

i. Barriers to Access

Although distance to health facilities is a problem in the project area, access to GM/P services is relatively good due to the work of CHWs. Coverage is obviously low in zones with fewer CHWs. The project will provide training for new CHWs and refresher training for existing ones to increase access for all communities to quality GM/P services. The project will also work with communities and health centers (as described in the immunization section) to improve scheduling and integration of GM/P sessions (which are conducted jointly with immunization during outreach activities). Through training and mobilization of Care Group volunteers, the project will reach every household with quality nutrition education. Severely malnourished children who are identified through GM/P and Hearth activities will be referred to health centers that can provide appropriate rehabilitation services. (Assessing this capacity will be a part of the health facilities assessment). Community volunteers and project staff will work closely with health workers to ensure that these children access services and receive proper care.

ii. Equitable Access

As with the other interventions, the most under-served groups are those far from health facilities. The project will put extra effort into facilitating the provision of quality nutrition education, Hearth activities (where appropriate), and GM/P services in those communities through training and support of volunteers and coordination with health facilities in planning outreach services. Hearth and GM/P activities will also help to identify children with underlying illnesses (such as HIV) so that they can be referred for further treatment.

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

Despite relatively good antenatal care coverage and increasing deliveries by health professionals, Zambia still has a very high maternal mortality rate and a moderately high neonatal mortality rate. In the project area, AIDS, malaria, and long distances to facilities for isolated communities contribute to poor birth outcomes and poor maternal health, although good obstetric care at Chikankata is improving the situation. The CCSP's overall approach is consistent with the Household to Hospital continuum of care framework described by the ACCESS project.^{iv} Activities are closely linked with the nutrition and malaria strategies, as well as immunization for children and will assist with implementation of PMTCT services provided by the HIV/AIDS projects in the area. The CSP will begin this intervention after the nutrition intervention and will produce the following intermediate results:

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

Program Objectives

- 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

Program Objectives

- 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

Program Objectives

- 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

a. Behavior Change and Communication

i. Formative Research

The baseline information confirmed the need to increase attended deliveries, postpartum care, appropriate newborn care practices, and access to care. Although card-confirmed ANC attendance was low in the KPC, the high coverage of IPT and secondary data support that ANC coverage is quite high. To implement an effective intervention, the project will carry out future formative research to more fully examine the root causes of low coverage and access for postpartum care. Focus groups with communities (both younger and older women), key informant interviews with TTBA's and health workers, and the health facility assessment will help to identify the gaps in which the project will have the most impact.

ii. Behavior Change Strategy Development

The behavior change strategy will focus on improving household level behaviors related to pregnancy and birth and on improving skills of health workers in those facilities. This strategy will be further defined after qualitative assessment and the health facility assessment are completed.

Initial baseline results, knowledge of the project area, and discussions with partners have helped to outline the strategy (detailed by Intermediate Result) below.

IR 4.1 – Increased deliveries by trained providers, improved birth preparedness, and improved home practices related to pregnancy and birth. At the household level, Care Group volunteers will help pregnant women and their families establish a birth preparedness plan (where the woman will deliver, who will attend, and how she will be transferred in an emergency). Volunteers and TTBAAs will encourage mothers to deliver at a health facility, and accompany them if possible. Volunteers will also encourage families to seek appropriate prenatal care (including TT, iron/folic acid, and IPT), procure and use ITNs for pregnant women and newborns, access VCT, and follow-up with PMTCT services for HIV+ mothers where anti-retrovirals are available. Men’s groups will learn about maternal and newborn health to support their wives in seeking ANC, using ITNs, getting tested for HIV, proper nutrition, the importance of birth preparedness, delivering in health facilities, and seeking postnatal care. To increase availability of trained providers in distant communities (where women are most likely to deliver at home), Chikankata Training Services will train 32 more TTBAAs using the recently updated national curriculum. Experience in other child survival projects has shown that training TBAs to recognize their limitations and make referrals increases the percentage of deliveries in health facilities. Communities and CSP staff will select TTBAAs using criteria from previous CHS programs (respect in the community, maturity, residence in the community, literacy, and number of deliveries they are likely to attend). If a mother chooses to give birth at home, TTBAAs will offer their services in attending the birth, including a clean birth kit, which would cost 3,000 kwacha (\$1). TTBAAs will purchase more kits at the RHC during their monthly visits to turn in reports and meet with health staff. The kit includes a candle, a match box, thread, gloves, sheeting materials, and soap. CHAZ has successfully supported this activity in other areas and will provide technical assistance. To promote a positive relationship between TTBAAs and health facilities, TTBAAs will meet with health workers monthly to discuss their work, any challenges, and support needed. TTBAAs are also a part of CPTs and NHCs, key links between facilities and communities.

To improve response to danger signs during pregnancy, labor, and for newborns, project staff will train Care Group volunteers and TTBAAs, who in turn will educate families (especially decision-makers), how to recognize danger signs and the importance of quick action for obstetrical and newborn emergencies. They will encourage husbands/decision-makers to give permission ahead of time should any of these signs appear, and give families picture-based materials to remind them of these danger signs.

For families who choose to deliver at home, volunteers will promote TTBA services. Both TTBAAs and volunteers will educate families about reducing harmful practices (such as giving herbs to stimulate contractions) and increasing appropriate practices before, during, and after delivery. They will promote keeping mother and baby together, ensuring baby’s airway is clear, immediate and exclusive breastfeeding, and warming and drying the newborn (delaying the first bath for 24 hours). At the community level, staff will work with CPTs and headmen using PLA methodologies to address maternal and neonatal deaths. CPTs and staff will identify both positive and harmful traditional practices and encourage change when necessary, establish emergency funds, and develop emergency transportation systems.

IR 4.2 – Improved quality of maternal and newborn care in health facilities: The project will focus on improving health worker skills in five key areas – comprehensive ANC, malaria in pregnancy, active management of the third stage of labor (AMTSL), post-abortion care (PAC), and post-partum care.

Although coverage of ANC is high, quality of this service is not optimal. JHPIEGO's Maternal and Neonatal Health (MNH) Project in Zambia developed the Maternity Counseling Kit to standardize and strengthen focused antenatal care by improving the quality, consistency, and thoroughness of ANC (including provision of key services, such as IPT, tetanus toxoid, iron/folic acid, and screening for sexually-transmitted diseases, and interpersonal communication skills). To address three of the main causes of maternal mortality (hemorrhage, induced abortion, and sepsis), the project will train staff (using MNH curricula) in essential and emergency obstetric care, which includes AMTSL, PAC using manual vacuum aspiration, infection prevention, use of the partograph, appropriate use of episiotomy and avoidance of active rupture of membranes, immediate care of the newborn, postnatal Vitamin A supplementation, and streamlining child health visits with postnatal care. JHPIEGO will assist the project in identifying appropriate trainers for these activities. The project will also ensure MOH supervisors have received these trainings, and will encourage them to use skills checklists (from MNH) to assess health worker performance routinely. RHCs are not equipped to manage complications in pregnancy or labor, so special emphasis will be placed on strengthening the referral system by ensuring that RHCs have referral protocols and that health workers are using them. RHCs are equipped with radios connected to referral hospitals, and both Chikankata and Mtendere have ambulances to transport patients from RHCs to the hospital.

IR 4.3 – Increased coverage of postpartum care for home deliveries: Care Group volunteers and TTBA's will visit mothers in their homes within six hours of the birth to monitor the mother and newborn. Volunteers will continue to visit the mother and newborn everyday for the first seven days to assess for danger signs, and the TTBA will return within six days for a second postpartum check up. Tonga tradition dictates mothers should not leave the home for several weeks after delivery. Project staff and CPTs will explore the possibility of making an exception for postpartum visits to health facilities. Although challenging, CHS's experience shows the power of the community counseling methodology in changing cultural practices. Working through CPTs, CHS has facilitated the modification of sexual practices that put people at risk of HIV. Both TTBA's and volunteers will encourage families/mothers to go to a health facility or mobile clinic with her maternal health card within the first month^{iv} for the postpartum dose of Vitamin A along with the BCG vaccination for the baby. Health staff will check the maternal health card when a child receives BCG and/or DPT1 and provide the dose at that time. Project staff, CPTs, and TTBA's will conduct surveillance of maternal deaths and verbal autopsies with families to identify weaknesses of the system and how to prevent future deaths.

To join in awareness-raising and advocacy for Safe Motherhood in Zambia, Salvation Army will become a member of the Zambian White Ribbon Alliance (WRA). Materials and strategies developed by WRA and implemented elsewhere in Zambia will be adapted to the project area. Participation in WRA will help integrate Safe Motherhood into Salvation Army Zambia's health programming and develop capacity at the global, national and district level in advocating for ways to reduce maternal and newborn deaths.

iii. BEHAVE Framework (Note: The information in this table will be refined once all formative research is completed.)

(Priority Group) In order to	(Behavior) To:	(Key Factors) We will focus on:	(Activities) Through:

help:			
Pregnant women and their families	Use health facilities and/or TTBA's to attend births	<ul style="list-style-type: none"> -Increasing access to TTBA's Increasing acceptance of delivery by a non-family member -Increasing acceptance of TTBA's -Informing families of the health benefits of delivering in the facility -Increasing confidence that families can affect birthing outcomes through birth planning 	<ul style="list-style-type: none"> -Training and equipping TTBA's -Home visits by Care Group volunteers -Collaborating with CPT's and NHC's to facilitate appropriate community selection of well-respected women to become TTBA's -Training CPT's/NHC's and other community leaders to promote and advocate for facility birth and/or TTBA's -Providing guidance and support to families on how to plan births through Care Group volunteer visits and support from TTBA's
Pregnant women and their families	Use clean birth kits for deliveries	<ul style="list-style-type: none"> -Increasing access to kits -Increasing access to TTBA's -Increasing knowledge that births should be clean and how contamination is a risk for baby and mother -Increasing support from key maternal health decision-makers (grandmothers) 	<ul style="list-style-type: none"> -Working closely with MOH partners to update lists of TTBA's so that more kits are sent to RHC's -Integrating messages about clean births and information about kits in prenatal sessions (both at facility and TTBA visits) -Home visits by Care Group volunteers that include grandmothers and other key maternal health decision-makers
Communities	Establish emergency funds and transport	<ul style="list-style-type: none"> -Increasing awareness of the necessity of these provisions -Increasing leadership and support for initiatives -Improving relationships between health facilities and communities 	<ul style="list-style-type: none"> -Training and supporting CPT's and NHC's in setting up systems -Facilitating meetings between communities and health facilities -TTBA's, Care Group volunteers, and health workers all reinforcing the importance of planning -Working with health workers to improve perceived quality of maternal/newborn care at health facilities
Families of pregnant women and newborns	Refer neonatal and obstetric emergencies immediately to a health facility	<ul style="list-style-type: none"> -Increasing awareness of danger signs -Increasing access to health facilities -Improving birth planning at the household level -Improving perceived 	<ul style="list-style-type: none"> -Home visits by Care Group volunteers and TTBA's to counsel families, assist them in planning for emergencies, and educate them about danger signs -Increasing coverage of TTBA's and improving their skills to recognize and refer complications -Training health workers and

		quality of care at the health facility	strengthening supervision systems for quality maternal/neonatal care
Families of pregnant women	Place newborns with the mother immediately after birth	<ul style="list-style-type: none"> -Increasing knowledge of benefits to mother and child -Dispelling myths about bathing after birth -Increasing support from key decision-makers and cultural leaders -Increasing support for the behavior from health workers 	<ul style="list-style-type: none"> -Involving older women cultural leaders in PLA discussions to address harmful cultural practices -Promoting the behavior through home visits by volunteers, prenatal visits at health facilities -Refresher training for health workers at health facilities -Including the behavior in training and supervision protocols for TTBA
Mothers of newborns	Breastfeed within one hour of birth	<ul style="list-style-type: none"> -Increasing awareness of benefit to babies -Increasing support from maternal health decision-makers (grandmothers) -Increasing belief that colostrum is nutritious and healthy - the “first vaccine” 	<ul style="list-style-type: none"> -Promoting colostrum through home visits by TTBA and Care Group volunteers -Integrating messages about immediate breastfeeding into prenatal consultations -Involving grandmothers in discussions at the household level with Care Group volunteers
Mothers of newborns	Seek postnatal care within 6 days of birth	<ul style="list-style-type: none"> -Increasing access to and acceptance of TTBA -Decreasing social disapproval of mothers leaving the home for postnatal care -Increasing support from grandmothers and fathers -Increasing knowledge of benefit to maternal health -Making postnatal care more convenient 	<ul style="list-style-type: none"> -Working with CPTs/NHCs and other community leaders to appropriately select TTBA for training -Working with CPTs/NHCs and cultural leaders (older women who set traditions around maternal and child health) to make exceptions for postnatal care -Promoting postnatal care through Care Group volunteer visits, men’s group discussions, and TTBA visits -Integrating information about the importance of postnatal care into prenatal care consultations -Integrating postnatal care into under five clinics and other outreach activities
Postpartum women	Seek postnatal care for Vitamin A supplementation	<ul style="list-style-type: none"> -Emphasize importance of Vitamin A for healthy breastfed babies and for mother’s health -Increase access and 	<ul style="list-style-type: none"> -Link postpartum Vitamin A with child’s first vaccines -Include postpartum Vitamin A in health worker refreshers in both nutrition and maternal/newborn care trainings

		convenience of postpartum VA supplementation	-Explore possibility of TTBA's administering Vitamin A to postpartum women -Training Care Groups, CPTs/NHCs and men's groups on the importance of postpartum Vitamin A
Health workers	Perform infection prevention and AMTSL for all deliveries	-Increasing knowledge and skills of health workers -Increasing support from supervisors	-Providing training to front line health workers -Incorporating these skills into regular supervisory protocols
Health workers	Refer maternal and newborn emergencies from RHCs to hospitals according to protocols	-Increasing knowledge of referral protocols -Increasing support from receiving hospitals for referral -Increasing health worker knowledge and skills about when to refer	-Training health workers in recognition of emergencies (refresher) -Working with receiving hospitals and RHC staff to set standards for how hospitals receive and respond to referrals -Examining and improving the referral process if necessary
Health Workers	Provide quality focused ANC services to pregnant women	-Increasing skills of health workers -Increasing motivation of health workers to conduct quality ANC -Increasing support from MOH supervisors -Ensuring health workers have supplies and equipment they need	-Assess ANC counseling and clinical -Provide refresher training for health workers -Assess equipment and commodity supplies -Develop or revise supervisory checklists -Collaborate with partners to procure additional needed supplies -Train Care Groups, CPTs and men's groups to raise awareness of importance of ANC, how many visits a woman should make and when they should take place

b. Quality Assurance

i. MOH Policies and Strategies

The government has adopted many of the guidelines and training materials from the Maternal and Neonatal Health Project (JHPIEGO), which ended in 2004. These materials are now national policy and curricula for health workers. The *Integrated Technical Guideline for Front Line Health Workers* includes an emphasis on focused antenatal care, malaria in pregnancy, HIV counseling and testing, use of the partograph, appropriate use of episiotomy and avoidance of active rupture of membranes, active management of the third stage of labor, post-abortion care, immediate care of the newborn, and postnatal Vitamin A supplementation. The behaviors that the project will promote are all official MOH policy – postnatal care, placing the newborn with the mother immediately after birth,

immediate breastfeeding, birth planning, and attended deliveries. The updates and facility strengthening that JHPEIGO completed during the MNH project did not take place in the project area, but as the policies are in place and qualified trainers exist in country, the project has a solid foundation on which to build.

ii. and iii. Addressing Quality and Supervision

JHPIEGO's MNH project made excellent progress in improving quality of maternal and newborn care through setting standards, developing protocols and processes, and training front-line health workers. The project will use the lessons learned and materials developed from that project, along with new materials from the Access project. Project partners will work closely together to incorporate the performance standards into the regular supervision system and increase health worker access to technical support and resources. For example, MNH has already developed performance standards for key areas that the project will address – focused ANC, AMTSL, malaria in pregnancy, and PAC. The CCSP will coordinate with the MOH to ensure that all supervisors are competent in these areas and to update/modify supervision protocols for RHC staff that include these competencies.

iv. Tools

The primary quality improvement tools for this intervention include training guidelines, maternity counseling kit, and performance standards, all developed by MNH. JHPIEGO will help the project identify trainers who are proficient in these areas and have experience conducting the trainings and performance standards will be used both during training and during supervision after the training. Checklists will be developed using the Maternal and Newborn Standards and Indicators Compendium developed by the CORE Safe Motherhood and Reproductive Health working group.^{lvi}

v. Commodity Supply

Several commodities are necessary for the maternal and newborn care intervention, such as clean birth kits, antibiotics, oxytocin, anticonvulsants, equipment for assisted vaginal deliveries (vacuum extraction and forceps), equipment and blood for transfusions, and operating equipment for c-sections. RHC are not equipped to handle obstetric emergencies and complications, and the health facility assessment will help determine exactly which procedures they are equipped to handle. All three hospitals should be able to perform comprehensive emergency obstetric care, but the health facility assessment will help identify any gaps or areas that need improvement.

The project will work closely with the MOH partners to assess supplies of commodities and equipment and to make improvements as necessary. Inventory and supply monitoring are a regular part of the health information system, so the project may support strengthening that component to improve regular flow of supplies if necessary.

c. Access to Services

i. Barriers to Access

The project will work to reduce barriers to access by addressing the three delays – delay in deciding to seek care, delay in reaching care, and delay in receiving care. The realities of the project area are such that many communities are located far from hospitals where comprehensive emergency obstetric and neonatal care is available. By reducing these three delays, the project will increase access to quality maternal and newborn care. Care Group volunteers, TTBAAs, CPTs/NHCs, and men's groups will all be integral to improving decision-making to seek care – mostly through

education about danger signs so that families and volunteers know when care is necessary to save a life. To address delays in reaching care, the project will work with communities to establish emergency funds and transport systems so that provisions are in place before the emergency and families can act quickly. Finally, the project will address delays in receiving care by working to improve quality of care in health facilities and by strengthening the linkage between communities and front-line health workers.

ii. Equitable Access

The above-mentioned strategies will be particularly important in communities far from health facilities. The project partners will focus their efforts on these hard-to-reach communities because the challenges of transport are far greater in those communities, making them disproportionately unable to access quality maternal and newborn care.

4. Program Monitoring and Evaluation Plan

a. Current Health Information System

The current MOH system is a vertical one in which volunteers and health workers provide information to the DHMT, mostly regarding service delivery and disease surveillance. The CSP will create a complete circle of information in which villages and communities capture their own data and act on it, send it to the MOH for decision-making and report aggregation, and then return to the communities through the NHCs and CPTs. The complete feedback cycle empowers communities with data and the capacity to act on that data. The project will also focus on measuring coverage, rather than just services rendered so that health workers have a more realistic picture of the progress they are making.

From the community level, CHWs and TTBAAs fill out monthly service reports and turn these into their corresponding health centers. Health centers submit service delivery and supply/equipment reports monthly to the DHMT and to CHS (in the CHS catchment area). CHS's outreach program submits reports of mobile clinics to each DHMT monthly. The project partners have already discussed integrating the project's information system by modifying existing MOH data collection forms to include the population level data that will be collected by the CCSP. This process will require active participation from stakeholders to decide which data is most useful at the health facility level and how to best incorporate it into the current system. This modification will take place at the end of the first year.

The CSP data collection will complement this data by incorporating household level data. Care Group data, KPC data, and Hearth data will go to health centers for analysis and decision-making to promote ownership of the results and management capacity building. It will also go to DHMTs to assist them in decision-making and resource allocation. Monthly meetings between CPTs/NHCs and health workers at health facilities will allow participants to analyze service delivery data and use that data to develop action plans, improve services, and make the best use of resources possible. NHCs and CPTs will also get aggregated service delivery reports that they will feed back to communities. Incorporating CSP community-based data into the MOH system will provide a more complete picture of the health situation, and encourage interaction between health facilities and communities.

b. Monitoring and Evaluation Matrix

Dimension 1: Primary Health (Population Health Status and Health Services Quality)

Result 1: Improved malaria prevention and treatment

Objectives	Indicators	Measurement	Frequency	Baseline Value	EOP Target
IR 1.1 Increased insecticide-treated bednet use for pregnant women and children under five					
Increase 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	Baseline, Annually	21.8	60%
Increase to 60% the proportion of pregnant women who sleep under ITNs every night	% of pregnant women who slept under an ITN the night before	Care Group reports	Annually	Not established	60%
Increase to 75% the proportion of nets that are re-treated at least once a year	% of mothers of children 0-23 who report that their ITN was re-treated in the past year	KPC Care Group reports	Baseline, Annually	52.1	75%
IR 1.2 Increased appropriate care-seeking for danger signs					
Increase to 65% 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	Baseline, Annually	10.5	65%
IR 1.3 Continued high coverage of intermittent preventive malaria treatment in pregnant women					
Maintain at least 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	Baseline, Annually	83.8	Maintain above 70%

Result 2: Increased immunization coverage in children

Objectives	Indicators	Measurement	Frequency	Baseline Value	EOP Target
Increase to 70% the proportion of children 12-23 months who are fully vaccinated by the first birthday	% of children 12-23 months who are fully vaccinated by the first birthday (BCG, DPT3, OPV3, and measles)	KPC Care Group reports	Baseline, Annually	35.2	70%
Increase to 80% the proportion of children who have received a measles vaccine	% of children 12-23 months who have received a measles vaccine	KPC Care Group reports	Baseline, Annually	54.6	80%

Result 3: Improved nutritional status of children and pregnant women

Objectives	Indicators	Measurement	Frequency	Baseline Value	EOP Target
IR 3.1 Improved child feeding practices					
Increase 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 in the last 24 hours	KPC	Baseline, After implementation of intervention and second cycle	27.2	50%

Increase to 50% the proportion of children 12-59 months who eat semi-solid food at least four times each day ¹	% of children 12-23 months who ate semi-solid food at least four times in the past 24 hours	KPC	Baseline, After implementation of intervention and second cycle	21.1	50%
IR 3.2 a) Improved detection of malnutrition, b) Improved treatment of malnutrition					
Increase 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	Baseline, Annually	69.4	90%
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	% of children who completed Hearth that achieved and sustained adequate (200 grams) or catch-up (400 grams) growth for at least two months after Hearth	Hearth records	After Hearth cycles (twice)	0	80%
	% of children completing Hearth maintain weight-for-age above -2 standard deviations at six months and one year after Hearth	Hearth records	After Hearth cycles (twice)	0	80%
Increase to 95% 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	Baseline, before Year 2 in hungry season, Annually	87.4	95%
IR 3.3: Increased exclusive breastfeeding up to six months of age					
Increase 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	Baseline, Annually	43.8	70%
IR 3.4: Increased coverage of micronutrient supplementation (Vitamin A and iron/folic acid)					
Increase 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	Baseline, Annually	37.3	75%
Increase to 50% the proportion of pregnant women who take iron/folic acid supplements ²	% 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	Baseline, Annually	24.5	50%

Result 4: Improved maternal and newborn care practices

Objectives	Indicators	Measurement	Frequency	Baseline Value	EOP Target
IR 4.1 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 to 55%	% of mothers of children 0-23 months whose last birth was attended by a health professional	KPC Care Group reports	Baseline, Annually after Year Three	44.2	55%

¹ The project has selected to measure food frequency rather than the standard KPC indicator for complementary foods because the latter indicator is already high, and knowledge of feeding practices in the area suggest that infrequency of meals is causing more malnutrition than late introduction of semisolid foods.

² Because the data reflect problems with compliance rather than access, the project has chosen the DHS indicator of actual consumption of supplements rather than the KPC indicator of receiving supplements.

Increase the proportion of home births attended by a TTBA to 30%	% of mothers of children 0-23 months who did not give birth in a health facility whose birth was attended by a TTBA	KPC Care Group reports	Baseline, Annually after Year Three	13.4	30%
Increase to 70% the proportion of home births that use a clean birth kit	% of home deliveries in which a clean birth kit was used	KPC, Care Group reports	Baseline, Annually after Year Three	55.8	70%
Increase to 90% the proportion of communities that have established emergency funds and transport	% of communities who have documented emergency funds and transport plans	CPT records	Annually after Year Three	Not established, assumed to be 0%	90%
Increase to 70% the proportion of obstetric and neonatal emergencies that are referred in a timely and appropriate manner (baseline to be determined)	% of obstetric and neonatal emergencies in the last year who are referred to a health facility that follow the established plan from recognition of danger sign to arrival at facility	Care Group reports and TTBA reports	Annually after Year Three	Not yet established	70%
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	Baseline, Annually after Year Three	15.3	60%
Increase to 75% 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	Baseline, Annually after Year Three	43.8	75%
IR 4.2 Improved quality of maternal and newborn care services in health facilities					
Increase to 90% the proportion of health facilities that have at least one professional who competently performs infection prevention and AMTSL actions (baseline assumed to be zero)	% of health facilities what have at least one professional who scores 80% or higher on infection prevention and AMTSL	Performance Assessments from training	Annually after Year Three	Not yet established	90%
Increase to 95% the proportion of maternal and newborn emergencies at rural health centers that are referred according to protocol (baseline to be determined)	% of maternal and newborn emergencies at rural health centers in the last year that follow referral protocol	RHC reports	Annually after Year Three	Not yet established	95%
IR 4.3 Increased coverage of postpartum care					
Increase to 50% 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	Baseline, Annually after Year Three	18.7	50%
Increase to 50% 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	Baseline, Annually after Year Three	6.3	50%

Dimension 2: Organizational Capacity and Viability

Result 1: Increased capacity of Chikankata Health Services

Dimension 3: Community and Social Ecological Systems

Result 1: Increased competence and capacity of CPTs and NHCs

Result 2: Increased competence and capacity of Care Groups

Specific indicators for Dimensions 2 and 3 will be developed during Year Two after the capacity assessments. A full report will be included in the Second Annual Report.

c. Data Quality

The project will work to ensure that high quality data is gathered at every level of the project. At the community level, through Care Group Reports, CHW/TTBA reports, Hearth records, and CPT/NHC reports, project staff (Facilitators and Supervisors) who live in the communities will work with volunteers to ensure they follow correct procedures to collect data and to verify data. For example, Facilitators will regularly accompany Care Group volunteers during home visits when they are collecting data on indicators for their families.

During mini-KPC surveys, interviewers will each have a supervisor who will observe some of their interviews and will check questionnaires to ensure they are properly completed. For performance assessments (observation checklists), the assessment will be a participatory process, in which both the volunteer and the supervisor discuss performance and how it could be improved. This interaction will help improve accuracy of this data. At the health center level, health workers will regularly meet with community groups and community level data will be triangulated with service delivery data. For example, at the moment, population-level data and service delivery data for immunization contradict each other greatly. If each health facility examines population-level data for vaccination coverage on a regular basis, any errors in either data collection system will be identified and corrected.

d. Tools

The project has four tools for collecting and analyzing data on indicators: 1) Formal Qualitative and Quantitative Evaluations with Knowledge, Practices and Coverage (KPC) surveys using Lot Quality Assurance Sampling (LQAS) at baseline and final stages; 2) Care Group reports; 3) Annual mini-KPC surveys using LQAS; and 4) Hearth records for malnourished children. Project staff will also use data from the existing system, such as CPT documents and TTBA reports. Data will be collected and analyzed for action at Care Group, community, health facility, and project levels to ensure all stakeholders are involved and active in the monitoring and evaluation process. The CSP system will enhance the existing system by capturing household level data and building capacity at all levels to use data for decision-making.

e. and f. Data Collection and Analysis Process

1) Formal Quantitative and Qualitative Evaluations: The project conducted an LQAS KPC survey to establish baseline figures for major indicators and will repeat this survey in year five for the final evaluation. The CSP will report on the 13 Rapid Catch indicators in addition to project objectives. To encourage partnership in the project and promote ownership of results, the CSP will invite DHMT and health facility staff to participate in the KPC training and survey at baseline and final stages. The first KPC survey helped partners reassess project objectives, as well as provided direction for planning exploration of results through qualitative research. The project will also conduct formal participatory qualitative evaluations (led by external professionals, involving all project partners) in years three and five for midterm and final evaluations per CSHGP guidelines. After baseline, midterm, and final evaluations, the project will hold project-level meetings to share results with organizational partners, including the MOH and other NGOs, and community-level meetings to share results with headmen, volunteers, and community members.

2) Care Group Reports: Volunteer mothers meet biweekly in their Care Groups (10 volunteers) to report on their households, share experiences, receive training, and creatively problem-solve together to improve coverage and health behaviors in their villages. Each Care Group will elect a literate member as the Care Group Secretary. She will track vital events (births, deaths, pregnancies)

using simple project forms. The baseline census will determine the population denominator and give the project more accurate figures for each age group of children. After the census, which will provide information for forming Care Groups, the Care Group system will be the method in which eligible women and children are identified and enter the project. Each volunteer will be responsible for a certain number of households (10-15) and because she knows her neighbors, she will know when women are pregnant and when children are born. In addition, as each intervention begins, she will track intervention-specific data linked directly to what the Care Groups are learning and teaching their families. Care Groups collect information for relevant indicators as the intervention is being phased in. For example, at the start of the malaria intervention, Care Groups will track which families are using ITNs. (See Matrix of Objectives and Indicators for which specific indicators will be tracked by Care Groups.) At the start of each intervention the entire Care Group will discuss the intervention and seek ways to apply it in their villages. For those several months, they will carefully monitor specific intervention-related data and act upon it project-wide. After phasing in all interventions, Care Groups will address all of the interventions again in training, teaching mothers, and tracking indicators.

Care Group data will be used for decision-making and action at each level of the project. The Care Group leaders will take their reports to the monthly CPT meetings and to the health facility, and Facilitators will keep a copy. With initial support from Facilitators, CPTs will compile community-wide data for action at that level. Facilitators will also share project level data at CPT meetings, and Care Group leaders will then take community-level and project-level data back to their Care Groups to share at the village level. While Care Groups provide key information needed for decision-making both to mothers and to the health care system, only sharing data with villages will stimulate real change. At the health facility, Care Group leaders will meet with health workers when they turn in their monthly reports to discuss results and action steps their Care Groups are taking. Facilitators will meet with health facilities monthly to help build the capacity of health workers and NHCs to compile and analyze data, develop action plans based on that data, and present data back to communities until they can facilitate that process on their own. Through these meetings, health workers and NHCs will examine service delivery data that they collect (from health facilities, CHWs, and TTBAAs) to estimate coverage and validate Care Group data. At the project level, Facilitators will compile data for discussion at weekly staff meetings for project strategy adjustments. The Project Supervisor will then share this information at the quarterly DHMT meetings for district-level decision-making.

3) Annual KPC Surveys: Using LQAS, CSP staff will conduct short KPC surveys (with questions on key indicators) after implementation of each intervention (about every year) to triangulate data from Care Groups. Before the baseline LQAS KPC survey, the project partners divided the area into five supervision areas (one for each Supervisor) that serve as the five “lots.” To enhance reliability and validity of data, Facilitators and Supervisors will collect the data in areas different from their designated ones. During CSP staff meetings, which include Facilitators, Supervisors, the Project Supervisor, and Monitoring and Evaluation (M&E) Coordinator, the staff will analyze and discuss results in CSP staff meetings to inform strategic decisions. These meetings also allow staff to request help with a challenging issue or share a helpful approach. The Community Health and Development (CH&D) Manager and Assistant Manager, who are in charge of CHS’s community health projects, will also present this data at DHMT meetings in Siavonga and Mazabuka to promote ownership of results and collaboration in problem-solving. Because of decentralization to the district level, each DHMT develops its own budget; therefore, the project will provide key information to DHMT members to improve allocation of limited resources. (This is particularly

important in light of the baseline immunization results.) This budget reallocation is important because the CSP activities will increase demand for certain commodities (vaccines, sulfadoxine pyrimethamine, iron/folic acid) and services (vaccination, delivery, antenatal care, postpartum care). Facilitators and Supervisors will take the KPC data and share it at meetings with NHCs, CPTs (which include TTBAAs and CHWs), and Care Groups to complete the feedback loop.

4) Hearth Records: The Hearth program has a special subset of beneficiaries (malnourished children) that require extra monitoring efforts. Project staff will place all Hearth mothers and children on a special register. Because Hearth will only be conducted in communities with over 30% of children malnourished, some Care Groups will have two to three Hearth groups, while others have none. Facilitators and Supervisors will collect weight data for Hearth children before Hearth, after one month, and on follow-up weighings at six months and one year. Facilitators will compile data for each community to demonstrate the impact of Hearth on weight gain at CPT and NHC meetings. The M&E Coordinator and Project Supervisor will analyze project-level data using Epi-Info. The CH&D Managers will present this data at DHMT meetings to promote Hearth and strengthen decision-making.

In addition to the above-mentioned meetings, the Project Supervisor will organize a semi-annual Task Force meeting of all CSP partners to review overall project progress and make adjustments. (See Management section for details.) The project will also seek out forums to share results with a wider audience through national-level organizations, such as the Zambia Malaria Forum and the Zambia White Ribbon Alliance and through NGO coordinating bodies, such as the CORE Group.

Dimension Two – Organizational Capacity and Viability: The project will conduct a baseline for TSA/Chikankata Health Services using the Organizational Capacity Assessment tool,^{lvii} a participatory self-assessment process. The process will involve identifying areas for capacity building, such as financial management and data for decision-making. Based on this assessment, SAWSO and CHS will develop an action plan for increasing capacity in identified areas, as well as define indicators for measuring progress. The CHS Manager of Administration will oversee the action plan through monthly meetings, as well as semi-annual assessments. The CHS Manager of Administration and SAWSO Health Program Officer will assess progress on capacity-building indicators semi-annually, making adjustments as necessary.

Dimension Three – Community Systems: Community-level capacity building efforts will focus on CPTs/NHCs and Care Groups. For CPTs/NHCs, the project will use a process developed by Concern Worldwide, in which a consultant facilitator guides CPTs/NHCs and project staff to determine roles and responsibilities and then define relevant capacity areas. Next the team, with the facilitator's support, will agree on the ideal capacity situation (end objective) and set benchmarks to reach that objective. The Project Supervisor and the Field Supervisors will meet bi-monthly with each CPT for the first year and semi-annually thereafter. They will help the CPTs to reassess their progress, reviewing objectives and data on indicators, and revising action plans as necessary. For Care Groups, Facilitators will use training scores for each group as a whole to help determine competence in the intervention messages. At the end of training on an intervention, the Facilitator will give the Care Group an oral quiz, asking each volunteer a different question. If the group scores 60% or more, they have "passed" that intervention. If not, the Facilitator works on problem areas and repeats the quiz later. This type of solidarity in setting goals promotes group identity and mutual support in learning.^{lviii}

g. Monitoring Quality of Services

The project will monitor quality of services in four primary areas: immunization services, case management of malaria, growth monitoring/promotion, and maternal and newborn care. For immunization services, the project will work with MOH partners to identify areas needing improvement during the health facility assessment and will decide on how to monitor improvement over the life of the project. The project staff will work with the DHMTs to incorporate some of the areas of quality for immunization into the regular supervisory system so that the MOH, and not the project itself, is regularly assessing service quality.

For case management of malaria, the DHMT already has a very comprehensive system for analyzing health worker performance and drug inventory. During the health facility assessment, the partners will look at the supervision protocols and how the supervision is carried out to see if improvements on the system can be made.

For growth monitoring and promotion, the project partners will develop observation checklists that include the Essential Nutrition Actions and counseling elements of the GM/P process. Health workers will not only use these checklists with CHWs to support them and help improve their skills, but will use the checklists as reminders for themselves and to assess their own performance. These checklists will focus primarily on the counseling aspect of growth monitoring, as the weighing skills are believed to already be good.

For maternal and newborn care, the project staff and DHMTs will adapt and use performance standards from the MNH Project (which have been integrated into national protocols by the MOH) to assess health worker performance and service quality related to the areas mentioned in the intervention section. The project will work with the DHMTs to incorporate these standards into the regular supervision system to that efforts to maintain high quality are sustained after the end of the project.

h. Roles and Responsibilities

Although all project partners will participate in several aspects of the monitoring and evaluation system, they will take primary responsibility on different components. The project staff (Facilitators and Supervisors, along with the M&E Coordinator and Project Supervisor) will work closely with Care Groups and CPTs/NHCs to collect and analyze community-level data. With support from project staff, community groups will incorporate some of this data (that deemed essential by project partners) into the existing system for reporting to health centers (through CHWs and TTBAAs).

Health center staff, with support from project staff and the DHMT, collect facility-level data, such as disease surveillance and service delivery statistics. The project will work closely with health workers to strengthen skills to analyze and make decisions at the health center level that will improve quality of services and/or advocate for support from higher levels (district/province).

The DHMTs will take the lead in monitoring quality of service delivery, while the project will support them in modifying and developing systems for this monitoring.

The project staff will lead the periodic mini-KPC surveys, but all partners will be encouraged to participate in the process to increase ownership of results.

i. Capacity Building in Monitoring and Evaluation

The project design places great emphasis on data collection and decision-making at all levels: community, health facility, district and project. This process requires that stakeholders at these levels have the skills and support necessary. At the staff level, the Project Supervisor and the M&E Coordinator will work closely with Field Supervisors and Facilitators to help them learn how to collect and use data. This process already began during the KPC training, where the process gave participants the opportunity and practice in thinking about reasons behind results they found and making decisions about what actions they should take. Field staff (with support from the M&E Coordinator) will then work closely with community volunteers to collect and analyze very simple data for their household groups, villages, and communities. Staff will look for creative methods of helping community members understand and analyze data, such as using rocks and sticks or water levels in jars to represent coverage. Experience from other PVO child survival projects shows that such analysis and decision-making is not only achievable at the community level, but also highly effective in mobilizing communities to take action.

The project will also work closely with the DHMT to improve capacity of health workers to collect and use data. The current system places emphasis on quality data collection, but most health workers do not participate in the analysis or decision-making process of the system. The M&E Coordinator, Health Education Coordinator, Project Supervisor and Field Supervisors will work closely with health workers to guide them in looking analytically at the data they collect. During this process, district MOH leaders will also support health workers to improve their skills, and health workers will use this process to advocate for resources, make improvements to current procedures, and find creative solutions to problems by collaborating with community groups.

j. Sustainability of Monitoring and Evaluation System

At the community level, the data collection and analysis system will be simple enough for communities to continue monitoring progress after the end of the project. Care Group volunteers will only need to count families (up to 15 each) who receive a service or adopt a behavior. The Care Group Secretary will record data for each volunteer and Care Groups and CPTs/NHCs can then examine results, set goals, and make decisions about actions to take. For example, a community might set a goal that every household has at least two ITNs. If Care Group volunteers find many that do not, the community can approach the RHC to advocate for more nets or can influence families without nets to purchase them if available.

Experience from other PVO projects has also shown that communities continue the Hearth process on their own after gaining the skills and knowledge to run the sessions. Community members become easily able to identify malnourished children and CHWs and Care Group volunteers will be able to measure growth progress. Because CHWs are already weighing children in the majority of communities, monitoring the level of malnutrition (by measuring weight) is easily within reach of communities.

k. Operations Research

The reproductive health field has long had an interest in studying men's involvement to determine if a focus on men can increase contraceptive use and other positive reproductive health behaviors. This CSP will use men's groups to discuss a variety of health issues, particularly relating to the three project interventions, and explore the question: Will educating and mobilizing men around maternal and child health issues improve household level behavior change? The project will conduct this study within the CHS catchment area, not the area outside as other services are not comparable.

The partners will select communities for implementing men's groups and compare their behavior change with other communities just using Care Groups and other strategies. The project will not compare communities outside of the project area due to costs of extra surveys.

Chikankata Health Services and the CCSP, specifically, is also working closely with Boston University and the Ministry of Health on the Zambia Integrated Management of Malaria and Pneumonia Study, which will examine CHW assessment of malaria and pneumonia in children under five, the effects of integrated management on health of children, CHW use of Coartem and amoxicillin, and the cost effectiveness of community-based versus facility-based management.

I. Contribution to CSHGP Program Results

The project will contribute to all three of the CSHGP program results:

- *PR1 Improved health status of vulnerable target populations* – The CSP seeks to address the major causes of under-five and maternal mortality, improving health-related knowledge and behaviors, quality of health services (especially for immunization and maternal care), and community capacity to address health needs. The indicators listed in the Monitoring and Evaluation Matrix measure the progress of this result. (Data sources are also listed in the Matrix.)
- *PR2 Increased Scale of Health Interventions* – CHS will expand the successes of the Matching Grant to reach an additional 54,000 in Siavonga District by partnering with the MOH and other NGOs working in the area. The project will adapt and apply several approaches that have been successful in other countries, such as Care Groups and Hearth. The project will also work with the National Malaria Control Program to field test rapid diagnostic tests for malaria and provision of Coartem (artemisinin combination therapy) through CHWs, two strategies which the Zambian government is planning to expand nationwide in the near future. The CCSP also has the opportunity to bring many Zambian successes to these underserved districts, such as the training and quality improvement of the MNH Project. The project will seek to collaborate with the USAID Mission to bring other successful ideas and approaches from the national level to the project area. Indicators of the contribution to this result will come from Care Group reports, health facility data, performance assessments of health workers, and Hearth records. The project will measure how many people are covered by Care Group volunteers, how many children participate in Hearth, and new policies, strategies, and protocols that are adopted by the MOH.
- *PR3 Increased contribution of CSHGP to the global capacity and leadership for child survival and health* – Not only will SAWSO and TSA/Zambia gain capacity in the Care Group Model and the Hearth Model, but the other CCSP partners – namely the MOH and local partners such as Harvest Help and Mtendere – will also learn to effectively implement these activities. Because neither of these approaches has been used in Zambia before, the opportunity is great to share lessons learned and expertise gained with other organizations in the country. Collaboration with the Zambia Malaria Forum and the White Ribbon Alliance will contribute to global efforts in Roll Back Malaria and Safe Motherhood. Selected interventions are from the list of proven most effective strategies in reducing maternal, infant, and child mortality. The CCSP will contribute to increased coverage of these interventions.

m. Contribution to USAID Mission Program Results

The CCSP addresses USAID/Zambia's Strategic Objective (SO7) for *improved health of Zambians* from the Country Strategic Plan for fiscal years 2004-2010. SO7 priority health areas include HIV/AIDS, malaria, family planning, nutrition, and safe motherhood. The project addresses all of these (except HIV which is already funded) and the three Intermediate Results:

- IR7.1 *Zambians Taking Action for Health* – The CSP's design enables communities to work together to solve health problems. The project will work through community-based groups, such as CPTs/NHCs, Care Groups, and men's groups, to strengthen collective action for problem-solving in health and will use interpersonal communication (mother to mother) to foster behavior change. The project will capitalize on TSA's grass-roots presence (churches and men's and women's groups) to further strengthen health promotion.
- IR7.2 *Achievement and Maintenance of High Coverage for Key Health Interventions* – The project supports USAID's emphasis interventions such as Vitamin A supplementation, behaviors promoted through community Integrated Management of Childhood Illness (IMCI), ITN distribution and promotion, nutrition and food (through growth monitoring and Hearth), safe motherhood and antenatal care, promotion of family planning, and IPT in pregnancy. Although not directly addressing HIV, the project supports USAID's priority of integrating key maternal and child health programs with TSA's current HIV/AIDS programs. It will integrate ANC and VCT/ART services and collaborate with OVC programs to include orphan caregivers in child health behavior change efforts and ensure orphans receive necessary services.
- IR7.3 *Health Services Strengthened* –The CSP will work to improve the performance of health workers regarding maternal and newborn care. Implementing already established standards and increasing supportive supervision will help to achieve optimal quality in the RHCs and hospitals in the area that did not receive this support from the Matching Grant (non-CHS area).

The objectives, indicators and data sources that will measure the project's contribution to these results are listed in the Monitoring and Evaluation Matrix. The project staff will regularly submit reports to the USAID mission on the progress towards objectives, and will actively seek mission input and participation in project Task Force meetings and other key events, such as evaluations.

n. Evaluation Plans

The project will undertake highly participatory evaluations at both mid-term and final stages. The evaluations will involve examining data from the M&E system (including final KPC) and following up that data with qualitative assessments at all project levels. SAWSO and TSA/Zambia will hire an external consultant who has extensive experience in leading these types of evaluations. The mid-term evaluation will take place in quarter four of year three, during the dry, cool season when roads are most easily passable. The final evaluation will take place in quarter three of year five (also dry season) so that the partners have time before the end of the project to develop final lessons learned documents and workshops and can make final necessary adjustments for sustainability of systems.

5. Program Management

a. Program Management Structure: The success of the CSP is built on participation and contribution at several levels: community, Chikankata Health Services, the Ministry of Health, and

SAWSO. (Please see the organizational charts in Annex 7 and résumés/job descriptions of key positions in Annex 8.)

Community Members

- **Care Group volunteers** will spend about three hours per week in Care Group meetings (for training, reporting, and sharing) and visiting their 15 families. Since they can visit their 15 families easily in the course of daily life, duties are not time-consuming. Most women enjoy the meetings and do not find them burdensome because of the way Care Groups are formed and function. In the Matching Grant, Chikankata experienced low turnover and high motivation/satisfaction of community volunteers. Care Groups include 10 volunteers per group, so for the population, SAWSO estimates 1,385 volunteers will form 139 Care Groups. Care Groups will meet biweekly for about two hours led by their Care Group Facilitator. Facilitators teach volunteers, help them, and model new health beliefs and behaviors for them. The example Facilitators set in patiently teaching volunteers is followed by the volunteers themselves with their mothers. As volunteers visit each family they share health messages and check on children and mothers. Care Group volunteers elect a Care Group leader, and one leader in each village will belong to the CPT.
- **CHWs and TTBA**s are already a part of the district health system, report to staff from the health center, and receive monthly supervision and support from health facility and mobile clinic staff. They presently spend about eight hours per week on their volunteer activities, which is considered acceptable, as they receive some payment (cash or in-kind) and status in the community. The project anticipates that the Care Group volunteers will relieve some of the time demands on CHWs, as they will be supporting much of the preventive activities and health education that was previously the sole responsibility of the CHW. The project will provide refresher training to the current 56 CHWs and 76 TTBA and will train 51 more CHWs and 32 more TTBA (for an average of one of each cadre per thousand people in each zone) to increase coverage in the most remote areas, more than five kilometers from the nearest health facility. CHWs and TTBA are also members of Care and Prevention Teams that meet monthly to plan and assess community-level health activities.
- CHS established **Care and Prevention Teams** for HIV/AIDS work in the late 1980s. CPT members include headmen, TTBA, CHWs, and other community volunteers, such as Home-Based Care Volunteers and those supporting OVC. The CPTs will also include the vital link with every household in the area – the Care Group leader. Including the Care Group leader will help OVC and home-based care programs better identify needy families and individuals, as volunteers will report this in the CPT meetings. CPTs were formed on the basis of the **Neighborhood Health Committee** national strategy. In Siavonga, the project will work with NHCs. CPTs/NHCs meet once a month for two to three hours to discuss and plan community activities and review progress. CPTs/NHCs will also facilitate emergency funds and transport plans and manage funds for ITNs (in distant communities).
- **Men's Group leaders** will be volunteers, including individuals from men's fellowship groups at local TSA churches, who will facilitate formation of village-based men's groups to learn about maternal and child health issues relating to malaria, nutrition, and maternal and newborn care. They will commit about four hours per month, or two to three percent of their time, leading men's groups.

Chikankata Health Services (TSA/Zambia) – The CSP staff will all be employees of CHS:

- The **Project Supervisor** (100%) will be an experienced nutritionist and primary health care professional with extensive experience managing public health programs. He/she will oversee general management of the project, coordinate activities with partners, help ensure technical quality of activities, lead monitoring and evaluation of project progress, and engage in national level meetings and events. The Project Supervisor will report directly to the CH&D Manager, supervise the rest of the CSP team, especially the Field Supervisors, and communicate directly with the SAWSO Health Program Officer.
- The **Health Education Coordinator** (100%) will develop curricula to train all project staff, volunteers, and men's groups; conduct staff trainings; supervise volunteer trainings; oversee adaptation/development of behavior change messages and materials; and provide quality control for this vital project component. He/she will have extensive experience in adult education in health programs and report to the Project Supervisor.
- The **Monitoring and Evaluation Coordinator** (100%) will provide technical support and leadership for monitoring and evaluation. He will assist in training other project staff on understanding and using data for appropriate decision-making during weekly staff meetings and will oversee training and implementation of project surveys. He will report to the Project Supervisor.
- Five **Field Supervisors** (100%) will supervise the Care Group Facilitators, oversee community level activities, guide NHCs in their formation and development, and coordinate activities with health center staff. Supervisors will spend most of their time in the communities with Facilitators. As they have only four Facilitators each, they can spend one day per work week with each Facilitator, helping with training, home visits, GM/P sessions, Hearth sessions, and meetings with CPTs and NHCs.
- Twenty-one **Care Group Facilitators** (100%) will train, support, and supervise their Care Group volunteers, which are assembled into seven groups of 10 volunteers each. They will conduct biweekly meetings with their Care Groups, during which they will train volunteers, collect data on vital statistics (births, deaths, illnesses, intervention-specific data), and guide their Care Groups in how to teach and influence their assigned families. If a volunteer needs extra help, the Facilitator can accompany her on home visits. Facilitators will assist NHCs in compiling, analyzing, and using data (both Care Group and health center data) to make decisions, allocate resources, and improve links between the community and health center. Each Facilitator will support seven Care Groups. Facilitators will visit each Care Group in its village for a whole day once every two weeks. One day per quarter they will meet with the NHC, and once a month they will meet with the CPTs. They will spend one day each week in the office for a staff meeting and to compile reports from Care Groups and develop action plans for the next week.
- **CH&D Mobile Clinic Team** (20%, paid by TSA) of six health staff will provide outreach services in the Chikankata catchment area, which include immunization, GM/P, antenatal care, Vitamin A supplementation, postnatal care, curative care, and education. The team will also support health center staff in supervising CHWs and TTBAAs. (The CSP will not pay for the mobile clinic activities; CHS covers these.)

- The **Bookkeeper** (50%, paid by SAWSO) will manage the financial aspects of the project at the field level, tracking expenses and preparing monthly financial reports with the assistance of the Senior Accountant. He will report to the Senior Accountant and the Project Supervisor.
- An **Administrative Assistant** (100%) will support the Project Supervisor and CH&D Manager in administrative duties and data entry for survey results. She will report to the Project Supervisor.
- The **Driver** (100%) will drive staff to communities and other meetings and maintain the vehicles.
- The **CHS Manager of Administration** (5%, paid by TSA), will supervise the CH&D Manager, oversee CHS's capacity development, and work with the CH&D Manager and Project Supervisor to liaise with partners.
- The **CH&D Manager and Assistant Manager** (10% and 25%, respectively, paid by TSA), will oversee all outreach activities of CHS, including the mobile clinics. They will supervise and support the Project Supervisor, liaise with the DHMTs, and manage the training of CHWs and TTBAAs. Both the Manager and Assistant Manager report to the CHS Manager of Administration.
- The **Adult Services Coordinator** (20%, paid by TSA) of TSA's Mapangazya division will receive intervention training along with Care Group Facilitators and will then train men's group leaders to facilitate men's group discussions about intervention topics.
- The **Senior Accountant** (5%, paid by SAWSO) will oversee all expenditures and purchasing and support the Bookkeeper in preparing financial reports.

District Ministry of Health (Siavonga and Mazabuka)

- **Health workers** (about 45) at the health centers (20%, paid by the MOH/CHS) will continue to provide regular services: outpatient care, deliveries, antenatal and postnatal care, immunizations, education, GM/P, and supervision of CHWs and TTBAAs. Staff will also manage revolving funds for ITNs and clean delivery kits. Health workers will participate in the NHC at their health center, collect reports from CHWs and TTBAAs, and compile data to send to the DHMT.
- **DHMT members** (15 in each district) (5%, paid by the MOH) will contribute to the CSP through data analysis and decision-making. The CH&D Manager will participate in quarterly DHMT meetings to present project data. The group will discuss progress of the project and strategies for improving it.

SAWSO – The **SAWSO Health Program Officer**, Claire Boswell, will serve as technical backstop to the CCSP and exchange program successes and experiences with ongoing SAWSO initiatives in other countries. She will visit the project at least twice a year and dedicate a third of her time to supporting it. Ms. Boswell has over six years of experience managing and backstopping child survival projects and is trained in Hearth and LQAS. She is co-chair of the CORE Social and Behavior Change Working Group and a member of the Nutrition Working Group. The **SAWSO Projects Accountant** will oversee budget, spending, and financial compliance with USAID regulations. The **Program Assistant** will contribute to administrative backstopping of the project.

Communication – The project will use regular meetings and two-way reporting to foster good communication between the community members, health care providers, and CSP staff. The CSP

team (Project Supervisor, CH&D Manager and Assistant Manager, Supervisors, and Facilitators) will meet weekly to plan activities, discuss problems, and celebrate progress. The CH&D Manager will participate in quarterly DHMT meetings to review progress on CSP objectives and to develop activity plans in conjunction with the MOH goals and activities. Facilitators and Supervisors will meet monthly with NHCs to review project progress and progress on activity plans, and Facilitators and Care Group leaders will meet monthly with CPTs to review community level data, discuss any problems with the project, and develop plans for improving activities in that community. Facilitators will meet with their Care Groups biweekly, and Supervisors will participate in some of those meetings (one Facilitator per day) rotating around through the groups until she has been able to meet all the Care Groups.

The CCSP partners decided that two task forces (one for each district) will meet on a quarterly basis in their respective district capitals (Mazabuka and Siavonga towns) during the first year, and every six months thereafter. Each year the larger group consisting of representatives from all partners, including the MOH, CHS, Plan, Harvest Help, Mtendere Hospital, USAID/Zambia, TSA/Lusaka, CHAZ, and others will meet at Chikankata to review progress, coordinate and plan activities, discuss any strategies that need to be revised, and improve collaboration among the many participants. The district-level meetings will take place just before the MOH planning cycle so that partners have an opportunity to coordinate activity plans to complement efforts. At the health center level, CCSP staff will meet with community leaders and health workers on a monthly basis for joint activity planning. RHC staff will coordinate with and report to the district level on CSP involvement in their activities. CCSP staff will also participate in MOH semi-annual planning meetings in July and January. Partners have also agreed that they will provide reports to each other on all trainings conducted.

SAWSO will support the field project with two support visits each year (at least two weeks each) and by sending regular technical updates to CCSP staff. The first year requires more visits and more backstopping time, due to start-up activities, such as baseline assessments and DIP development. The support visits will include trainings (in which field staff will always be mentored to replicate the training later) and ongoing technical support for activities. During the first year of the project, the Project Supervisor will send monthly activity reports to SAWSO, which will give the Health Program Officer the opportunity to provide feedback and any technical resources needed by the project. After the first year, these reports will become quarterly. The reports will also offer the field staff the opportunity to share any new project approaches and insights with headquarters staff, who also share lessons learned between SAWSO projects in different countries.

Much of the training and technical assistance needs of the project will be filled by partners or consultants in Zambia. Some trainings will be done by SAWSO staff (Supportive Supervision, Adult Education, LQAS), and the Hearth start-up will require an external consultant to travel from the US. SAWSO will also keep track of regional training opportunities for CCSP staff through the CORE Group and other organizations. For example, the Project Supervisor has already attended the Qualitative Methods training in Kenya and the Care Group training in Mozambique, both hosted by CORE. Regular reports from the field to SAWSO will include a section on any technical assistance needed, although these issues will normally be discussed in regular email communication beforehand.

The supervisory structure is detailed in the section on Project Management Structure above. As discussed in more detail in the intervention sections, supervisors will use supervisory protocols and

observation checklists to improve worker performance at all levels. These tools will be jointly developed by workers and their supervisors to increase effectiveness and motivation. All supervision activities will provide space for workers to do self-assessments.

7. The Training Plan follows on the next page.

8. The Work Plan is on page 81.

7. Training Plan

CSP/MOH Staff Trainings			
Topic/Key Competencies	Participants	Length	Time
KPC/LQAS: <ul style="list-style-type: none"> • Uses of Surveys • Random Sampling • Using LQAS Sampling • Identifying Interview Locations • Selecting Households and Respondents • Conducting the Survey • Tabulating Results • Analyzing Results 	SAWSO will train CSP staff, CH&D mobile team, and Plan, Harvest Help, Mtendere, and MOH staff	5 days (includes field practical) (Time to conduct survey not included)	Q1Y1
Anthropometric Measurement: <ul style="list-style-type: none"> • Determining Age • Weighing the Child • Recording Weight 	Project Supervisor will train CSP staff, CH&D mobile team, Plan, Harvest Help, Mtendere, and MOH staff	1 day	Q1Y1
Qualitative Research : <ul style="list-style-type: none"> • Developing a Field Guide Questionnaire • Asking Open-Ended Questions • Probing for Key Information • Facilitating a Focus Group • Taking Notes 	SAWSO will train CSP staff, CH&D mobile team, and MOH staff	5 days	Q1Y1- Q2Y2 (April 24-28, 2006)
Supportive Supervision: <ul style="list-style-type: none"> • Developing a Supervision Protocol • Using a Supervision Protocol • Giving Positive Feedback and Making Suggestions • Listening • Planning Next Steps 	SAWSO will train CSP staff, CH&D mobile team, and Plan, Harvest Help, Mtendere, and MOH staff	2 days	Q3Y1
Interpersonal Communication and Adult Education: <ul style="list-style-type: none"> • Principles of Adult Education • How to Plan Learning Events • Practicing Dialogue-Based Education • Questioning and Listening 	SAWSO will train CSP staff, CH&D mobile team, and Plan, Harvest Help, Mtendere, and MOH staff	4 days	Q3Y1
Working with Care Groups/Data Management for Action: <ul style="list-style-type: none"> • Volunteers and Staff Roles and Responsibilities • Working with Care Groups to Record Vital Events • Gathering and Acting on Intervention-Specific Data through Care Groups • Compiling Care Group Reports to track CCSP Objectives and Indicators • Presenting Data to Communities/Facilitating Discussion/Engaging Community Leaders 	SAWSO, Project Supervisor, and M&E Coordinator will train Supervisors and Facilitators	4 days with refresher during weekly staff meetings	Q4Y1 (June 19-22)
Malaria Prevention and Care-Seeking Promotion: <ul style="list-style-type: none"> • Preventing Malaria through ITNs and IPT • Recognizing Malaria Danger Signs and Care-Seeking • Training Care Groups • Communicating Key Messages • Tracking Indicators/Using Forms 	Project Supervisor and Health Education Coordinator will train Supervisors and Facilitators, CH&D mobile team, Adult Services Coordinator, and partner staff (Plan, Harvest Help, Mtendere)	2 weeks (comprehensive training takes place in communities, with practicum in local villages)	Q4Y1
Malaria Messages in Consultations/Malaria in Pregnancy: <ul style="list-style-type: none"> • Asking Key Questions about a Child's Health • Communicating Key Malaria Messages • Assessing Caretaker Understanding of Messages • Identifying/Overcoming Barriers to Action • Diagnosing and Treating Malaria in Pregnant Women • Administration/Recording of IPT 	Project Supervisor and Consultant will train MOH staff (health workers)	2 days (refresher)	Q4Y1 (July)
ITN Revolving Funds: <ul style="list-style-type: none"> • ITN Handling, Use, and Re-treatment • Managing an ITN Revolving Fund • Recording ITN sale on Health Card 	CHAZ will train MOH staff (health workers) and CSP staff	3 days	Q4Y1 (July)

<ul style="list-style-type: none"> • Inventory Management 			
<p>Immunization:</p> <ul style="list-style-type: none"> • Reviewing Vaccination Status at Every Visit • Communicating Key Immunization Messages • Reducing Wastage and Missed Opportunities • Outreach Planning Jointly with Communities to Increase Coverage 	Project Supervisor and Consultant will train MOH staff (health workers) and CH&D Mobile Team	1 day (refresher)	Q1Y2 (Nov)
<p>Immunization Basics:</p> <ul style="list-style-type: none"> • Childhood Immunization Schedule/Review of Diseases and Vaccines • Training Care Groups • Communicating Key Messages about Immunization • Facilitating Community Mobilization and Participation in Immunization Activities 	Project Supervisor and Health Education Coordinator will train Supervisors and Facilitators, Adult Services Coordinator, and partner staff (Plan, Harvest Help, and Mtendere)	2 days	Q1Y2 (Nov)
<p>Nutrition Messages in Consultations/Supervising CHWs in Growth Monitoring and Promotion:</p> <ul style="list-style-type: none"> • Weighing • Counseling • Breastfeeding Promotion and Counseling in Prenatal and Postnatal Care Visits • Micronutrient Supplementation Promotion • Supervising and Support CHWs to do GM/P 	Project Supervisor/CH&D Manager will train MOH staff	2 days (refresher)	Q1Y2 (February)
<p>Nutrition:</p> <ul style="list-style-type: none"> • Monitoring a Child's Growth through Weighing/Growth Card • Basic Nutrition for Children and Infants • Appropriate Breastfeeding Practices • Appropriate Child Feeding Practices • Vitamin A and Iron/Folic Acid Supplementation • Counseling Caretakers/Identifying and Overcoming Barriers • Training Care Groups • Tracking Indicators/Using Forms 	Project Supervisor and Health Education Coordinator will train Supervisors, Facilitators, Adult Services Coordinator, and partner staff (Plan, Harvest Help, and Mtendere)	2 weeks (comprehensive training takes place in communities, with practicum in local villages)	Q1Y2 (Mar)
<p>Conducting the Positive Deviance Inquiry:</p> <ul style="list-style-type: none"> • Wealth Ranking • Identifying Positive Deviant Children • Observing Positive Deviant Families 	Consultant will train CSP staff, CH&D mobile team, Plan, Harvest Help, Mtendere, and MOH staff	2 days	Q2Y2 (June)
<p>Developing/Facilitating Hearth Sessions</p> <ul style="list-style-type: none"> • How Hearth Works – Principles of Home-Based Rehabilitation • Planning, Scheduling Sessions • Purchasing and Preparing Materials for Sessions • Preparing Hearth Foods • Health Education Messages • Session Protocols • Recording and Interpreting Results • Hearth Follow-Up 	Consultant will train CSP staff, CH&D mobile team, Plan, Harvest Help, Mtendere, and MOH staff	2 weeks	Q3Y2 (June)
<p>Maternal and Newborn Care:</p> <ul style="list-style-type: none"> • Antenatal Care • Birth Preparedness • Delivery • Emergencies • Recognition of Danger Signs • Postpartum Care • Newborn Care • Family Planning • Training Care Groups • Tracking Indicators/Using Forms 	Project Supervisor and Health Education Coordinator will train Supervisors, Facilitators, Adult Services Coordinator, and partner staff (Plan, Harvest Help, and Mtendere)	2 weeks (comprehensive training takes place in communities, with practicum in local villages)	Q1Y3

<p>Focused Antenatal Care:</p> <ul style="list-style-type: none"> • Rationalization of Visit Schedule • Strengthening Quality of Individual Visits • Using the Maternity Counseling Kit • Provision of Key Preventive Services • Integration of VCT/PMTCT • Monitoring and Management of Conditions and Complications 	Consultant will train MOH staff/health workers	2 weeks (refresher, updates)	Q1Y3
<p>Essential and Emergency Obstetric Care:</p> <ul style="list-style-type: none"> • Use of Partograph • Clean and Safe Delivery/Infection Prevention • Immediate Newborn and Maternal Care • Strengthened, Integrate Postnatal and Infant Care • Recognition and Decision-Making for Complications • Referral Protocols and Mechanisms • Emergency Interventions (C-Section, Post Abortion Care, Management of Eclampsia, Hemorrhage, and Sepsis, etc.) 	Consultant will train MOH staff/health workers	2 weeks (refresher, updates)	Q2Y3
Community Volunteer Training			
Topic/Key Competencies	Participants	Length	Time
<p>Community Health Worker National Curriculum:</p> <ul style="list-style-type: none"> • Community Participation • Gender and Health • Community-Based Health Information Systems • Malaria Prevention and Case Management • Diarrhea Prevention and Case Management • Nutrition/Breastfeeding • Reproductive Health/Family Planning • HIV/AIDS, STDs, and TB 	<p>CH&D Staff will train: New CHWs (22)</p> <p>Refresher Training for Existing CHWs (92)</p>	<p>6 weeks (3 sessions)</p> <p>1 week per year</p>	Q1Y2
<p>Trained Traditional Birth Attendant National Curriculum:</p> <ul style="list-style-type: none"> • Antenatal Care (physical exam, screening for complications/infections, nutrition education, promotion of clinic-based ANC, recognition of danger signs, referral, promotion of clinic-based delivery, breastfeeding promotion, iron/folic acid promotion, IPT promotion, TT promotion) • Clean Delivery • Postnatal Care (care of mother and newborn, breastfeeding, immunization, progress of uterus, recognition of danger signs, promotion of clinic-based PNC, family planning, promotion of Vitamin A postpartum) 	<p>CH&D Staff will train: New TTBAAs (36)</p> <p>Refresher Training for Existing TTBAAs (78)</p>	<p>6 weeks (3 sessions)</p> <p>1 week per year</p>	Q1Y2
<p>Malaria Prevention and Care-Seeking Promotion:</p> <ul style="list-style-type: none"> • Preventing Malaria through ITNs and IPT • Recognizing Malaria Danger Signs and Care-Seeking • Communicating Key Messages/Dialoguing with Caretakers/Families • Tracking Indicators 	Facilitators will train Care Group Volunteers	4-5 two-hour sessions	Q4Y1
<p>Malaria Prevention and Care-Seeking:</p> <ul style="list-style-type: none"> • Malaria Basics (transmission, illness, etc.) • Prevention with ITNs (including priority groups) • Recognition of Danger Signs, Where to Seek Care, Treatment Completion 	Supervisors will train CPT Members, NHC Members	3 one-hour sessions	Q4Y1
<p>Malaria Prevention and Care-Seeking:</p> <ul style="list-style-type: none"> • Malaria Basics (transmission, illness, etc.) • Prevention with ITNs (including priority groups) • Recognition of Danger Signs, Where to Seek Care, Treatment Completion • How to Facilitate Group Discussions 	Adult Services Coordinator will train Men's Group Leaders	1 week	Q4Y1

<p>Immunization Basics:</p> <ul style="list-style-type: none"> • Childhood Immunization Schedule/Review of Diseases and Vaccines • Reading the child immunization card • Communicating Key Messages/Dialoguing with Caretakers and Families • Tracking Indicators 	Facilitators will train Care Group Volunteers	2-3 two-hour sessions	Q1Y2
<p>Immunization Basics:</p> <ul style="list-style-type: none"> • Childhood Immunization Schedule/Review of Diseases and Vaccines • Benefits of Vaccines (Key Messages) • Accessing Vaccines and the Father's Role • How to Facilitate Group Discussions 	Adult Services Coordinator will train Men's Group Leaders	3 days	Q1Y2
<p>Immunization Basics:</p> <ul style="list-style-type: none"> • Childhood Immunization Schedule/Review of Diseases and Vaccines • Benefits of Vaccines (Key Messages) • Coordinating Vaccination with Health Workers and the Role of Community Leaders • Tracking Immunization Coverage in the Community 	Supervisors will train CPT Members, NHC Members	3 one-hour sessions	Q1Y2
<p>Nutrition:</p> <ul style="list-style-type: none"> • Monitoring a Child's Growth through Weighing/Growth Card • Basic Nutrition for Children and Infants • Basic Early Childhood Development • Appropriate Breastfeeding Practices • Appropriate Child Feeding Practices • Vitamin A and Iron/Folic Acid Supplementation • Counseling Caretakers/Identifying and Overcoming Barriers • Tracking Indicators 	Facilitators will train Care Group Volunteers	4-5 two-hour sessions	Q2Y2 (Mar-May)
<p>Positive Deviance/Hearth:</p> <ul style="list-style-type: none"> • Positive Deviance Inquiry • Principles of Home-Based Rehabilitation • Key Messages for Feeding Practices • Preparing Hearth Foods • Health Education Messages • Session Protocols • Recording and Interpreting Results • Hearth Follow-Up 	Supervisors and Facilitators will train Care Group Volunteers to be "hearth mothers." Each Care Group conducts a Positive Deviance Inquiry (competencies listed to the left).	5 two-hour sessions, Ongoing learning during Hearth Sessions	Q3Y2 (June)
<p>Nutrition, PD/Hearth:</p> <ul style="list-style-type: none"> • Principles of GM/P • Positive Deviance Concept, Basis of Hearth Menus • Length of Hearth Sessions (Why Two Weeks) • Basic Nutrition Concepts • Basic Early Childhood Development Concepts 	Supervisors will train CPT Members, NHC Members (also interested members can participate in Hearth sessions in their villages)	4 two-hour sessions Regular refreshers during meetings	Q2Y2 (Jan-Feb)
<p>Nutrition:</p> <ul style="list-style-type: none"> • Basic Nutrition for Children and Infants • Basic Early Childhood Development • Appropriate Breastfeeding Practices • Appropriate Child Feeding Practices • Vitamin A and Iron/Folic Acid Supplementation • Selecting and Growing Nutritious Foods • The Father's Role in Nutrition 	Adult Services Coordinator will train Men's Group Leaders	5 days	Q2Y2 (Jan-Feb)

<p>Maternal and Newborn Care:</p> <ul style="list-style-type: none"> • Antenatal Care (importance, key services – iron/folic acid, IPT, screening, VCT, PMTCT) • Birth Preparedness • Delivery • Emergencies • Recognition of Danger Signs • Postpartum Care • Newborn Care • Family Planning • Tracking Indicators/Using Forms 	Facilitators will train Care Group Volunteers	<p>12 two-hour sessions</p> <p>Regular refreshers during meetings</p>	Q2Y3
<p>Maternal and Newborn Care:</p> <ul style="list-style-type: none"> • Antenatal Care (importance, key services – iron/folic acid, IPT, screening, VCT, PMTCT) • Birth Preparedness, Establishing Emergency Funds and Transport • Delivery • Emergencies • Recognition of Danger Signs • Postpartum Care • Newborn Care • Family Planning 	Supervisors will train CPT Members and NHC Members	<p>4 two-hour sessions</p> <p>Regular refresher during meetings</p>	Q2Y3
<p>Maternal and Newborn Care:</p> <ul style="list-style-type: none"> • Antenatal Care (importance, key services – iron/folic acid, IPT, screening, VCT, PMTCT) • Birth Preparedness, Establishing Emergency Funds and Transport • Delivery • Emergencies • Recognition of Danger Signs • Postpartum Care • Newborn Care • Family Planning 	Adult Services Coordinator will train Men's Group Leaders	5 days	Q2Y3
<p>Data Management for Action:</p> <ul style="list-style-type: none"> • Results and Indicators to Track • Understanding Population-Based Data • Making Decisions Based on Data • Using data to budget and manage inventory 	Supervisors will train CPT Members, NHC Members	<p>3 two-hour sessions (one after each intervention training)</p> <p>Regular refresher during meetings</p>	<p>Q4Y1</p> <p>Q2Y2</p> <p>Q1Y3</p>

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																		
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																
Orga 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				
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 bednet 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 malaria	Project Supervisor, HEC			X																
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 Facilitators					X														
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																			
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								

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- ⁱ Chikankata Health Services Health Information Management System and Siavonga District Health Management Team. Breakdowns of children under five and women 15-49 are estimates based on national proportions from the International Data Base of the United States Census Bureau. www.census.gov/cgi-bin/ipc/idbsum?cty=ZA.
- ⁱⁱ United Nations Development Programme 2005. *Human Development Report 2005*. New York, USA. http://hdr.undp.org/reports/global/2005/pdf/hdr05_HDI.pdf. Downloaded 4/3/06.
- ⁱⁱⁱ Save the Children. May 2004. *State of the World's Mothers 2004: Children Having Children*.
- ^{iv} Central Statistical Office [Zambia], Central Board of Health [Zambia], and ORC Macro. 2003. *Zambia Demographic and Health Survey 2001-2002*. Calverton, Maryland, USA: Central Statistical Office, Central Board of Health, and ORC Macro.
- ^v Mazabuka District Health Statistics Annual Report 2005.
- ^{vi} Siavonga District Health Statistics Annual Report 2005.
- ^{vii} Conversation with Rick Hughes, Zambia Country Director, JHPIEGO.8/24/04.
- ^{viii} Chikankata Health Services Health Information Management System 2003.
- ^{ix} Siavonga District Health Statistic Annual Report 2005.
- ^x Chikankata Health Services Health Information Management System 2003.
- ^{xi} Siavonga District Health Statistics Annual Report 2005, Service Delivery Data from Mtendere Mission Hospital.
- ^{xii} Central Statistical Office [Zambia], Central Board of Health [Zambia], and ORC Macro. 2003. *Zambia Demographic and Health Survey 2001-2001*. Calverton, Maryland, USA: Central Statistical Office, Central Board of Health, and ORC Macro.
- ^{xiii} Luo, C., C.M. Mwela, and J. Campbell. 1999. *National baseline survey on prevalence of anemia in Zambia: A random cluster community survey involving children, women, and men*. Lusaka, Zambia: University Teaching Hospital.
- ^{xiv} Luo, C. *National Survey on Vitamin A deficiency in Zambia*. University Teaching Hospital. August 1997.
- ^{xv} USAID/Zambia Country Strategic Plan FY2004-FY2010. Volume 1: Strategy. July 2003. www.usaid.gov/zm/Docs/csp_voll.pdf Downloaded 7/28/04.
- ^{xvi} Central Board of Health Annual Health Statistical Bulletin. 2002.
- ^{xvii} 2000 National Malaria Situation Analysis and RBM Baseline Study. 2001.
- ^{xviii} The DHS points out that because the number of deaths are small, the difference between the two estimates is not statistically significant, although it is useful in recognizing trends.
- ^{xix} UNAIDS, UNICEF, and USAID. *Children on the Brink 2004*. July 2004.
- ^{xx} Central Statistical Office [Zambia], Central Board of Health [Zambia], and ORC Macro. 2003. *Zambia Demographic and Health Survey 2001-2001*. Calverton, Maryland, USA: Central Statistical Office, Central Board of Health, and ORC Macro.
- ^{xxi} UNFPA. *A Study of Factors Associated with Maternal Mortality in Zambia*. 1998.
- ^{xxii} *Zambian National Health Analysis 2000*. Ministry of Health, Zambia.
- ^{xxiii} *Zambian National Health Analysis 2000*. Ministry of Health, Zambia.
- ^{xxiv} *Zambian National Health Analysis 2000*. Ministry of Health, Zambia.
- ^{xxv} Report on Knowledge, Practices, and Coverage Survey, Zambia. The Salvation Army World Service Office and The Salvation Army/Zambia. March 2006. USAID Cooperative Agreement No. GHS-A-00-05-00033-00.
- ^{xxvi} Central Statistical Office [Zambia], Central Board of Health [Zambia], and ORC Macro. 2003. *Zambia Demographic and Health Survey 2001-2001*. Calverton, Maryland, USA: Central Statistical Office, Central Board of Health, and ORC Macro.
- ^{xxvii} Community Meetings Report from Seven Communities, March 2003. The Salvation Army Chikankata Health Services.
- ^{xxviii} Report on Knowledge, Practices, and Coverage Survey, Zambia. The Salvation Army World Service Office and The Salvation Army/Zambia. March 2006. USAID Cooperative Agreement No. GHS-A-00-05-00033-00.
- ^{xxix} Central Statistical Office [Zambia], Central Board of Health [Zambia], and ORC Macro. 2003. *Zambia Demographic and Health Survey 2001-2001*. Calverton, Maryland, USA: Central Statistical Office, Central Board of Health, and ORC Macro.
- ^{xxx} UNFPA. *A Study of Factors Associated with Maternal Mortality in Zambia*, 1998.
- ^{xxxi} According to protocol, referrals should be given priority at the hospital, but often patients still end up waiting in long lines at the out-patient clinic.
- ^{xxxii} Community Meetings Report from Seven Communities, March 2003. The Salvation Army Chikankata Health Services.
- ^{xxxiii} Developed by Pact. http://www.pactworld.org/services/oca/index_oca.htm.
- ^{xxxiv} Laughlin, Megan. *The Care Group Difference: A Guide to Mobilizing Community-Based Health Educators*. World Relief and CORE. Draft September 2004.
- ^{xxxv} Nutrition Working Group, Child Survival Collaborations and Resources Group (CORE), *Positive Deviance/Health: A Resource Guide for Sustainably Rehabilitating Malnourished Children*, Washington, D.C: December 2002.
- ^{xxxvi} Laughlin, Megan. *The Care Group Difference: A Guide to Mobilizing Community-Based Health Educators*. World Relief and CORE. Draft September 2004.
- ^{xxxvii} The Salvation Army World Service Office. Richard Crespo, Lead Evaluator. "Working with Communities for Improved Health and Quality of Life." Final Evaluation. March 2004. Matching Grant Program 2000. Cooperative Agreement No. FAO-A-00-00-00018-00.
- ^{xxxviii} The program will explore modifying Freedom from Hunger's Credit with Education materials to use with men's groups.
- ^{xxxix} MkNelly, Barbara, Ann Brownlee and Regina Nakayenga. Supervision and Support of High-Quality Group-Based

Nonformal Education Services: The Use of Observation Checklists. Prepared for the Food and Nutrition Technical Assistance Project by Freedom from Hunger. March 2002.

^{xi} Participatory Learning and Action Aggregation Report. Results from Six Communities. The Salvation Army Chikankata Health Services. October – November 2001.

^{xii} Laughlin, Megan. The Care Group Difference: A Guide to Mobilizing Community-Based Health Educators. World Relief and CORE. Draft September 2004.

^{xiii} Zambia Malaria Global Fund application, 2004

^{xiiii} The Salvation Army World Service Office. Richard Crespo, Lead Evaluator. "Working with Communities for Improved Health and Quality of Life." Final Evaluation. March 2004. Matching Grant Program 2000. Cooperative Agreement No. FAO-A-00-00-00018-00.

^{xv} Conversation with Michael Macdonald, Resident Malaria Advisor, Boston University ARCH Project, National Malaria Control Center. 8/24/04.

^{xvi} Brahmbhatt H, et al. *The effects of placental malaria on mother-to-child HIV transmission in Rakai, Uganda*. AIDS. 2003 Nov 21;17(17):2539-41.

^{xvii} CORE Malaria Working Group. "Surviving Malaria: A Decision Guide – A Programming Tool for Promoting Appropriate Case Management of Malaria in Infants and Young Children. 2003.

^{xviii} MEDS and PHNI Projects. Immunization Essentials: A Practical Field Guide. 2003.

^{xix} Report on Knowledge, Practices, and Coverage Survey, Zambia. The Salvation Army World Service Office and The Salvation Army/Zambia. March 2006. USAID Cooperative Agreement No. GHS-A-00-05-00033-00.

^{xx} Although the project will measure these specific behaviors, it will promote all of the Optimal Complementary Feeding Practices for Breastfed Children Aged six to twenty-four months: 1) continued frequent, on-demand breastfeeding to 24 months and beyond; 2) introduce complementary foods at age 6 months; prepare and store all complementary foods safely and hygienically; 3) increase food quantity as child gets older; (6-8 months: 200 kcal/day from complementary foods; 9-11 months: 300 kcal/day from complementary foods; 12-23 months: 550 kcal/day from complementary foods); 4) Increase frequency of feeding complementary foods as child gets older; 6-8 months: 2-3 meals/day; 9-23 months: 3-4 meals/day, 1-2 snacks/day (as desired); 5) Increase food consistency and variety gradually as child gets older; 6) feed a variety of foods to ensure adequate nutrient intake, including animal products, fortified foods, and vitamin A-rich vegetables and fruit; practice responsive feeding; 7) Continue feeding during and after illness

ⁱ Other behaviors the project will promote are included in the optimal nutritional care of sick children: 1) Continue feeding and increase fluids during illness; 2) Child under 6 months: increase frequency of exclusive breastfeeding; 3) Child 6-24 months: increase fluid intake (e.g., including breast milk) and offer food 4) Increase feeding after illness until child regains weight and is growing well; 5) For diarrhea: provide zinc supplementation for 10-14 days, according to WHO protocol (CCSP will not promote unless adopted into Zambian policy); 6) For diarrhea: provide low osmolarity ORS to children over 6 months (or home-based fluids if not available) 7) For measles: provide vitamin A treatment, according to WHO protocol.

ⁱⁱ The project will focus on exclusive breast feeding because it was low in the baseline survey, but it will also promote other Optimal Breastfeeding Practices: early initiation of breastfeeding (e.g., within 1 hour of birth); exclusive breastfeeding for first six months of life (e.g., no other liquids or foods); breastfeeding on demand, day and night (i.e., usually 8-12 times/day), for adequate time at each feeding; offer second breast after infant releases first; correct positioning and attachment of infant at breast ; good breast health care.

ⁱⁱⁱ Behavior Change for Improved Infant Feeding. Linkages, updated March 2004.

ⁱⁱⁱⁱ Breastfeeding and HIV/AIDS Frequently Asked Questions. Linkages, updated April 2004.

^v Household-to-Hospital Continuum of Maternal and Newborn Care, the ACCESS Project, October 2005

^{vi} Zambia's standard is high-dose Vitamin A within four weeks of delivery.

^{vii} Safe Motherhood and Reproductive Health Working Group, CORE, Standards and Indicators Compendium, CORE, 2004.

^{viii} Developed by Pact. http://www.pactworld.org/services/oca/index_oca.htm.

^{ix} Laughlin, Megan. The Care Group Difference: A Guide to Mobilizing Community-Based Health Educators. World Relief and CORE. Draft September 2004.