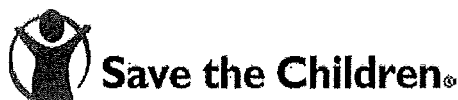

# *Mwayi wa Moyo ("A Chance to Live")*

***Blantyre District, Malawi***

## Final Evaluation Report

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**Acronyms**

| | |
|---|---|
| ACSD | Accelerated Child Survival and Development |
| ACT | Artemisinin Combination Therapy |
| ADCs | Area Development Committees |
| AEHO | Assistant Environmental Health Officer |
| ANC | Antenatal Care |
| BLM | *Banja la Mtsogolo*- a local family planning NGO |
| C-EHP | Community Essential Health Package |
| CAC | Community Action Cycle |
| CAG | Community Action Group |
| CBD | Community-Based Distributor |
| CBMNC | Community-Based Maternal and Newborn Care (national package of interventions delivered by HSAs) |
| CBMNH | Community-Based Maternal and Newborn Health |
| CBO | Community-Based Organization |
| CDD | Control of Diarrheal Diseases |
| CHAM | Churches Health Association of Malawi |
| CIDA | Canadian International Development Agency |
| CM | Community Mobilization |
| COM | College of Medicine |
| CSHGP | Child Survival and Child Health Program |
| CYP | Couples Years of Protection |
| DAPP | Development Aid from People to People |
| DEHO | District Environmental Health Officer |
| DHMT | District Health Management Team |
| DHO | District Health Office(r) |
| DIP | Detailed Implementation Plan |
| DPT1/DPT3 | Diphtheria/Pertussis Immunization 1st/3rd Dose |
| EHO | Environmental Health Officer |
| EHP | Essential Health Package |

| | |
|---|---|
| ENC | Essential Newborn Care |
| FANC | Focused Antenatal Care |
| FE | Final Evaluation |
| FP | Family Planning |
| GVH | Group Village Headman/Headmen |
| HBB | Helping Babies Breathe |
| HC | Health Center |
| HF | Health Facility |
| HIV | Human Immuno-deficiency Virus |
| HSA | Health Surveillance Assistant |
| HW | Health Worker |
| iCCM | Integrated Community Case Management |
| IMNC | Integrated Maternal and Newborn Care (curriculum for facility-based health workers) |
| IMNCI | Integrated Management of Newborn and Childhood Illnesses |
| IR | Intermediate Result |
| KPC | Knowledge, Practices, Coverage |
| LA | Lumefantrine and Artemether (ACT used in Malawi) |
| LAM | Lactational Amenorrhea Method |
| LBW | Low Birthweight |
| M&E | Monitoring and Evaluation |
| MCHIP | Maternal and Child Health Integrated Program |
| MICS | Maternal Infant Child Survival Project, Save the Children Malawi project |
| MN | Maternal and Newborn |
| MNCH | Maternal Newborn and Child Health |
| MoH | Ministry of Health |
| MOI | Missed Opportunity Index |
| MUAC | Mid-upper Arm Circumference |
| NEP | National Evaluation Platform |
| NGO | Nongovernmental Organization |
| NSO | National Statistics Office |

| | |
|---|---|
| OR | Operations Research |
| ORS | Oral Rehydration Sachets/Salts |
| ORT | Oral Rehydration Therapy |
| PCM | Pneumonia Case Management |
| PHCU | Primary Health Care Unit |
| PMTCT | Prevention of Mother-to-Child Transmissions |
| PNC | Postnatal Care |
| PPFP | Postpartum Family Planning |
| PSI | Population Services International |
| PTM | Prevention and Treatment of Malaria |
| RHD | Reproductive Health Directorate |
| QECH | Queen Elizabeth Central Hospital |
| SBA | Skilled Birth Attendant |
| SBCC | Socio-Behavioral Change Communication |
| SDA | Seventh Day Adventist |
| SHSA | Senior Health Surveillance Assistant |
| SRH | Sexual and Reproductive Health |
| TA | Traditional Authority |
| TB | Tuberculosis |
| TBA | Traditional Birth Attendant |
| TT2+ | Tetanus Toxoid (at least 2 doses) |
| TWG | Technical Working Group |
| USAID | United States Agency for International Development |
| VC | Village Clinic |
| VDC | Village Development Committee |
| VHC | Village Health Committee |
| WHO | World Health Organization |

## EXECUTIVE SUMMARY: *Mwayi wa Moyo* Integrated Family Planning, Maternal, Neonatal and Child Health Project in Malawi: Final Evaluation Report


Evaluation purpose

The purpose of the final evaluation (FE) was to determine whether the *Mwayi wa Moyo* Integrated Family Planning, Maternal, Newborn and Child Health Project increased use of evidence-based, life-saving interventions by women, caregivers and children in the Blantyre District of Malawi. The evaluation was conducted between February 15 and 24, 2016.

Evaluation questions

The FE drew upon existing data collected or compiled during the project cycle and additional data collected during the evaluation for the following purposes: 1) To provide an overview of project goals, objectives, and key intervention strategies implemented; 2) To determine the extent to which the project accomplished the results outlined in the Detailed Implementation Plan (DIP) and to present evidence of these accomplishments; 3) To describe key factors that contributed to what worked or did not work regarding some or all aspects of the program, with a focus on the integrated approach to programming; 4) To determine which elements of the integrated community-based (family planning (FP), integrated community case management (iCCM), maternal, newborn and child health (MNCH) and community mobilization (CM) approaches used in Blantyre District are likely to be sustained or expanded (through institutionalization or policies); 5) To determine whether the operations research (OR) design was adequate to answer the key questions; and whether OR findings influenced policy, practice or capacity development; 6) To describe how the health surveillance assistant (HSA) workforce and Community Essential Health Package (C-EHP) content issues affected HSA performance; and 7) To describe project contributions to improving the effectiveness and sustainability of CM in the current context of Malawi; and to identify strategies that should be taken forward.

Evaluation methods

Seven principal methods were used for the evaluation: 1) Review of knowledge, practice and coverage (KPC) household surveys conducted at project baseline and endline; 2) Review of OR data on integrated training, supervision and service delivery; 3) Review of routine data from Village Clinic (VC) registers; 4) Document review – including policy documents, program reports, technical reports, reports of training activities, health facility (HF) registers, and training and health education materials; 5) Interviews with district staff and managers, and a review meeting with the District Health Office (DHO), District Environmental Health Officer (DEHO), Coordinators, Senior Health Surveillance Assistants (SHSAs), HSAs, members of community groups – catchments of two facilities; 6) Field visits – site visits were made to eight randomly selected health centers (HC) and in-depth interviews conducted with staff and community members; and 7) A final review and dissemination meeting with district and national stakeholders.

Project background

*Mwayi wa Moyo* was a five-year Innovation Project (CS-27 cycle) running between 1 October 2011-31 March 2016. The project was funded by USAID's Child Survival and Health Grant Program (CSHGP), with matching funding from Save the Children, Towers Watson, and the Pfizer Foundation. The project targeted hard-to-reach communities in Blantyre District with

limited access to health care services. Malaria, pneumonia, diarrhea and under-nutrition are the primary contributors to morbidity and mortality of children 1-59 months old globally and in Malawi, with newborns dying of asphyxia, prematurity/low birthweight (LBW) and sepsis. The project's strategic objective was *increased use of key MNCH + Postpartum Family Planning (PPFP) services and practices*. All project activities were implemented in close collaboration with the Blantyre District Health Management Team (DHMT) using routine district systems. The project had four main components: 1) *Increased access to and availability of high impact MNCH and FP interventions*; 2) *Improved quality of high impact MNCH and FP interventions*; 3) *Increased demand for MNCH and FP care services and healthy practices in the home and community*; and 4) *An enabled environment at all levels to support effective delivery of MNCH and FP interventions*. The project innovation was the delivery of high impact interventions using an integrated approach to training, supervision and clinical mentoring; and the project's OR component aimed to test whether the integrated approach reduced missed opportunities and affected quality of HSA case management.

**The principal conclusions of the FE are:**

1. Improved coverage of several high impact interventions along the lifecycle of women, pregnant women and children is noted in project areas, although not all targets were met. Data show that more women use modern methods of contraception, seek antenatal care (ANC) and deliver with a skilled birth attendant (SBA); and that sick children with fever are more likely to be treated early, and those with suspected pneumonia are more likely to be taken for care. Exclusive breastfeeding shows improvement, and coverage with key preventive interventions also show significant improvements during the project period.
2. Some improvement was seen in management of diarrhea. Declines in sick children receiving increased fluids and continued feeding were noted, and zinc was introduced by the project; but there were no significant changes in management of diarrhea with oral rehydration therapy (ORT).
3. HSAs in project areas are able to provide integrated community case-management for sick children at reasonable standards for most interventions – referral remains a challenge. Observation-based data on HSA case-management practices show that HSAs perform 70-80 percent of case management tasks correctly, scoring highly on classification and home treatment tasks.
4. Integrated training, supervision and service delivery resulted in limited improvements in quality of care by HSAs. Those HSAs using integrated approaches had fewer missed opportunities to provide services to women and children, although missed opportunities remained very high and benefits largely disappeared by 12 months. No significant difference was noted in quality of clinical case-management by HSAs between areas using integrated and vertical approaches.
5. More attention to quality of care provided by facility-based health workers (HWs) is needed. No data were available about the quality of delivery care or care of sick newborns and sick children provided at first level and referral HFs. Population-based data suggest that early breastfeeding practices at the time of delivery and diarrhea management need improvement.
6. Integrated training, supervision and service delivery have a number of benefits. A number of benefits to integrated approaches to training, supervision and service delivery were noted including: a reduction by two days in total training days; improved efficiency of supervision and follow-up (reducing the number and costs of visits); and high demand for FP interventions. For these reasons, continuing integrated approaches may be warranted.

7. Implementation through the routine district system has strengthened capacity. District engagement has strengthened planning, training skills support for supervision, and management using data.
8. HSA coverage and deployment is an important problem that will limit program effectiveness in the long term – and needs urgent review. Inadequate numbers of HSAs are available in project areas; and their and effectiveness is limited because many do not reside in their assigned, hard-to-reach areas and have to spend two to three days a week working at fixed-site HCs.
9. Strengthening availability of essential medicines is a country-wide challenge and needs continued attention. The project used match funds to provide essential HSA medicines during the project period to cover district shortfalls. Continued attention at national, district and HC levels is needed to ensure that HSAs have adequate supplies of medicines.
10. Limitations to sustainability remain and will require long-term support. Sustainability will be limited by lack of district capacity (human and financial) to cover recurrent activities previously supported by the project such as: supply of essential medicines and supplies; regular supervision; planning meetings; printing of data registers; and data management.

**The principal recommendations of the FE are:**

1. Provide continued support to the district to strengthen DHMT capacity for managing and overseeing iCCM, Community-Based Maternal and Newborn Care (CBMNC) and FP activities – in collaboration with local partners (medicine supply, regular supervision, monitoring HSA coverage and re-training, collection and use of data). (Responsible: Save the Children local and national, DHMT, district development partners).
2. Continue to integrate approaches to training, supervision and service delivery for women, mothers and children – with a focus on ensuring that FP activities are integrated into all approaches. (Responsible: DHMT, Save the Children Malawi).
3. Write-up and disseminate findings
    - Complete analysis of OR findings and publish or disseminate results. (Responsible: College of Medicine [COM], Save the Children).
    - Document project findings, approaches, methods and materials and OR results - ensure that findings are shared with the Ministry of Health (MoH) and other stakeholders including provinces and districts. (Responsible: Save the Children, DHMT).
    - Use findings to inform continuation of programming in Blantyre under a new multidistrict initiative and development of other community-based MNCH initiatives in Malawi. (Responsible: Save the Children, nationally and globally).
4. Use field experience to inform the national rollout of iCCM and implementation of the CBMNC package – through national technical working groups, emphasizing use of integrated approaches to community programming. (Responsible: Save the Children)
5. The recent MoH decision to adopt the WHO *Care for Newborns and Children in the Community* manuals for newborn, sick child, and well child means that the *Mwayi wa Moyo* integrated materials will not be taken forward.

# EVALUATION PURPOSE AND EVALUATION QUESTIONS

## Evaluation Purpose

The purpose of the FE was to determine whether the *Mwayi wa Moyo* (Integrated Family Planning, Maternal, Newborn and Child Health Project) increased use of evidence-based, life-saving interventions by women, caregivers and children in Blantyre District, Malawi. The aim of the FE was to use data to identify effective, integrated, community-based approaches used by the project and to document mechanisms by which these approaches worked; while also identifying approaches that had been less successful. As a part of this process, the evaluation aimed to identify the extent to which project activities strengthened the capacity and sustainability of district MoH systems, used and documented innovative community-based program approaches, and informed national programming. Evaluation findings are intended to provide evidence-based recommendations to inform local and national planning in Malawi and in other countries implementing community-based FP, MNCH programs.

## Evaluation Questions

The FE drew upon existing data collected or compiled during the project cycle and additional data collected during the evaluation for the following purposes:

1) To provide an overview of project goals, objectives, and key intervention strategies implemented;
2) To determine the extent to which the project accomplished the results outlined in the DIP and to present evidence of these accomplishments;
3) To describe key factors that contributed to what worked or did not work regarding some or all aspects of the program, with a focus on the integrated approach to programming;
4) To determine which elements of the integrated community-based (FP, iCCM, CBMNC, HIV/TB) and CM approaches used in Blantyre District are likely to be sustained or expanded (through institutionalization or policies);
5) To determine whether the OR design was adequate to answer the key questions; and whether OR findings influenced policy, practice or capacity development;
6) To describe how HSA workforce and C-EHP content issues affected HSA performance; and
7) To describe project contributions to improving the effectiveness and sustainability of CM in the current context of Malawi; and to identify strategies that should be taken forward.

# A. PROJECT BACKGROUND

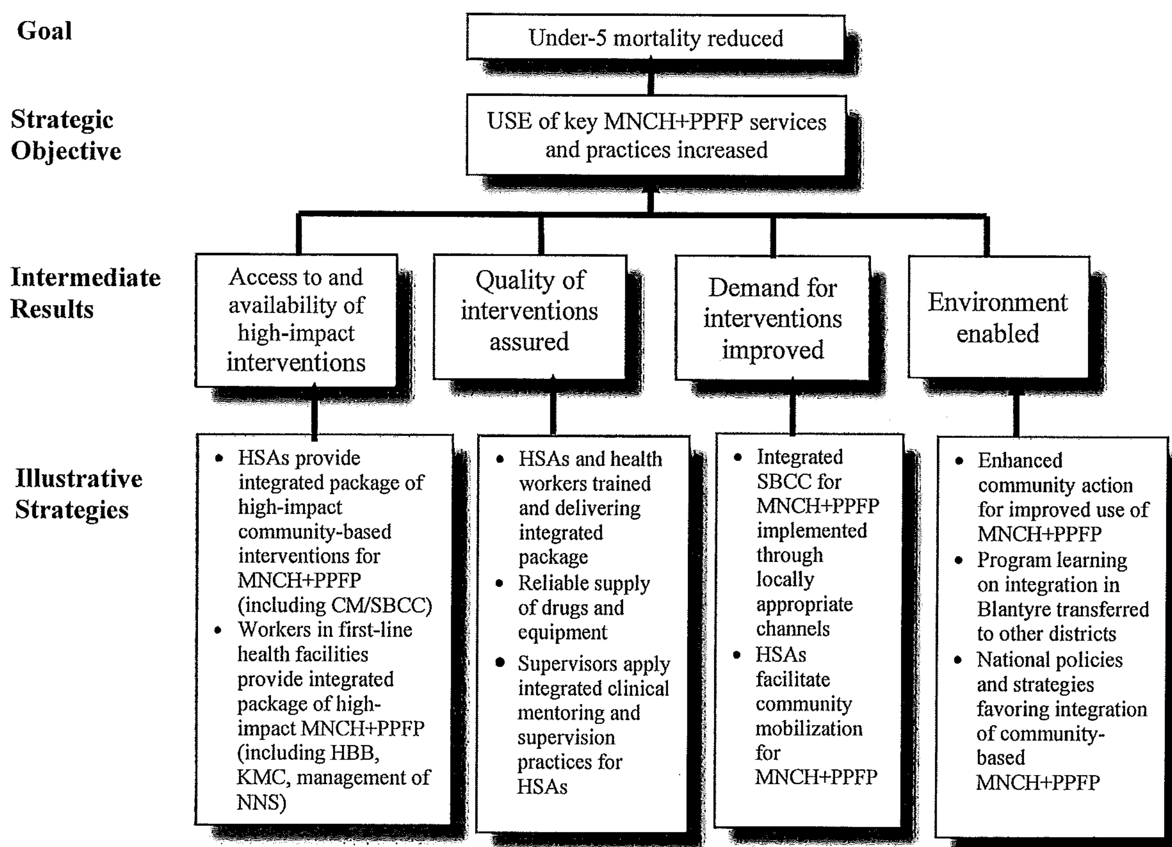
## A.1. Setting

Blantyre District is a rural district located in the Shire Highlands, in Malawi's Southern Region. Much of the population of rural Blantyre District has limited access to health care services. Malaria, pneumonia, diarrhea and under nutrition are the primary contributors to morbidity and mortality of children 1-59 months old, with asphyxia, pre-maturity/LBW and sepsis the most important causes of newborn deaths. A baseline, under-five mortality rate of 121/1000, and a newborn mortality rate of 30/1000 live births, were estimated in the district[1]. At baseline, 44% of mothers made four ANC visits during pregnancy, 85% of deliveries were supported by a skilled attendant, 79% of newborns were put to the breast within an hour of birth, and 23% of mothers reported a postnatal care (PNC) visit within two days of delivery. About half of the

[1] Ministry of Health, UNICEF. MICS 2006 Report, March 2009

women (56%) reported using a modern method of contraception. Sixty-five percent of children with suspected pneumonia were taken to an appropriate provider – 56% within 24 hours of onset of illness; 19% of children with fever received an antimalarial within 24 hours of the onset of fever; 65% of children with diarrhea received oral rehydration sachets/salts (ORS); and less than half (44%) of children 0-23 months old slept under an insecticide-treated bednet. A retrospective review of pediatric hospital records at the Queen Elizabeth Central Hospital (QECH) in Blantyre from 1998 to 2008, showed that the burden of malaria during the six first months of life may be substantial.[2] The limited health systems in the district's rural areas presented unique challenges, making it suitable for a project that focused on strengthening the existing community health worker network (HSAs) and building community-based approaches.

## A.2. Goals and objectives




## A.3. Project location

Located in the Shire Highlands, in Malawi's Southern Region, Blantyre District is situated on the eastern edge of the Great Rift Valley. The DHMT oversees health programming for the district, which has 17 rural and semi-rural facilities, staffed by clinical officers, nurses, nurse-midwives, medical assistants, environmental health officers (EHOs) and HSAs. The Churches Health Association of Malawi (CHAM) operates two of the facilities under agreements with the MoH and district. There is one referral hospital in Blantyre District (Queen Elizabeth Hospital).

[2] Larru B, Molyneux E, Kuile FO, Taylor T, Molyneux M, Terlouw DJ. Malaria in infants below six months of age: retrospective surveillance of hospital admission records in Blantyre, Malawi, *Malaria Journal* 2009, 8:310

Access to and availability of services is limited by several factors including lack of trained workforce, poor communications, limited roads with seasonal impassability, and lack of transportation. Health workforce varies from one to 10 HWs per facility; most facilities are understaffed. Retention of trained HWs is reported to be a problem at many facilities. A high proportion of basic healthcare services are provided by HSAs. Each HSA serves a population of 1000-3000 people; and those assigned to hard-to-reach areas (more than 5 kms from the HC) operate VCs and provide iCCM. Village Head Men (covering 1 village) or GVH (covering 6-7 villages) comprise traditional local leadership. Key resources within villages include Village Development Committees (VDCs), Village Health Committees (VHCs), community leaders, and community-based distributors (CBDs). Traditional birth attendants have been disenfranchised by the Government of Malawi and are discouraged to perform community deliveries. They are, however, encouraged to take part in local action groups and structures and accompany pregnant women to HFs to deliver.

### A.4. Estimated project area population

The project targeted Blantyre District's underserved rural and peri-urban communities (hard-to-reach areas), with a total beneficiary population of 538,413, of which 91,530 (17%) are children under 5 years old, and 113,067 (21%) are women of reproductive age (15-49 years old), with approximately 26,921 (5%) new pregnancies expected each year.

### A.5. Technical and cross-cutting interventions

The project focus was on delivering a core package of interventions at each level of the continuum of care for women, mothers, newborns and children – with a focus on improving delivery at community levels. Interventions were selected because they were demonstrated to be effective in reducing newborn and child morbidity and mortality. Intervention packages at each level of the continuum of care included: 1) Pre-pregnancy: birth-spacing and FP; 2) Pregnancy: Focused antenatal care (FANC): 3) Delivery and one hour post-delivery: Skilled delivery care, essential newborn care (ENC); 4) Newborn period: PNC, special care for LBW babies; and recognition and referral of sick newborns; and 5) Childhood: pneumonia case management, prevention and treatment of malaria and control of diarrheal diseases (iCCM). The project allocated resources as follows: Maternal and Newborn Care (MNC) (34%), Pneumonia Case Management (PCM) (18%), Control of Diarrheal Diseases (CDD) (18%), Prevention and Treatment of Malaria (PTM) (18%), and FP (12%).

### A.6. Project Design

*Mwayi wa Moyo* was a five-year, Innovation Project (CS-27 cycle) running between 1 October 2011-31 March 2016. The project was funded by the USAID Child Survival and Health Grant Program (CSHGP), with match funding from Save the Children, Towers Watson, and the Pfizer Foundation. Project activities were guided by the current *Malawi Health Sector Strategic Plan (2011-2016)*, which promotes the integration of *Essential Health Package (EHP)* components at the community, HC, and hospital levels. The project also aimed to support the commitment of the Government of Malawi to the integration of reproductive health into services at all levels (Malawi is a signatory to the Africa Union's *Maputo Plan of Action on Sexual and Reproductive Health and Rights)*. Representatives from key MoH departments, including the Sector Wide Approach, participated in the *Mwayi wa Moyo* DIP Workshop held 20-22 March 2012 in Blantyre. An OR design consultation was conducted with the COM and Save the Children in

late February 2012, with technical support from MCHIP on behalf of CSHGP. The project built on nationally adopted community-based strategies delivered by HSAs: integrated community case management (iCCM) and community-based MNCH care. Project approaches were consistent with national policies and strategies.

The project had four Intermediate Result components:

***Access to and availability of high-impact interventions increased***

Integrate community-based services and counseling: Existing HSAs were trained to deliver an integrated package of high-impact community-based MNCH interventions, incorporating FP. The principle was to ensure that mothers and children received all essential services at each contact, rather than having to return several times for pregnancy, FP or sick child care. Five integrated training modules were developed from existing MoH materials that re-organized and incorporated interventions along the life-cycle for women and children. Core content of integrated modules included: 1) Module 1: Cross cutting issues (prevention of mother-to-child transmission (PMTCT), immunization, vitamin A supplementation, infant and young child feeding, and dietary diversification); 2) Module 2: CM (training in the Community Action Cycle approach); 3) Module 3: Community-Based Maternal and Newborn Care (CBMNC-HSAs were taught to identify and register all pregnant women in their catchment areas, make ANC visits, refer for FANC, encourage birth planning and facility delivery, and conduct PNC home visits on Days 1, 3, and 8 after delivery); 4) Module 4: Integrated iCCM (HSAs were trained to assess, classify and treat sick children 2 to 59 months old, presenting with malaria, pneumonia and diarrhea, provide counseling, and refer children with danger signs. All sick newborns were referred; and 5) Module 5: FP (HSAs were trained to provide expectant and new mothers with FP information and methods (Lactational Amenorrhea Method (LAM), progesterone only pills, condoms, and [if trained] injectable contraception) and to refer for other methods unavailable at their level. HSAs were provided with ORS, zinc, amoxicillin, ACT (LA) and FP methods – as well as a respiration timer and MUAC tape. Each maternal, FP and sick child contact was entered in an integrated HSA register (see quality of care). District training facilitators were trained in the use of integrated modules. See Annex 17 for more detailed information about the integrated approach.

Integrate facility-based services: Existing facility-based HWs in Blantyre District (nurses, midwives, medical assistants) were trained in standard, MoH, 23-day, competency-based Integrated Maternal and Newborn Care (IMNC) curriculum, which includes Helping Babies Breathe (HBB). FP was integrated into facility ANC and PNC clinics and outreach.

Assess effectiveness of integrated community service delivery: Operations Research

The Departments of Pediatrics and Child Health and Community Medicine of the College of Medicine (COM) were commissioned by the MoH and Save the Children to conduct an operational research study in project areas, to evaluate the effectiveness of integrated services. The OR was embedded within the project. The study intended to determine whether the integrated community-based MNCH package, including iCCM and FP, improved the quality of integrated care and client satisfaction. The research was conducted using a cluster randomized trial design. All 93 HSAs serving hard-to-reach populations in the catchment areas of the 17 HFs were included in the study. Eight facilities served by 44 HSAs were randomly assigned to receive the integrated package and nine served by 49 HSAs, to continue with

standard care delivered vertically. Data were collected at three stages of the study: pre-intervention (baseline) to establish baseline characteristics of the HSA catchment populations; and at six and twelve months after delivery of training for both study arms. Both intervention and control areas received the same project supports: training, supervision support, and assistance with data collection and review. Data collection lasted for a period of 23 months; from January 2013 to November 2014. Primary study outcomes measured how frequently HSAs missed opportunities to provide all key interventions for women and children at each interaction (the missed opportunity index or MOI), provided iCCM care for sick children according to clinical standards (clinical case management index), and client satisfaction.

### *Quality of interventions assured*

Integrated supervision: HSAs were supervised by Senior HSAs on a monthly schedule; senior HSAs were supervised by Assistant Environmental Health Officers (AEHOs) and district staff quarterly. Bi-annual review meetings were held with HSAs, SHSAs, facility staff and district staff to review progress and solve problems. HSAs came to HFs monthly where they were re-supplied with medicines and complete summaries of register data. HSAs used referral slips when sending sick women or children to a facility; these included a section to be returned to the HSA outlining treatment given. The project developed integrated supervisory checklists and trained SHSAs, AEHOs and district staff (DEHO, coordinators [iCCM, MNCH and FP]) using these checklists. SHSA supervisory checklist summaries were aggregated at the facility monthly and sent to the district level. The project supported quarterly district supervisory visits and bi-annual progress reviews.

Clinical mentoring of HSAs: Facility-based nurses and doctors were trained to observe HSAs managing sick children using a skills checklist developed by the project. Mentors identified gaps and gave immediate feedback to solve problems.

Reliable supply of medicines and equipment for HSAs: The project collaborated with the DHMT to monitor HSA medicine availability. Activities built on Save the Children district support using Canadian International Development Agency (CIDA) and Save the Children Italy funds to strengthen supply chain management for iCCM medicines, and to provide additional supplies of artemisinin combination therapy (ACT), amoxicillin, low-osmolarity ORS, zinc and FP methods, when needed. The project supported training in C-Stock, which teaches HSAs to track and maintain medicine supplies using mobile phones. The project linked with ongoing activities by the local nongovernmental organization (NGO), *Banja la Mtsogolo* (BLM) and Queen Elizabeth Central Hospital to improve the availability of long-acting and permanent contraceptives on specific health days (e.g., Child Health Days) or through mobile clinics in hard-to-reach areas.

### *Demand for interventions improved*

Integrated Socio-Behavioral Change Communication (SBCC)/CM messages at the community and facility-levels: The project developed an approach to behavior change that included: the development of integrated materials that combined existing vertical/program specific materials-using culturally appropriate messages to promote key services and practices (birth planning, use of facility delivery, identification of danger signs, and swift care-seeking from the HSA or HC); use of all community channels including VHCs, Community Action Groups (CAGs), religious organizations, women's groups, and other local associations; and use of mixed methods,

including print, home counseling, group counseling, song and traditional drama. All materials were developed at a national workshop that involved key MoH and partner stakeholders.

Enhanced community action to support use of MNCH, including FP: The project implemented a CM approach using Community Action Groups (CAGs) and the Community Action Cycle (CAC) process to engage community members to identify and address challenges to improve MNCH in their communities. The scope of CM initiatives was expanded to cover improving demand and home care for interventions along the MNCH continuum, and incorporating FP. CAGs were encouraged to develop local plans and identify local resources to support action. Action planning ensured participation of Village Head Men, religious leaders, members of the VHC and its sub-committees, traditional birth attendants (TBAs), HSAs, existing community-based organizations (CBOs)/groups, traditional healers, women leaders, and other influential individuals. The project also encouraged linkages between community groups and local political and administrative structures, including the District Assembly, Area Development Committees (ADCs) at the Traditional Authority (TA) level (8), Group Village Headmen (GVH) (77), Village Head Men (771), VDC and District and Village Health Committees (VHC) at the GVH level. Exchange visits for CAG members from different communities were facilitated to promote learning.

***Create an enabled environment***

The project supported the creation of an enabled environment by working closely with the DHMT to build local capacity to plan and manage integrated programs and to use data for making decisions. All training and supervision was developed and implemented in collaboration with district staff using routine systems. The project also worked to link project experiences with integrated programming into national programming through national technical working groups and committees.

### A.7. Partnerships and Collaboration

The Blantyre DHMT was the project's principal implementation partner. The project team was based at the DHO and linked with the MoH at the national level, which is responsible for policy and programmatic guidance. The project collaborated with, and was accountable to, three key MoH units: Reproductive Health Directorate, Integrated Management of Newborn and Childhood Illnesses (IMNCI) Unit, and the Primary Health Care Unit (PHCU). Save the Children sits on the Safe Motherhood Sub-Committee of the Sexual and Reproductive Health Technical Working Group (TWG), M&E TWG, and the ACSD/IMNCI TWG, affording opportunities to facilitate cross-learning and high-level consensus on the design, implementation, and evaluation of the integrated package. On the ground, the project cooperated with key development partners active in the project area, particularly Mother2Mother, Development Aid from People to People (DAPP), and World Vision, as well as with local community-based organizations and VHCs. During the DIP Workshop, partners agreed to establish a steering committee comprised of representatives of the MoH, DHMT, key international and national NGOs, regulatory bodies, and training institutions. The project's OR partner, the COM Department of Pediatrics and Child Health in Blantyre, managed the design and implementation of the OR under a sub-grant. Save the Children also collaborated with the National Statistics Office (NSO) in Zomba, and with their Johns Hopkins University partner, to support the National Evaluation Platform (NEP). The NEP was developed to monitor and

evaluate the impact of use of high-impact MNCH interventions in the country, including Blantyre District.

A.8. Relationship with USAID mission in Malawi

The DIP was developed in collaboration with representatives of the USAID mission and aligns with USAID Malawi's current strategy for health[3]. The project engaged with the mission on an ongoing basis, including during monthly "Synergy" meetings for all USAID-supported projects, annual project reports, monthly reporting of progress indicators and regular OR updates. Throughout the project, the mission demonstrated a high-level of interest and in the project.

## B. EVALUATION METHODS AND LIMITATIONS

B.1. Overview of the approach

The *Mwayi wa Moyo* FE was conducted by a team that was led by an outside evaluator and included, a senior Save the Children senior technical advisor (project backstop), three program coordinators from the DHO, and local Save the Children staff from the project and from the Lilongwe country office. The evaluation was conducted between March 15 and 24, 2016. Seven principal methods were used for the evaluation: 1) Review of KPC household surveys conducted at project baseline and endline; 2) Review of OR data on integrated training, supervision and service delivery; 3) Review of routine data from VC registers; 4) Document review – including policy documents, program reports, technical reports, reports of training activities, HW registers, and training and health education materials; 5) Interviews with district staff and managers and a review meeting with the DHO, DEHO, Coordinators, SHSAs, HSAs, members of community groups – catchments of two facilities; 6) Field visits – site visits were made to eight randomly selected HCs and in-depth interviews conducted with HWs and community groups and members; and 7) A final review and dissemination meeting with district and national partners and stakeholders on March 24 to discuss preliminary findings and to secure input on project successes, challenges and next steps. Key informants and stakeholders were selected from all groups or organizations who had partnered or collaborated with the project or who worked in MNCH areas and were familiar with technical issues. Two representatives from the USAID mission also attended. All findings were discussed and synthesized by the evaluation group. A final summary of main findings and recommendations was reviewed and discussed with USAID health team members on March 1, 2016. Following these meetings, evaluation findings and recommendations were further revised and finalized. Program data, documents and reports were available to the evaluation team. It is recognized that since it was not possible to interview staff in all parts of the district, some views were not captured during field interviews. Details of the evaluation approach, team members and people interviewed for the evaluation/final presentation are found in Annexes 7, 8, 9, 10, 13 and 14.

B.2. Data quality and use

Household survey data

A baseline, 30-cluster household survey was conducted in February 2012 and a follow-up in November 2015. Proportional sampling methods were used to select 30 clusters (villages) in all 17 hard-to-reach catchment areas targeted by the project. Within each cluster, village

[3] Strategic Direction and Procurement in Support of the POW and EHP in Malawi 2010-2015. http://www.usaid.gov/mw/documents/health_procurements.pdf

household listings were used to randomly select caregivers of children aged 0-24 months (N=300 at baseline and N=395 at endline). At endline, the sample-size was increased to permit analysis of coverage indicators by intervention (integrated) and routine (vertical) areas. The study instrument was adapted from the Rapid CATCH 2014 questionnaire. Coverage indicators used were consistent with standard international indicators. Baseline data were used to establish targets for key indicators. Since coverage of HSAs is variable in the district, it is possible that some sampled areas did not receive project interventions. Uneven coverage of interventions may limit the ability of a sample to detect changes in key indicators at endline.

HSA register data

HSA registers were used for tracking field activities. Register data were summarized monthly by HSAs, aggregated by SHSAs at HCs and submitted to the DHMT. In project intervention areas, integrated HSA registers were used for collecting iCCM and MNCH data; in areas providing routine care, standard national, non-integrated registers were used. Register data were used to track a number of elements of community-based iCCM and MNCH home care, including: FP method distribution, pregnancies receiving 4+ ANC visits, facility deliveries, newborn PNC contacts (24 hours, 3 and 8 days) and newborns with danger signs referred. Data on the availability of essential medicines and supplies and on supervisory visits conducted were also collected. Register data are available for the period January 2012- December 2015. The average proportion of HSAs reporting monthly between October 2014 and December 2015 was 88/93 (94%) – a high reporting rate. Data were reviewed at the HF level by facility-based staff for completeness and accuracy, with corrections made when possible. Project staff members followed up with HF staff and HSAs when data gaps or errors were noted. Representativeness and quality of register data was affected by: 1) the proportion of all women of reproductive age, pregnancies and sick children registered by HSAs in communities; 2) the proportion of HSAs reporting each month; and 3) the completeness and accuracy with which registers were filled-in by HSAs.

Project monitoring and documentation

The project tracked project inputs and outputs in five areas: 1) Materials and guidelines developed; 2) Trainings planned and conducted by category of trainee; 3) Availability and coverage of HSAs and drop-outs over time; 4) Supervisory and clinical mentoring visits conducted each quarter; and 5) Progress on CAG action plan development and with implementation of community-planned activities. These data were useful for helping to determine "adequacy of implementation", and therefore the likelihood that project activities contributed to changes in project outcomes.

## C. FINDINGS, CONCLUSIONS AND RECOMMENDATION HIGHLIGHTS

### C.1. Summary of population-based coverage data 2012-2015

Changes in population-based coverage of key evidence-based newborn and child health interventions were interpreted as a result of improvements (or declines) in access and availability, quality and demand for child health services in project areas. Key population indicators at baseline and endline are summarized in Table 1. A full summary of indicators is presented in Annexes 4 and 18. A sub-set of indicators had targets established by the project. Improvements were noted in 18/21 indicators, 17 of them significant. Three indicators showed

declines over the project period. Indicator trends and associations with project activities are discussed in more detail in Sections C2. – C4.

**Table 1: Population-Based Coverage Indicators for Key MNCH Interventions at Baseline and Endline, Blantyre District, 2012 and 2015. See Annex 18 for Full Project Indicator (M&E) Table.**

| Indicator | 2012 (%) | 2015 (%) | DIP Target |
|---|---|---|---|
| **Pregnancy and immediate post-natal period** | | | |
| Mothers of children 0-23 months receiving four or more antenatal visits at last pregnancy | 44.3 | 49.5* | 65 |
| Mothers of children 0-23 months receiving TT2+ at last pregnancy | 59.6 | 57.6 | - |
| Mothers of children 0-23 months taking iron tablets at last pregnancy | 88.6 | 93.2* | - |
| Mothers of children 0-23 months receiving IPT for malaria at last pregnancy | 77 | 91.9* | - |
| Children 0-23 months whose births were attended by skilled personnel | 84.7 | 93.4* | - |
| Children 0-23 months breastfed within 1 hour of birth | 79 | 68 | - |
| Children 0-23 months receiving a post-natal visit from an appropriate trained health worker within two days after birth | 23.0 | 36.3* | 50 |
| **Management of childhood illness** | | | |
| Children 0-23 months with diarrhea | 64.5 | 67.5 | 80 |
| Children 0-23 months with fever received antimalarial within 24 hours | 15.34 | 58.4* | 60 |
| Children 0-23 months with suspected ARI taken to appropriate provider | 65 | 71.2* | 80 |
| Sick Children 0-23 months receiving increased fluids and feeding | 52.4 | 39.2 | - |
| **Preventive interventions** | | | |
| Children 0-23 months sleeping under an insecticide-treated bednet | 44 | 64.2* | 65 |
| Children age 6-23 months receiving a dose of vitamin A in the last 6m | 77.7 | 88.5* | - |
| Children aged 12-23 months receiving measles vaccine (card + history) | 87.6 | 93.3* | - |
| Children aged 12-23 months receiving DTP1 (card + history) | 65.3 | 85.1* | - |
| Children aged 12-23 months who received DTP3 (card + history) | 59.2 | 72.8* | - |
| Mothers of children age 0-23 months using a modern contraceptive method | 56.0 | 75.9* | 65 |
| Mothers of children 0-23 months wash hands at appropriate times | 13.0 | 92.9* | 45# |
| **Feeding practices** | | | |
| Children 0-5 months exclusively breastfed in the last 24 hours | 67.5 | 77.7* | 85 |
| Children age 6-23 months fed using appropriate feeding practices | 55.0 | 59.7* | - |
| Percentage of children 0-23 months who are underweight (-2 SD median weight for age, according to WHO reference population) | 18.7 | 9.7* | - |

*Significant increase over baseline   # Project target met or exceeded

C.2. <u>Access to and availability of high-impact interventions increased</u>

Project inputs and outputs in the area of access to and availability of high impact interventions are summarized in Table 2. Project outcomes are presented in Table 1 and Figures 1 and 2.

***"The people here like that the HSA has family planning methods – they now come to him to get them. Of course this means they also get the other services." Village Headman, Mliza Village***

***"Now we notify the HSA when there are women who are pregnant, or when a newborn baby is here – then they can come and see them as soon as possible at the house. We learned to do this." CAG member, Jeweta Village***

Main project achievements include:

*C.2.1. Project inputs and outputs*

Organization of training: At baseline, the national definition of a hard-to-reach area was a settlement >8 km from a HF. The project design divided the 17 HC catchments into "integrated" and "vertical." It randomly assigned 44 HSAs serving hard-to-reach areas in eight HF catchments to receive new integrated training; and 49 HSAs serving hard-to-reach areas of nine HC catchments to receive routine (vertical) training. This approach linked the project implementation with the OR. In the last two years of the project, the national MoH changed the definition of hard-to-reach areas to include settlements >5 km from a HF. The change in definition made an additional 50 HSAs eligible for training. Project funding was not adequate to conduct integrated training for the additional HSAs.

Training: The project developed five integrated training modules collaboratively with stakeholders at national-level workshops; and supported all training of district staff (see Annex 17 for a summary of the content of integrated modules). Twenty district trainers were trained in the revised modules. Trainers supported the training of 8/8 SHSAs, and 98/98 HSAs using both the integrated approach and the routine training approach. At each HC in the project areas, training in Integrated Maternal and Newborn Care (IMNC - ANC, delivery and early newborn care) and management of newborn asphyxia (HBB was conducted for one facility-based HW); these workers had previously received IMNCI training – not including management of the sick newborn. SHSAs and HSAs reported that training was of adequate duration and provided them with skills to do their jobs. No concerns or problems with integrated training were reported.

HSA coverage: At baseline, 98 HSAs were available in hard-to-reach project areas – dropping to 94 at project endline (4 drop-outs). HSAs were selected and deployed by the national MoH and decisions about their recruitment and placement was not controlled by either the DHMT or the project. At baseline and endline, HSA population coverage in areas delivering the integrated approach was: 1:1687. In those areas delivering the routine training approach, HSA coverage was 1:1832 at baseline and 1:1998 at endline. The nationally recommended HSA population standard is 1:1000. HSA coverage may have been limited by several factors including: 1) inadequate numbers available; 2) a requirement that HSAs work 1-3 days a week at HFs to cover staff shortages – this means that they are not available to provide community services; and 3) non-residence in the communities they serve for a number of reasons, including lack of housing and family reasons (52/94 (55%) of HSAs lived in their target villages at endline). Low HSA coverage limited their ability to reach all population groups and to improve access to care.[4] However, field interviews found that most community members were satisfied with the

[4] Agbessi Amouzou, Mercy Kanyuka, et al. Independent Evaluation of the integrated Community Case Management of

services provided by HSAs, found them valuable and sought care from them when they were available.

Implementation outputs: Register tracking data indicated that services were being delivered by HSAs at VHCs in the project areas. In 2015, 46878 couple years of protection (CYP) were delivered, exceeding the project target. The number of cases of child diarrhea treated at VHCs in 2015 was 6231, and cases of suspected pneumonia treated at VHCs was 15860, both below projected targets – although HSAs continue to see a large number of children each year. The proportion of newborns (live births) who received a home visit from a HSA within eight days of delivery was 304/414 in 2015, representing 73% of the target – a high level of home follow-up.

**Table 2: IR 1: Access to and availability of key MNCH+FP services increased**

| Inputs | Activities | Outputs – training | Outputs – practice |
|---|---|---|---|
| Development of integrated modules (CBMNC, iCCM (0-2m), FP, Cross-cutting and CM).<br><br>Training of staff | Stakeholder consultation meetings on Integrated Modules<br>Training of trainers using integrated manuals<br>Training of SHSAs and HSAs | 5 Integrated modules developed<br>20 Trainers trained (Including iCCM, CBMNC and FP coordinators)<br>8/8 SHSA trained<br>98/98 HSAs trained<br>17/17 facility based HWs trained in IMNC<br>HSA coverage Intervention: 1:1687 baseline and endline; Vertical: 1:1832 at baseline and 1:1998 endline | CYP: Target: 28200<br>FY2015: 46878<br><br>Proportion of HSAs who live in their catchment areas: 52/94<br><br>Acceptors new to modern methods of contraception: Target 8582; FY2015: 8149<br><br>Number of cases of child diarrhea treated by VHCs: Target: 13846; FY2015: 6231<br><br>Number of cases of suspected pneumonia cases treated by VHCs Target: 34410; FY2015:15860<br><br>Proportion of newborns receiving 2+ PNC home visits from HSAs within 8 days of delivery. Target: 90%; FY2015:304/414 (73%) |

*C.2.2. Population-based coverage of key newborn and child health interventions (Outcomes)*

Household KPC survey data showed significant improvements in a number of measures that required improved access to services including; the proportion of women delivering with a SBA (increased from 85% to 93%), the proportion of newborns receiving a PNC home visit within 48 hours of delivery (increased from 23% to 36%); the proportion of children 12-23 months receiving DPT1 (increased from 65% to 85%); and the proportion of women of reproductive age using a modern method of contraception (increased from 56% in 2012 to 76% in 2015). Home visits (e.g., for PNC), although showing improvements, remained relatively low – supporting field findings that HSA coverage remains low and limits home visiting. Overall, data

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Childhood Illness Strategy in Malawi Using a National Evaluation Platform Design. Am J Trop Med Hyg 2016 vol. 94 no. 3 574-583. Published online January 19, 2016, doi: 10.4269/ajtmh.15-0584

on project inputs and outputs during the period 2012-2015, make it plausible that coverage improvements were causally associated with project actions.

### C.3. Quality is assured

Project inputs and outputs in the area of quality of care are summarized in Tables 3 and 4. Project outcomes are summarized in Table 1 and Figures 1 and 2.

***"We much prefer integrated supervision because everything can be done at once, and there is no need for repeated visits – this saves a lot of time and money." District iCCM Coordinator, DHMT***

***"Clinical mentoring of HSAs is very important because we have found that their practices are not perfect straight after training – we need to watch them a few times and support them, and then their practices become good." Nurse, Chilomone Health Center***

***"The SHSAs will continue to do supervision when the project is over because it is part of their scheduled work – and is not supported from the outside now." SHSA, Chimembe Health Center***

*C.3.1. Project inputs and outputs*

Integrated supervision and mentoring materials development: The project developed integrated supervisory and clinical monitoring tools in consultation with national stakeholders from reproductive health, FP, iCCM and community health. These tools combined vertical instruments used for iCCM, community-based MNCH and FP, and included an HSA supervisory checklist for use by SHSAs and by AEHOs and district staff. Integrated checklists include interventions along the life-cycle for women, pregnant women and children. Clinical observation checklists for mentoring focused on iCCM practices. An integrated HSA recording register was developed, printed and available in project areas; and integrated data summary forms at the HSA- and facility-levels were also created. HSAs and district staff reported that integrated forms took longer to complete and may be difficult to print and supply when project support ends.

Training: supervision and monitoring: Six district staff and eight SHSAs were trained in integrated supervision; and 35 facility-based clinical mentors were trained. The C-Stock mobile phone-based stock management system was being rolled out in the district by Population Services International (PSI) – and *Mwayi wa Moyo* supported training for 94 HSAs (original project implementation areas) and an additional 50 HSAs (expanded hard-to-reach areas) in the C-Stock approach. A total of five review meetings between SHSAs, HSAs and district staff were convened by the project to review progress, using data. The project also supported bi-annual C-Stock review meetings.

Routine visits: Register data show that the average proportion of HSAs supervised quarterly in 2015 was 68% (64/94); and the average proportion of HSAs receiving quarterly clinical mentoring in 2015 was 21% (20/94). These data highlight that quarterly supervision for HSAs has been relatively frequent, but that clinical mentoring remains infrequent. Staff members were positive about integrated supervisory methods and believed them useful. Facility staff also reported that gaps in HSA iCCM practices were often noted after training, and needed

strengthening through mentoring; and that they saw improvement over time with repeated reviews. Bi-annual review meetings with staff from all levels were also reported to be a useful way to get feedback on progress and to motivate staff. Field visits found that most facilities had written schedules for SHSA supervision of HSAs and also for clinical mentoring. Both types of supervision were however limited by the availability of staff (particularly clinical facility staff) and by availability of HSAs, who have competing demands and cannot always be available for scheduled supervisory visits. HSAs reported that some HSA supervision is likely to continue when project support ends because it is self-managed. District representatives reported that, once the project ends, district supervisory visits are less likely to take place due to lack of fuel and vehicles, and bi-annual review meetings supported by the project are less likely to continue.

Medicines and supplies: Central medical procurement and distribution shortfalls could not be avoided during the project period and alternative sources of match funding were used to supplement core medicines. Register data on HSA stock-outs in 2015 show that LA 6x1 was most frequently available (77% no stock-outs), and ORS the least available (35% no stock-outs), with other medicines having stock-outs about 50% of the time. HSAs reported that they were usually able to re-stock quickly and that the use of C-Stock had improved re-stocking. Sixty-four percent of HSAs reported using C-Stock at least once each month in 2015. Field visits found that most HSAs reported that medicines were available at HFs when they needed re-stocking. The project did not work on improving district medicine management practices or logistics, but focused on improving efficient distribution of available stock between HCs and HSAs, and on improving rational use of medicines through iCCM.

**Table 3: IR: 2 - Quality of services is improved**

| Activities | Inputs | Outputs |
|---|---|---|
| Stakeholder consultation meetings on supervision and monitoring tools (register)<br>Training of SHSAs in integrated supervision<br>Training clinical staff on mentorship<br>Training of facility based HWs in IMNC and HBB<br>Training of SHSAs/HSAs in C-Stock<br>Bi-annual review meetings<br>Bi-annual C-Stock review meetings<br>Monthly Supervision Visits<br>Quarterly Mentorship visits<br>Data quality control and management for VC data | Supervision, mentoring tools available<br>Registers available<br>Reporting forms available<br>Data summaries for bi-annual and stakeholder review<br>6 district staff trained in integrated supervision<br>8 SHSAs trained in integrated supervision<br>35 mentors trained<br>94 plus 50 HSAs trained in C-Stock<br>5 Review meetings | Average proportion of HSAs supervised quarterly in 2015: Target: 100%; 68% (64/94);<br><br>Average proportion of HSAs receiving clinical mentoring quarterly in 2015: Target: 100%; 21% (20/94).<br><br>Percentage of HSAs with stock always available in the previous 12 months: Target: 100%; LA 6x1: 77%; LA 6x2: 49% ORS: 35%; zinc: 54%; Amoxyl: 54%<br><br>C-Stock reporting: Target: 100% 64% at least 1/m 40% of reports complete) (Oct-Dec 2015)<br><br>Percentage of clients who felt welcomed by HSA on last visit. Vertical: 98.9%; Intervention: 99.7; Overall: 99.2% |

| Activities | Inputs | Outputs |
|---|---|---|
| | | Percentage of clients rating HSAs service to be excellent/good; Vertical: 94.4%; Intervention: 95.8%; Overall: 95.0% |

Care practices: Data on quality of care provided by HSAs come from the OR study which observed a sample of HSAs managing sick children at 6 and 12 months after training in both integration and vertical (routine) service provision areas. In addition, the OR conducted exit interviews with mothers on satisfaction with care. See Annex 14 and Section C.3.3 for principal findings of the OR study. Case management index scores were calculated based on 29 clinical tasks taught to HSAs as part of iCCM. The case-management index score at 12 months was 72/100 in areas receiving integrated training (N=90) and 77/100 in areas receiving vertical or routine training (133 cases); with mean scores of 70 and 73, respectively. Very few HSAs performed all required clinical tasks in any clinical area. Areas least likely to be fully correct were taking a full clinical history, assessment of clinical signs and pre-referral treatment. No significant difference was evident between HSAs receiving the two program training methods, although case numbers were low, especially in the integrated training category. These data indicate that HSAs practice a high proportion of iCCM tasks. Exit interview data also show a high degree of satisfaction with HSA performance (the proportion of clients who felt welcomed by HSAs on their last visit was 99%, and the proportion of clients who rated the HSA service as good or excellent was 95% - with no difference between areas implementing integrated or vertical programming). HSAs and community members noted in field interviews that in many villages referral of pregnant women and children remains a challenge because of limited transportation and distance; and that delays are common. HSAs report that they often do not receive feedback from facility staff on outcomes for referred patients.

**Table 4: HSA Clinical Case Management Scores, Vertical and Integrated Training Areas, *Mwayi wa Moyo* Project, November 2014**

| **Clinical Area** | **Vertical or Routine Training** | | | **Integrated Training** | | |
|---|---|---|---|---|---|---|
| | N | Median | % all correct | N | Median | % all correct |
| History (11 tasks) | 133 | 9 (8-10) | 7% | 90 | 8.5 (7-10) | 4% |
| Clinical exam (6 tasks) | 133 | 5 (4-6) | 27% | 90 | 4 (3-5) | 11% |
| Classification and decision-making (3 tasks) | 133 | 3 | 98% | 90 | 3 | 97% |
| Pre-referral treatment (3 tasks) | 15 | 2 (0-2) | 20% | 10 | 1.5 (0-2) | 10% |
| Home treatment (5 tasks) | 99 | 4 (3-5) | 29% | 71 | 4 (3-4) | 8% |
| Advice for home care (1 task) | 4 | .5 (0-1) | 50% | 2 | 1 | 100% |
| **iCCM Index: Median** | 133 | 77 (64-85) | 3.5% | 90 | 72 (63-81) | 15.7% |
| **Mean (sd)** | | 73 (15) | | | 70 (12) | |
| **Differences between means (95% CI)** | -3.05 (-9.5,3.4) p=.34 | | | | | |

*C.3.2. Population-based coverage of key newborn and child health interventions (Outcomes)*

Household KPC survey data show improvements in the percentage of women receiving intermittent presumptive treatment for malaria during pregnancy (increased from 77% in 2012

to 92% in 2015) and use of iron during pregnancy (increased from 88% to 93%); with a small decline in women receiving TT2+. In addition, household survey data show an improvement in DPT3 vaccination coverage (from 59% to 73%) and in the proportion of children aged 0-23 months, with a febrile episode during the last two weeks treated with an effective anti-malarial drug within 24 hours after the fever began (increased from 15% to 58%). The percentage of children age 0-23 months with diarrhea in the last two weeks who received ORS and/or recommended home fluids, showed a small improvement (increased from 65% to 68%) and failed to reach the project target of 80%. The percentage of sick children age 0–23 months with diarrhea who received increased fluids and continued feeding during any illness, showed declines (from 91% at baseline to 39% at endline). Breastfeeding of newborns within one hour of birth showed a decline over the project period (from 79% to 68%). Findings suggest less emphasis on diarrhea, feeding and fluid management in community activities. Diarrhea may be perceived as a less severe illness. It was also noted that ORS was the most frequent item of stock unavailable. The very high skilled delivery rates in the district mean that early breastfeeding should be possible for the majority of births; a decline in reported early breastfeeding suggests that SBAs are not reinforcing this practice at the time of delivery.

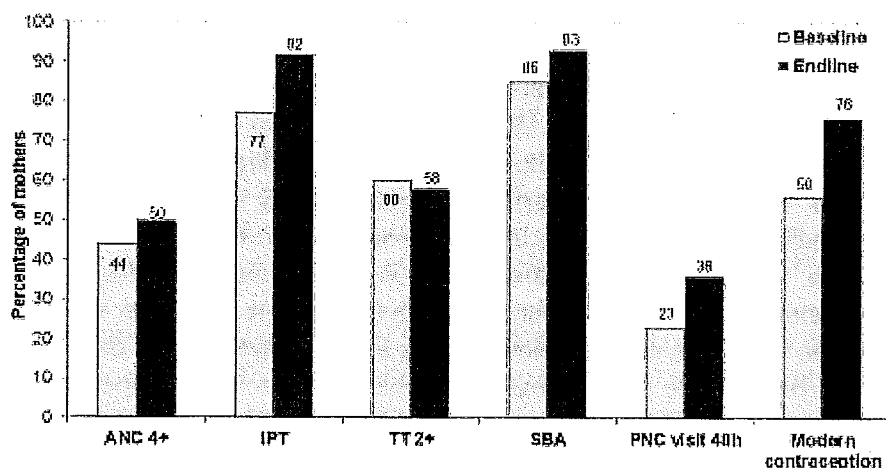
*C.3.3. Operations Research*

Data for the OR study were collected as planned and a preliminary analysis and write-up was completed in November 2015. A review of the study methods and findings was conducted for the evaluation with the lead investigator and through group discussions. The OR final report underwent a series of MCSP reviews and responses. A full summary of OR findings is presented in the OR Final Report (Annex 14). Principal findings include:

*Study design*

- Sampling of mothers attending VHCs. Numbers of mothers and children observed being managed by HSAs was low, particularly for newborns and very young children, and this limited the ability to draw conclusions from the data. Study numbers may have been improved by increasing the time allocated for VHC observations, particularly early or late in the day when women often seek care.
- Design of study observation checklists. Observation checklists for reviewing maternal and newborn (MN) care practices were developed before the integrated HSA register for project areas was developed. The HSA register included a set of integrated tasks to be completed for all mothers and children, at each contact, based on core training content. A review of the study observation checklists and the integrated HSA register showed that a number of clinical tasks included in the MN study checklists were not included in HSA MN registers. This means that the study was assessing HSAs on some tasks that they had not been trained to perform. The result will be to increase reported 'missed opportunities' when calculating the MOI. It was noted that the MOI was relatively high for both study groups (integration and vertical approach).
- Some child age categories used for the MOI index have very low numbers; it was suggested that these be aggregated.

**Figure 1: Pregnancy, Delivery and Postpartum Intervention Coverage, Blantyre District, 2012 and 2015**




Source: KPC 2012, 2015 - cluster household surveys, *Mwayi wa Moyo* project areas

- The validity of reported satisfaction conducted in close proximity to the VHC was questioned, since mothers may be uncomfortable reporting problems in settings where they feel the HSA or village leaders may hear their views. In addition, local words used to describe "good" and "excellent" are similar and not easily distinguished; it was proposed that these categories be combined.

*Study findings*

- It was agreed that study analysis and report should be revised based on the evaluation findings, published and distributed.
- No significant difference in performance between integrated and vertical training groups was noted. The iCCM index – a measure of number of core case-management tasks completed by HSAs managing sick children was relatively high (see Table 4) although few HSAs completed all clinical tasks according to iCCM standards. Similarly, no significant deterioration in clinical performance was noted in integrated training groups.
- In the final analysis, the MOI - a measure of the proportion of maternal and child screening tasks completed at each visit - showed statistically significant fewer missed opportunities in the integrated training group at 6 months and 12 months. The difference was greatest at 6 months and weaker at 12 months. At 6 months, the integrated training group showed fewer missed opportunities for pre-conception mothers and children at 6-24 months and 24 months to 5 years. By 12 months, significant differences for the integrated training group were noted only for review of pre-conception mothers. Despite some reduction in missed opportunities for screening tasks in the group using the integrated package, a very

high number of missed opportunities were still noted – gains in performance were therefore very small.
- Analysis of final KPC data by OR intervention area showed no significant differences in intervention coverage between the two areas at endline.
- A number of potential benefits of integrated training, supervision and service delivery were found even if no significant difference in quality of care could be found, including: (1) a reduction of two days of total training time; (2) reduced time and costs for supervision; and (3) strong community and staff support for FP services to be included in routine HSA package.

C.4. Demand for interventions is improved

Project inputs and outputs in the area of demand are summarized in Table 5. Project outcomes are summarized in Table 1 and Figures 1 and 2.

> ***"We want the HSA here and think they do a good job. We will gladly build a VHC – or even a HSA house. We want to have a say in who is picked as an HSA – we want good, local people who will stay." Village Head, Mliza***
>
> ***"No one here will allow a woman to deliver at home now. We understand how risky it is – so we all tell them to go to the health center, even the men agree." Mother, Jeweta Village***

*C.4.1. Project inputs and outputs*

Material development and training: The project used national stakeholder meetings to develop integrated CM materials, incorporating the CAC approach to address key issues along the continuum of care for women, mothers and children; and to develop integrated counseling cards and picture cards. Supervisory checklists for use by HSAs and district coordinators were developed. Three district CM trainers were trained in the approach, and were then involved in training HSAs and CAGs. Two CM approaches were used: 1) in areas implementing the integrated approach, CAGs were trained at the GVH level, who were then responsible for CM activities in several villages; and 2) in areas implementing the routine or vertical approach, HSAs were trained in the CM approach, and responsible for introducing the approach in their own villages. A total of 35 CAGs at GVH were trained and 45 HSAs. Overall, 80 CAGs were available in all project areas. Forty-three CAGs participated in a two-day review of progress with CM activities; and 36 CAGs participated in project supported exchange visits among different villages so they could meet and exchange ideas. Supervisory visits by District Coordinators and project team members were conducted quarterly. HSAs and CAG members reported that the training and exchange visits were useful. No problems with training were reported. Supervisory visits were reported to be important for ensuring progress was made.

CAG activities: Most CAGs worked through the CAC and developed local plans to address barriers to care seeking. Project data show that 75% of CAGs completed at least one of their planned activities in 2015, and 75% completed at least two CAGs. The proportion of CAGs that reported leveraging resources from any source reached 85% in 2015. Field visits found that many CAGs had plans in place and had worked on a number of local projects including constructing VHCs for HSAs, constructing houses for HSAs, purchasing bicycle ambulances for transporting sick mothers and children, building bridges, repairing roads, conducting community

health education using drama, song and other methods, identifying pregnant women and sending them to HSAs, encouraging all women to delivery at HFs and identifying newborns for household follow-up. Sources of funding identified included: local fundraising (for example, using "mock weddings"); establishing CAG gardens and selling produce; and securing funds from local MPs (many CAGs approached MPs directly for financial support). Most projects used funds from different sources. The project did not finance community projects.

Knowledge: Household survey data showed improvements in a number of areas of maternal knowledge including danger signs in pregnancy, danger signs in sick children, and the benefits of birth spacing. In addition, improvements in the proportion of women who reported receiving post-partum FP during their last pregnancy were noted (from 40% at baseline to 72% at endline) (see Table 5). Taken together, these findings suggest that community-level activities led to improvements in knowledge and access to counseling. Field visits indicated that CAGs conducted heath education sessions (one-on-one and in small groups); and that they received support from Village Heads and other community groups to disseminate messages. HSAs and community groups which were visited had counseling cards available. Mothers, CAG members and Village Headmen reported that all local stakeholders (including men) demonstrated strong support for facility deliveries and for improved availability of FP methods.

**Table 5: IR: 3 Demand for essential services and practices increased**

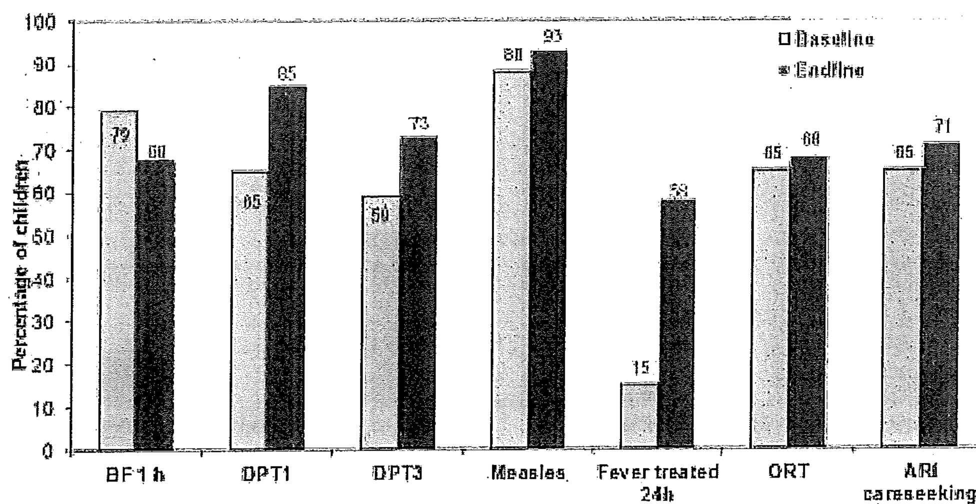
| Inputs | Activities | Outputs - training | Outputs – practice |
|---|---|---|---|
| Development of integrated CM materials<br><br>Development of Integrated MNCH+PPFP counseling cards<br><br>Development of integrated MNCH+PPFP picture cards<br><br>Training – CM and supervision<br><br>Support for supervisory visits and CAG exchange visits | Stakeholder consultation meetings on SBCC materials<br><br>TOT at district level (3 core trainers/still there)<br><br>HSA training integrated CM<br><br>CAG training<br><br>Supervision (*MwM* + DHO program coordinators joint) both vertical and integrated CAGs using supervisory checklist | I-Trained 35 CAGs at GVHC level<br>V-Trained 45 HSAs to lead CAGs<br><br>V-Trained 45 CAGs at village level<br>I-Trained 35 CM Teams<br>Total CAGS - 80<br><br>43 out of 45 CAGs participated in one 2-day review meeting | % CAGS completing at least one planned result: FY2015: 75%; FY2014: 30%<br><br>% of CAGs leveraging resources - any source FY2015: 85%; FY2014: 50%<br><br>% of CAGs completing at least two CACs FY2015: 75%<br><br>Increased knowledge<br>2 risks pregnancy: Baseline: 62% Endline: 100%<br><br>Wait 24 months before next pregnancy: Baseline: 76%; Endline: 79%<br><br>2 danger signs pregnancy<br>Baseline: 40%; Endline: 98%<br><br>Two danger signs -child illness<br>Baseline: 92%; Endline: 100%<br><br>% of mothers counseled on PPFP during last pregnancy: Target: 79%<br>Baseline: 40%; Endline: 72% |

*C.4.2. Project outcomes*

Household survey data showed improvements in care seeking for suspected pneumonia (from 65% in 2012 to 71% in 2015), which exceeded the project target. The same pattern was observed for treatment of fever within 24 hours of onset (from 15% to 58% at endline). Survey data showed that improved care seeking for fever was primarily driven by an increase in care seeking from HSAs (from 25% in 2012 to 47% in 2015), while concurrently declining at the hospital and HCs (Figure 3).

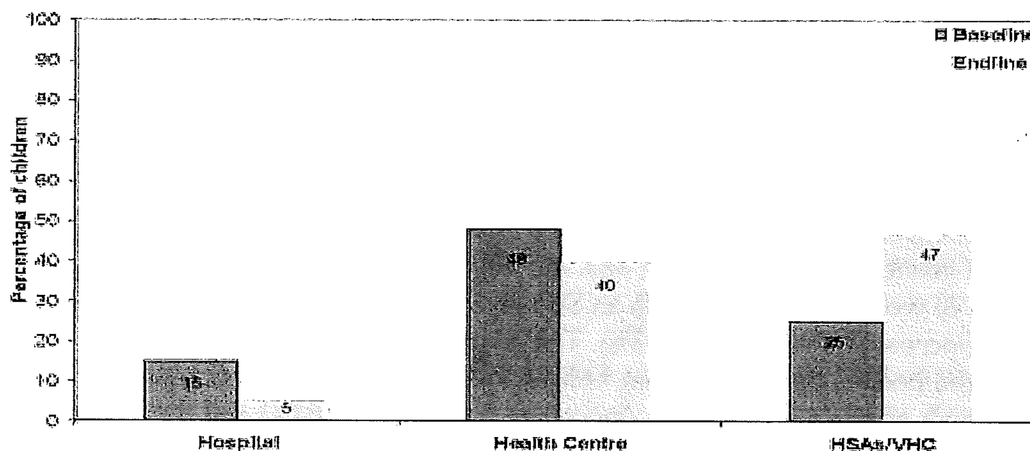
Household survey data showed other improvements in demand-related outcome measures, including pregnant women receiving four or more ANC visits (from 44% to 50%) and exclusive breastfeeding of infants <6 months (from 68% to 78%) although neither reached project targets. The proportion of women delivering with an SBA also showed improvements during the project period (increased from 85% to 93%). The proportion of children sleeping under an insecticide treated bednet (increased from 44% to 64%), the proportion of mothers who report washing their hands at appropriate times (increased from 13% to 93%) and the proportion of children receiving vitamin A in the previous 6 months (increased from 78% to 89%) – all of which exceeded project targets. The proportion of children who were low weight for age halved during the project period. Small improvements in complementary practices along with other interventions to prevent or treat childhood illness may have contributed to nutritional improvements.

**Figure 2: Newborn and Child Intervention Coverage, Blantyre District, 2012 and 2015**



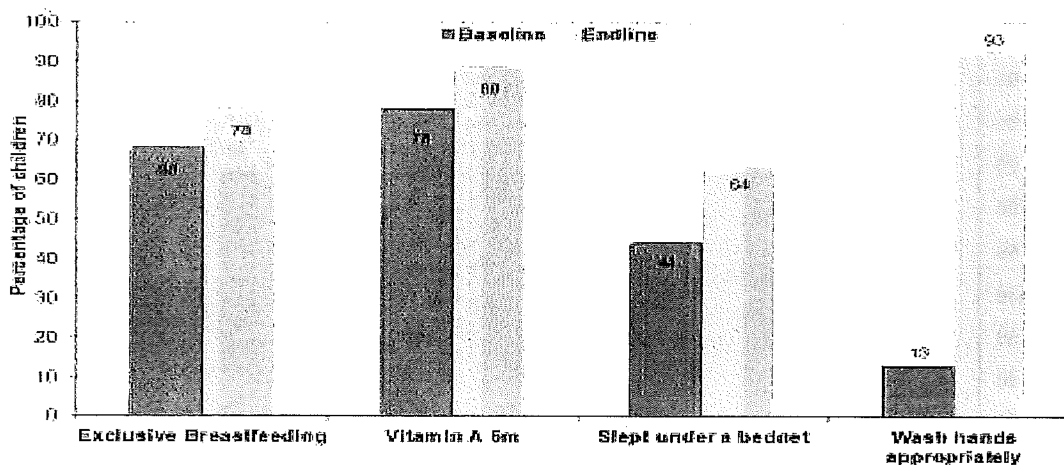

Source: KPC 2012; 2015 – cluster household surveys, hard to reach areas, Mwayi wa Moyo project areas

**Figure 3: Care seeking for Fever, Blantyre District, 2012 and 2015**




Source: KPC 2012, 2015 – cluster household surveys, hard to reach areas, *Mwayi wa Moyo* project areas

**Figure 4: Preventive Intervention Coverage, Blantyre District, 2012 and 2015**




Source: KPC 2012, 2015 – cluster household surveys, hard to reach areas, *Mwayi wa Moyo* project areas

C.4. Create an enabled environment

> ***"The project is the leader of all the partners in the district. They have been very supportive and flexible. We feel capacity of our own system is better and we want it to continue." DHO, Blantyre District***
>
> ***"We want to use these lessons because integration of services and packaging of services is essential and must happen. This is long overdue" National IMNCI Coordinator, MoH***

The project worked in three principal areas to build an environment to support integrated maternal and child health programming, as outlined below.

*C.4.1. Support the DHMT to build capacity to implement integrated programming – including joint district planning*

The primary objective of the project was to strengthen district capacity to plan, manage and implement integrated programming at all levels. Field interviews suggested that this was accomplished effectively using a range of methods including: basing the project office in the DHO which enabled project staff to be responsive to district needs and to coordinate more effectively; developing materials and methods collaboratively with district staff; training district coordinators in supervision and conducting joint supervision visits with district coordinators; participating in district planning meetings to ensure that project activities were coordinated with district activities; supporting bi-annual program reviews with facility staff and HSAs to provide feedback on project performance; and supporting regular review of data from HSA registers and supervisory checklists. In addition, the project supported annual child health campaign days that included vitamin A supplementation and immunization activities. Activities that built staff capacity are reported to be sustainable in the longer term. Project inputs which were reported to be less sustainable included: project support for supervision and large staff review meetings; printing of integrated registers; and timely data processing and review.

*C.4.2. Participation in national and district-level working groups: engagement in national policy, implementation and integration dialogue*

At the district level, the project chaired a partner coordination group in collaboration with the DHMT. This mechanism was reported to be highly effective, resulting in improved planning and sharing of resources with the District Medical Officer, who credited project staff as being instrumental in facilitating this collaboration. At the national level, the project collaborated with three, key MoH units: Reproductive Health Directorate (RHD), IMNCI Unit, and the PHCU, and Save the Children sits on the Safe Motherhood Sub-Committee of the Sexual and Reproductive Health (SRH) TWG, M&E TWG, and the ACSD/IMNCI TWG. The project participated in national working groups and engaged in policy dialogue through a variety of fora. It also contributed to discussions on integrated training, communication and supervision materials and tools; how to operationalize policies and strategies, facilitate the process of integration and improve the availability and coverage of HSAs. At the national level, the adoption of a new WHO *Caring for Children in the Community* module for community-based newborn care meant that project-supported integrated modules have not been taken up for national use. However, national MoH representatives report strong interest in integrated methods including HSA registers, supervision, and clinical mentoring tools.

*C.4.3. Transfer lessons more widely, leverage resources, encourage collaboration*
The project met urgent district requests for essential medicines by establishing a mechanism for procuring medicines using funds from CIDA and Save the Children Italy; this mechanism enabled HSA activities to continue in the project areas. While acknowledging that this was a short-term fix response to central government funding shortfalls, it was recognized that urgent action is needed to address central financing, procurement and distribution problems for essential medicines. The project expanded approaches to integrated service delivery by adding TB/HIV to iCCM training in Blantyre District (Towers Watson funding) and by integrating FP/immunization service delivery into training for 26 HSAs from four HFs (Chavala, Lundu, Soche Maternity and Namikoko) in rural Blantyre (Pfizer Foundation funding).

## D. CONCLUSIONS AND RECOMMENDATIONS

**The principal conclusions of the final evaluation are:**

1. Improved coverage of several high impact interventions along the lifecycle of women, pregnant women and children is noted in project areas, although not all targets were met. Data show that more women use modern methods of contraception, seek antenatal care (ANC) and deliver with a skilled birth attendant (SBA); and that sick children with fever are more likely to be treated early, and those with suspected pneumonia are more likely to be taken for care. Exclusive breastfeeding shows improvement, and coverage with key preventive interventions also show significant improvements during the project period.
2. Some improvement was seen in management of diarrhea. Declines in sick children receiving increased fluids and continued feeding were noted, and zinc was introduced by the project; but there were no significant changes in management of diarrhea with oral rehydration therapy (ORT).
3. HSAs in project areas are able to provide integrated community case-management for sick children at reasonable standards for most interventions – referral remains a challenge. Observation-based data on HSA case-management practices show that HSAs perform 70-80 percent of case management tasks correctly, scoring highly on classification and home treatment tasks.
4. Integrated training, supervision and service delivery resulted in limited improvements in quality of care by HSAs. Those HSAs using integrated approaches had fewer missed opportunities to provide services to women and children, although missed opportunities remained very high and benefits largely disappeared by 12 months. No significant difference was noted in quality of clinical case-management by HSAs between areas using integrated and vertical approaches.
5. More attention to quality of care provided by facility-based health workers (HWs) is needed. No data were available about the quality of delivery care or care of sick newborns and sick children provided at first level and referral HFs. Population-based data suggest that early breastfeeding practices at the time of delivery and diarrhea management need improvement.
6. Integrated training, supervision and service delivery have a number of benefits. A number of benefits to integrated approaches to training, supervision and service delivery were noted including: a reduction by two days in total training days; improved efficiency of supervision and follow-up (reducing the number and costs of visits); and high demand for FP interventions. For these reasons, continuing integrated approaches may be warranted.
7. Implementation through the routine district system has strengthened capacity. District engagement has strengthened planning, training skills support for supervision, and management using data.

8. <u>HSA coverage and deployment is an important problem that will limit program effectiveness in the long term – and needs urgent review.</u> Inadequate numbers of HSAs are available in project areas; and their and effectiveness is limited because many do not reside in their assigned, hard-to-reach areas and have to spend two to three days a week working at fixed-site HCs.
9. <u>Strengthening availability of essential medicines is a country-wide challenge and needs continued attention.</u> The project used match funds to provide essential HSA medicines during the project period to cover district shortfalls. Continued attention at national, district and HC levels is needed to ensure that HSAs have adequate supplies of medicines.
10. <u>Limitations to sustainability remain and will require long-term support.</u> Sustainability will be limited by lack of district capacity (human and financial) to cover recurrent activities previously supported by the project such as: supply of essential medicines and supplies; regular supervision; planning meetings; printing of data registers; and data management.

**The principal recommendations of the FE are:**

1. <u>Provide continued support to the district to strengthen DHMT capacity for managing and overseeing iCCM, Community-Based Maternal and Newborn Care (CBMNC) and FP activities</u> – in collaboration with local partners (medicine supply, regular supervision, monitoring HSA coverage and re-training, collection and use of data). (Responsible: Save the Children local and national, DHMT, district development partners).
2. <u>Continue to integrate approaches to training, supervision and service delivery for women, mothers and children</u> – with a focus on ensuring that FP activities are integrated into all approaches. (Responsible: DHMT, Save the Children Malawi).
3. <u>Write-up and disseminate findings</u>
4. Complete analysis of OR findings and publish or disseminate results. (Responsible: College of Medicine [COM], Save the Children).
5. Document project findings, approaches, methods and materials and OR results - ensure that findings are shared with the Ministry of Health (MoH) and other stakeholders including provinces and districts. (Responsible: Save the Children, DHMT).
6. Use findings to inform continuation of programming in Blantyre under a new multidistrict initiative and development of other community-based MNCH initiatives in Malawi. (Responsible: Save the Children, nationally and globally).
7. <u>Use field experience to inform the national rollout of iCCM and implementation of the CBMNC package</u> – through national technical working groups, emphasizing use of integrated approaches to community programming. (Responsible: Save the Children)
8. The recent MoH decision to adopt the WHO *Care for Newborns and Children in the Community* manuals for newborn, sick child, and well child means that the *Mwayi wa Moyo* integrated materials will not be taken forward.

## Annex 1: List of Publications and Presentations Related to the Project

1. Mpunga, J., Nsona H. *Childhood TB Integration: Experiences from Malawi.* Presented at Strengthening Community and Primary Health Systems for TB – A Consultation on Child TB Integration, 1&2 June 2016, Scandinavia House, 58 Park Avenue, New York. Organized by UNICEF in collaboration with TB Alliance and WHO.

2. Swedberg, E. *Integrated Community Case Management – One Opportunity for Integrating Childhood TB.* Presented at Strengthening Community and Primary Health Systems for TB – A Consultation on Child TB Integration, 1&2 June 2016, Scandinavia House, 58 Park Avenue, New York. Organized by UNICEF in collaboration with TB Alliance and WHO.

# Annex 2: Project Management Evaluation

Over the life of the project (LOP), *Mwayi wa Moyo* was challenged by various issues related to: 1) leadership and staffing; 2) budgetary constraints; 3) co-location at the Blantyre District Health Office (DHO); 4) the national "full board" policy; and 5) the relationship with its Operations Research (OR) partner, the Malawi College of Medicine (COM). However, during the course of the project, Save the Children and partners effectively secured additional 6) match funding and cost- share opportunities for complementary activities that enhanced the project's ability to support national and district-level programs. *Mwayi wa Moyo* also developed a 7) close relationship with the USAID mission; closer than past relations during CSHGP initiatives.

## 1) Leadership and staffing

The original *Mwayi wa Moyo* Project Manager, Luwiza Puleni, left Save the Children to join a partner organization in mid-2013. At almost the same time, Joby George, Save the Children's Director of Health Programs and Luwiza's supervisor, accepted a position as Chief of Party in Bangladesh. He left Malawi in November 2013. Steve Macheso, *Mwayi wa Moyo's* current Project Manager joined Save the Children in October 2013, overlapping with Joby George for one month. David Melody, the incumbent Director of Health Programs, replaced Joby George in early 2014. Despite this series of changes in personnel, disadvantageous timing, and short gaps in project leadership, transitions were successfully made and the project suffered no apparent long-term effects other than a compromise in institutional memory.

Over the LOP, 100 percent of the staff has turned over. *Mwayi wa Moyo* had two M&E Coordinators, three Training Officers, and two Community Mobilization Officers. Most team members left due to other employment opportunities. Once matching funds became available, staffing was reinforced with the addition of a driver, Community Facilitator, HIV/TB Officer, and Immunization/FP Coordinator. New *Mwayi wa Moyo* team members joined together with effective leadership to become a cohesive and highly functioning team.

## 2) Budgetary constraints

The project's ambitious goals and work plan were underfunded. During *Mwayi wa Moyo*'s first three years, it had no dedicated car or driver and shared transportation with other Save the Children projects operating in the Blantyre sub-office. This challenge was finally rectified at the end of Year 3. The 82 Community Action Groups (CAGs) required intense monitoring and supervision, and community support staff was inadequate for the scope of the task. This problem was solved by raising cost-share to fund the transfer of an experienced Community Facilitator to the *Mwayi wa Moyo* team when the USAID-funded BRIDGE II project came to an end. At the beginning of Year 3, the budget for supervisory and district support activities was limited. Funds for educational materials, CAG exchange visits, district review meetings, or HSA supervision and token incentives (e.g., t-shirts) were short throughout the LOP. Staff travel was severely constrained. Fortunately, Save the Children was able to leverage matching funds from other donors, including Athene Good Gaming, Towers Watson, and Pfizer to fill some of the gaps and keep things running smoothly.

The additional match and cost share was possible because *Mwayi wa Moyo* attracted additional opportunities for complementary activities that enhanced the project's ability to support the Blantyre District Health Office to deliver integrated services at the community level. One of these activities was integration of the WHO TB/HIV component into the national iCCM package, funded by match from Towers Watson. Save the Children introduced this in Blantyre District as a field trial by way of a national-level consultation with participation by the MOH IMCI Unit and zonal MOH and zonal TB/HIV technical officers. A second opportunity is a three-district FP/immunization integration initiative funded by the Pfizer Foundation that uses outreach clinics as a vehicle for offering family planning services to mothers who attend for immunization.

### 3) Co-location at Blantyre District Health Office

*Mwayi wa Moyo* was co-located at the Blantyre DHO in a small office down the hall from the District Health Officer. This location gave the project exceptional access to members of the District Health Management Team (DHMT) and created an atmosphere that supported joint planning, consultation, problem-solving, and two-way communication. However, the designated office space was very small and the *Mwayi wa Moyo* team felt constrained and hampered by poor telephony and internet connections. In the last year of the project, Save the Children was able to offer office space for the Project Manager and team in its Blantyre sub-office for part-time use when additional space was needed.

### 4) The national "full board" policy

In late 2013, international donors and the government (e.g. MOH) agreed to a restructuring of Malawi public sector allowances that became known as "full board." This new scheme required that participants not be paid per diems for participation in meetings or trainings. Instead, partners were directed to make payment for meals and accommodation directly to hotels or service providers. This policy went into effect in early 2014 and soon resulted in aggressive push back from participants, including MOH employees, making it extremely difficult to implement project activities. For a time, across the country, trainings and meetings had to be cancelled due to participants' resistance and refusal to participate, and HSAs in particular plainly refused to implement many project activities. Many partners' work plans were delayed and it was determined that the implementation of the "full board" policy was considerably more expensive than the previous allowance scheme. Like many other international partners, Save the Children suspended "full board" for a time (two months, December 2013 and January 2014) in order to consult extensively with other organizations. The policy is still in effect, but Save the Children and other organizations now accommodate special exceptions to pay participant per diems in districts/areas where accommodation facilities are limited. Many challenges to the implementation of this policy still exist.

### 5) Relationship with Malawi College of Medicine (COM)

The working relationship between Save the Children and COM has been marked by difficulties with coordination, communication and accessing time from the Principal Investigator (PI). This may have been due to an over-commitment to other work on the part of COM as there are a

limited number of research institutions in Malawi capable of performing this type of research. The PI agreed cancelled his participation in the final evaluation dissemination meeting held in Blantyre on 25 February 2016 and sent a former research assistant in his stead. Representatives of the national-level MOH and USAID mission attendees were disappointed by the PI's absence. Both of *Mwayi wa Moyo's* Project Managers reported facing frustration and challenges related to coordination and collaboration with the COM throughout the entire four and a half years. The OR final report went through three separate revisions following separate MCSP reviews, consumed an inordinate amount of staff time, and would still require considerable work to make it publishable.

### 6) Match funding and cost share

*Mwayi wa Moyo* attracted match and cost share for additional integration activities, including funds from the Pfizer Foundation for a three-district FP/immunization integration project that includes Blantyre and support from Towers Watson for a field experience in TB/HIV-iCCM integration. Results of this experience were presented at a UNICEF-WHO consultation in New York in early June 2016.

### 7) Relationship with USAID Malawi mission

The relationship between the USAID Malawi mission and *Mwayi wa Moyo* has been closer and stronger than most relationships between missions and centrally-funded projects. Ruth Madison, the mission's HPN team leader, was extraordinarily interested and supportive. At the beginning of Year 3, Save the Children agreed to the mission's request to submit brief quarterly reports, in "bullet point" form. Subsequently these reports expanded to 20-page documents, which the Project Manager says he finds helpful in preparing annual reports. USAID also sent an M&E Officer to work with the *Mwayi wa Moyo* team to develop a *Mwayi wa Moyo* Performance Monitoring Plan (PMP) consistent with the mission's plan. In what must have been a miscommunication or misunderstanding, the mission's M&E Officer communicated to the *Mwayi wa Moyo* team that the project no longer needed to collect data for its DIP indicators where they did not conform to the mission's PMP. Beginning in Year 3, the Annual Report contained the PMP and not the DIP M&E Plan. During the final evaluation, this issue caused some initial confusion, however, it was still possible to retrieve most of the original DIP data required. Save the Children participated in USAID mission partner meetings and reports regularly on *Mwayi wa Moyo* progress and results. Mission staff have made a number of visits to *Mwayi wa Moyo* in Blantyre over the LOP.

## Annex 3: *Mwayi wa Moyo* 4.5-Year Work Plan by Year, Quarter, and Activity Cluster

| Cluster | Activities | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 |
| Start Up | Staff recruitment and orientation | x | x | | | | | | | | | | | | | | | | |
| | Briefings held for national and district-level stakeholders | x | | | | | | | | | | | | | | | | | |
| | Detailed implementation planning with stakeholders completed | | x | | | | | | | | | | | | | | | | |
| | Partnership agreement(s) signed with College of Medicine (COM) | | | | | | | | | | | | | | | | | | |
| | Integrated package technical working group (IPTWG) established (ToR, meeting schedule, products) | | x | | | | | | | | | | | | | | | | |
| | Operations research advisory working group established (ToR, meeting schedule, products) | | x | | | | | | | | | | | | | | | | |
| | Project implementation steering committee established (ToR, meeting schedule, products) | | | x | x | | x | | | x | | | x | | | x | | | |

| Cluster | Activities | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 |
| Operations Monitoring & Evaluation & Documentation | Baseline population-based Knowledge, Practice, and Coverage (KPC) survey conducted | | x | | | | | | | | | | | | | | | | |
| | Detailed Implementation Plan submitted | | | x | | | | | | | | | | | | | | | |
| | DIP reviewed/approved | | | x | x | | | | | | | | | | | | | | |
| | Health facility assessment/Voluntary Family Planning (FP) compliance risk assessment conducted | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | District implementation plan process engagement | | x | x | | | x | x | | | x | x | | | x | x | | | x |
| | Integrated monitoring and supervision system and tools developed and rolled out | | | x | x | | | | | | | | | | | | | | |
| | District level systems and tools for National Evaluation Platform and ongoing documentation in place | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | Success stories, case studies, documentaries, monographs prepared | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | Data Quality Assessment (DQA) conducted | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | Stakeholders review meetings conducted | | | | | x | | | x | | | | x | | | | x | | |
| | District level program/OR review meetings (25 participants for 1 day) | | x | | x | x | x | x | x | x | x | x | x | | x | | x | | |
| | Annual reports submitted | | | | | x | | | | x | | | | x | | | | x | |
| | Participatory midterm review | | | | | | | | | | | | | x | | | | | |
| | FP Learning Study - Teenage pregnancy | | | | | | | | | | | | | | | | | x | |
| | Endline population-based KPC survey | | | | | | | | | | | | | | | x | x | | |
| | Final evaluation | | | | | | | | | | | | | | | | | x | |

| Cluster | Activities | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 |
| Operations Research (OR) | OR consultative stakeholders meeting | | x | | | | | | | | | | | | | | | | |
| | OR advisory group meeting | | | x | x | | x | | x | | x | | x | | | | | | |
| | OR questions reviewed and finalized | | | x | | | | | | | | | | | | | | | |
| | Research protocol developed | | | x | | | | | | | | | | | | | | | |
| | IRB approval of research protocol | | | x | | | | | | | | | | | | | | | |
| | OR baseline questionnaires developed | | | x | | | | | | | | | | | | | | | |
| | OR baseline population based survey conducted | | | x | | | | | | | | | | | | | | | |
| | OR mapping of implementing partners | | | x | | | | x | | | | x | | | | x | | | |
| | Data collection study questionnaires developed | | | | x | x | | | | | | | | | | | | | |
| | Data collection study #1 (effectiveness of integrated community package) | | | | | | x | x | x | x | x | x | | | | | | | |
| | Data cleaning and analysis | | | | | | | | x | x | x | | | | | | | | |
| | Final OR reports prepared | | | | | | | | | | | x | | | | | | | |
| | OR Documentation | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | National and district level dissemination of OR results | | | | | | | | | | | x | | | | | | | |
| | Publication of research findings | | | | | | | | | | | | | | x | x | | | |

| Cluster | Activities | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 |
| Increased access to and availability of MNCH services | IPTWG technical consultation workshop for integration of training modules for Health Surveillance Assistants (HSAs) | | | | x | | | | | | | | | | | | | | |
| | Training of 20 trainers on integration modules for HSAs | | | x | x | | | | | | | | | | | | | | |
| | Training of 17 health facility staff on Integrated Maternal and Newborn Care (IMNC) + Postpartum Family Planning (PPFP) | | | | x | x | | | | | | | | | | | | | |
| | Control area training of 49 HSAs in Community-based Maternal and Newborn Care (CBMNC) + PPFP using current/existing training packages | | | | | x | | | | | | | | | | | | | |
| | 49 HSAs trained on integrated modules 1-4 | | | | x | x | x | | | | | x | | | | | | | |
| | Facilitate access to provision of long term long-acting and permanent methods (LAPMs through partners i.e. Banja la Mtsogolo (BLM) | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | Facilitate provision of equipment and supplies for trained health facility staff in IMNC + PPFP i.e., JSI Deliver, UNICEF, UNFPA | | | | x | x | | | | | | | | | | | | | |
| | Facilitate provision of equipment and supplies for trained HSAs in community integrated package i.e. JSI Deliver, UNICEF, UNFPA | | | | x | x | | | | | | | | | | | | | |

| Cluster | Activities | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 |
| | Facilitate re-equipping and re-supplying HSAs & trained health facility staff (based on needs assessment) | | | | | | | x | x | x | x | x | x | x | x | x | x | x | x |
| | IPTWG consultation workshop to develop integrated supervision and mentoring tools | | | x | | | | | | | | | | | | | | | |
| Improved quality of MNCH services | Facilitate requisition and distribution of health facility protocols from Reproductive Health Unit (RHU) | | | x | x | | | | | | | | | | | | | | |
| | Orientation workshop for 15 district level mentors on facility-based maternal newborn and child health (MNCH) providers and PPFP | | | x | | | | | | | | | | | | | | | |
| | Logistics Management Information System (LMIS) and FP data management training for 20 district and health facility based staff | | | | | x | | | | | | | | | | | | | |
| | Orientation of 200 members (2 per committee) of Village Health Committees (VHCs in drug management | | | | | | | | | | | | | x | | | | | |
| | Facilitate roll out and consistent use of data collection tools | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | Advocate for consistent supplies of CCM drugs and family planning (FP) methods through participation in national and district level sub committees i.e. FP, Safe Motherhood, Integrated Management of Childhood Illness (IMCI), etc. | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | Train VHCs in drug management | | | | | | | | | | | | | x | | | | | |

| Cluster | Activities | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 |
| | Train 30 mentors for HSAs and supervisors of HSAs (SHSAs) on integrated MNCH + PPFP mentoring | | | x | | | | | | | | | | | | | | | |
| | Clinical mentoring visits to health facilities | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | |
| | Clinical mentoring of HSAs | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | |
| | Train 35 supervisors on integrated MNCH + PPFP supervision for HSAs | | | | | x | | | | | | | | | | | | | |
| | Supervision visits to HSAs by District Health Management Team (DHMT) and health facility based supervisors | | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | |
| | IPTWG consultation workshop to develop integrated socio-behavioral change communication (SBCC) strategy, messages, job aids, and community materials - integrated health timing and spacing of pregnancy (HTSP) and PPFP messages (rolled out as per trainings below) | | | x | x | | | | | | | | | | | | | | |

| Cluster | Activities | Year 1 | | | | Year 2 | | | | Year 3 | | | | Year 4 | | | | Year 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 |
| Increased demand for MNCH services and healthy practices | Conduct a situational analysis of community based distribution agents (CBDAs) - mapping, supervision, supplies and reporting | | | x | | | | | | | | | | | | | | | |
| | Control area training of 49 HSAs in community mobilization (CM) using current/existing training packages | | | | x | | | | | | | | | | | | | | |
| | Orientation for existing 90 CBDAs on counseling for HTSP | | | | | x | x | | | | | | | | | | | | |
| | Establish contracts with radio stations (Zodiak, MBC, Maria) to channel MNCH/PPFP messages (budget allowing) | | | | | | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | District level orientation of Area Development Committees (ADCs) | | | x | | | | | | | | | | | | | | | |
| | Project implementation steering committee meetings | | | x | | | | | | | | | | | | | | | |
| | MwM participation in national sub-committees (FP, Safe Motherhood, IMCI) | | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | |
| Enabled environment for integrated delivery of MNCH | Orientation workshops for Traditional Authorities (T/As) and community leaders | | | x | | | | | | | | | | | | | | | |
| | District consultation following mid-term review | | | | | | | | | | | | | | | | x | | |
| | District level dissemination of OR findings | | | | | | x | | | | | | | | | | | | |
| | Dissemination of MwM results at international forums | | | | | | | | | | | | | | | | | | x |
| | National dissemination of final evaluation and advocacy for scale up | | | | | | | | | | | | | | | | | | x |

## Annex 4: Rapid CATCH Indicator Table - KPC Baseline and Endline Surveys

| Indicator | Baseline Values | | | Endline Values | | | |
|---|---|---|---|---|---|---|---|
| | Numerator | Denominator | Percentage (%) | Numerator | Denominator | Percentage (%) | Confidence Interval |
| Percentage of mothers of children age 0-23 months who had four or more antenatal visits when they were pregnant with the youngest child. | 133 | 300 | 44.3 | 195 | 392 | 49.7 | 7.0% |
| Percentage of mothers with children age 0-23 months who received at least 2 tetanus toxoid vaccinations before the birth of their youngest child. | 179 | 300 | 59.6 | 227 | 259 | 87.6 | 5.7% |
| Percentage of children age 0-23 months whose births were attended by skilled personnel. | 254 | 300 | 84.7 | 368 | 394 | 93.4 | 3.5% |
| Percentage of mothers of children age 0-23 months who are using a modern contraceptive method. | 168 | 300 | 56.0 | 299 | 394 | 75.9 | 6.0% |
| Percentage of children age 0-23 months who received a postnatal visit from an appropriate trained health worker within two days after birth. | 69 | 300 | 23.0 | 143 | 144 | 99.3 | 1.9% |
| Percent of children age 6-23 months fed according to a minimum of appropriate feeding practices. | 121 | 220 | 55.0 | 59 | 300 | 19.7 | 6.4% |
| Percentage of children age 6-23 months who received a dose of Vitamin A in the last 6 months: card verified or mother's recall. | 171 | 220 | 77.7 | 254 | 287 | 88.5 | 5.2% |

| Indicator | Baseline Values | | | Endline Values | | | Confidence Interval |
|---|---|---|---|---|---|---|---|
| | Numerator | Denominator | Percentage (%) | Numerator | Denominator | Percentage (%) | |
| Percentage of children aged 12-23 months who received measles vaccine according to the vaccination card or mother's recall by the time of the survey. | 114 | 130 | 87.6 | 182 | 195 | 93.3 | 5.0% |
| Percentage of children aged 12-23 months who received DTP1 according to the vaccination card or mother's recall by the time of the survey. | 85 | 130 | 65.3 | 166 | 195 | 85.1 | 7.1% |
| Percentage of children aged 12-23 months who received DTP3 according to the vaccination card or mother's recall by the time of the survey. | 77 | 130 | 59.2 | 39 | 180 | 21.7 | 8.5% |
| Percentage of children 0-23 months who are underweight (-2 SD for the median weight for age, according to WHO reference population). | 56 | 300 | 18.7 | 59 | 300 | 19.7 | 6.4% |

# Annex 5: Final KPC Report

## *Mwayi wa Moyo* ("A Chance to Live")

## KNOWLEDGE, PRACTICE AND COVERAGE

## ENDLINE SURVEY REPORT

**Submitted to Save the Children**

*By*

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**5 July 2016 (Revised)**

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## LIST OF ACRONYMS

| | |
|---|---|
| **ACT/LA** | Artemisinin Combination Therapy/Lumefantrine and Artemether |
| **ANC** | Antenatal Care |
| **ARI** | Acute Respiratory Infections |
| **BCG** | Bacillus Calmette-Guérin Vaccine for tuberculosis |
| **CDD** | Control of Diarrheal Diseases |
| **CHW** | Community Health Worker |
| **CO** | Clinical Officer |
| **CSHGP** | Child Survival and Child Health Program |
| **DHO** | District Health Office |
| **DHMT** | District Health Management Team |
| **DHS** | Demographic Health Survey |
| **DTP** | Diphtheria, Pertussis and Tetanus Vaccine |
| **FP** | Family Planning |
| **HF** | Health Facility |
| **HC** | Health Center |
| **HH** | Household |
| **HIV/AIDS** | Human Immuno-deficiency Virus/Acquired Immuno-deficiency Virus |
| **HSA** | Health Surveillance Assistants |
| **IMCI** | Integrated Management of Childhood Illness |
| **IMR** | Infant Mortality Rate |
| **IPT** | Intermittent Presumptive Treatment |
| **IR** | Intermediate Result |
| **ITN** | Insecticide Treated Net |
| **IYCF** | Infant and Young Child Feeding |
| **KIDERTCO** | Kirk Development Research and Consultants |
| **KPC** | Knowledge Practice and Coverage |
| **LAM** | Lactational Amenorrhea Method |
| **MDG** | Millennium Development Goals |
| **MDHS** | Malawi District Health Survey |

| | |
|---|---|
| **M&E** | Monitoring and Evaluation |
| **MICS** | Multiple Indicator Cluster Survey |
| **MNC** | Maternal and Newborn Care |
| **MNCH** | Maternal, Newborn and Child Health |
| **MO** | Medical Officer |
| **MoH** | Ministry of Health |
| **MwM** | *Mwayi wa Moyo* Project |
| **NCHS** | National Center for Health Statistics |
| **ORS** | Oral Rehydration Solution |
| **ORT** | Oral Rehydration Therapy |
| **PCM** | Pneumonia Case Management |
| **PNC** | Postnatal Care |
| **PPFP** | Postpartum Family Planning |
| **PSI** | Population Services International |
| **QECH** | Queen Elizabeth Central Hospital |
| **SBA** | Skilled Birth Attendant |
| **SD** | Standard Deviance |
| **SPSS** | Statistical Package for Social Scientist |
| **TBA** | Traditional Birth Attendants |
| **TT** | Tetanus Toxoid (Vaccination) |
| **U5MR** | Under-5 Mortality Rate |
| **USAID** | United States Agency for International Development |
| **WHO** | World Health Organization |
| **WRA** | Women of Reproductive Age |

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We would also like to thank all the Health Surveillance Assistants (HSAs) involved in this study for their guidance and assistance in booking households (HHs) for the study as well as their tireless effort, attention to detail and their genuine commitment to the project and the study as well. The team of enumerators also deserve my special thanks for the diligence and hard work in collecting the relevant data. The following people deserve a special mention for their contribution of time, energy, and expertise to the design, planning, implementation and analysis of this survey: Mr Fidelis Balakasi, Consultant, KIDERTCO; Mr Steve Macheso, Program Manager for the *Mwayi wa Moyo* Project, Save the Children in Malawi; Misozi Kambanje, Operations Research, Monitoring and Evaluation Coordinator, *Mwayi wa Moyo* Project; and Mr. Biso Kaima who assisted in the analysis of the study findings.

Finally, I am very thankful to all those who, in one way or another, have contributed to the results presented in this report.

## EXECUTIVE SUMMARY

Save the Children conducted an endline survey of the Knowledge, Practice and Coverage Practices for the *Mwayi wa Moyo* ("A Chance to Live") Integrated Family Planning, Maternal, Neonatal and Child Health Project in Malawi in several health center (HC) catchment areas within Blantyre District. The primary purpose of the study was to obtain endline data on key maternal and child health indicators in the district that would enable Save the Children to learn from the impact that the project has made in the targeted areas of implementation. *Mwayi wa Moyo* was implemented in rural areas of Blantyre District with the goal of reducing under-five mortality through increased use of high-impact maternal, newborn, and child health (MNCH) and family planning (FP) interventions. This project aimed to transform the existing community packages into a single coherent package of high-impact, MNCH and FP interventions that filled the gaps in the continuum of care and delivered more interventions at better quality.

Save the Children adapted the knowledge, practice and coverage (KPC) survey questionnaire based on a similar tool developed for KPC 2014 and Rapid CATCH. Data collection and analysis was guided by Child Survival and Health Grants Program (CSHGP) KPC resources found at http://www.mchipngo.net/controllers/link.cfc?method=tools_mande. The survey covered family planning, antenatal care (ANC), delivery, postnatal care (PNC), and care of the sick child (including malaria, pneumonia, and diarrhea). The contents of the KPC survey questionnaire included a cover page, consent form, questions based on the initial KPC questionnaire and the training curriculum messages that the communities had learned and the indicators provided. The questionnaire addressed the following 17 areas: 1) Respondent background and characteristics; 2) Maternal and Newborn Care (MNC); 3) Child spacing; 4) ANC; 5) Delivery and postnatal care; 6) Postpartum Family Planning (PPFP); 7) Breastfeeding and infant and young child feeding; 8) vitamin A coverage; 9) Child immunization; 10) Management of childhood illness; 11) Malaria; 12) Treatment of fever; 13) Control of diarrhea; 14) Acute Respiratory Infection (ARI)/pneumonia; 15) water and sanitation; 16) Insecticide treated bednet (ITN) use; and 17) Anthropometry.

The survey adopted a sample of 450 HHs from 45 clusters which were randomly selected using two-stage cluster sampling techniques. Data was collected from target primary caregivers of children under the age of 24 months, in Blantyre Rural HCs. Results for 29 indicators were calculated and compared between the project's baseline and endline, as well as for the intervention versus the control arm of the program (Annex 2 attached). The survey targeted primary caregivers of children under 24 months old. Analysis of results presented in this report was conducted using additional external sources such as the Malawi District Health Survey (MDHS) 2010 and the MICS 2012, as benchmarks.

Results showed that the majority of children were female (54.8%). Most of the mothers interviewed were 20-24 years old (37.7%) and most had gone as far as primary school of education. The majority of children were between 0-23 months old (88.5%). The most common language spoken was Chichewa, though other languages were also present in the study area such as Yao, Lomwe and Ngoni. The majority of caregivers were not HH heads, but it was reported that their husband/partner was the HH head. For all age groups, the biological father was living in the HH.

The study also found that the percentage of mothers of children 0-23 months who had four or more antenatal visits had increased to 49.7% from 44.3% during the baseline. Similarly, there were improvements in the indicators such as access to family planning services (75.8%), and knowledge of at least two risks related to having a birth to pregnancy interval less than 24 months (from 62.3% during baseline to 99.5% during endline). There were also notable improvements in indicators related to postnatal care by appropriate health care providers, attendance during childbirth by skilled personnel, immunization, and water and sanitation.

## 1.0 Introduction

Malawi has made significant progress in reducing under-five mortality over the past two decades, from 218/1000 (1990) to 110/1000 (2009)[1] but improved coverage and quality of high-impact interventions for mothers, newborns, and children along the continuum of care is needed in order to achieve Millennium Development Goal (MDG) targets. Save the Children received an award from USAID Child Survival and Child Health Program (CSHGP) to carry out a five-year project called *Mwayi wa Moyo* ("A Chance to Live") with the goal of reducing under-five mortality through increased use of high-impact MNCH interventions (services and practices), achieved through the following Intermediate Results: (IR)-1: access to and availability of high-impact interventions increased; IR-2: quality of services assured IR-3: demand for interventions improved; and IR-4: environment enabled. *Mwayi wa Moyo* was an innovation project which supported the Ministry of Health (MoH) to transform an existing approach; that of streamlining and integrating current community packages into a single coherent package of high-impact MNCH interventions that filled gaps in the continuum of care and delivered more interventions at better quality and less cost. *Mwayi wa Moyo* was focused in Blantyre District, Malawi.

Malawi ranks 164 of 177 on the human development index (2007/8) (UN Country Report, 2010). Over half (52%) of the population lives below the poverty line and 22% live in extreme poverty. Poor children and caregivers in Malawi have limited access to quality health and nutrition services. One in eight children dies before reaching their fifth birthday. Only 54% of the rural population has access to a health facility within 5 km (District Socio-economic Profile). Critical constraints to service delivery include a lack of basic health service inputs, including drugs and skilled health professionals. Save the Children Federation Inc. began its activities in Malawi in 1983. Save the Children's Malawi Country Office has been implementing activities in food security, health, basic education, HIV/AIDS prevention and impact mitigation, reaching over 3.1 million people in Malawi, with a focus on poor and disadvantaged populations.

The *Mwayi wa Moyo* ("A Chance to Live") Project's goal was to reduce under-five mortality through increased use of high-impact MNCH interventions (services and practices), achieved through Intermediate Result (IR)-1: access to and availability of high-impact interventions increased; IR-2: quality of services assured IR-3: demand for interventions improved; and IR-4: environment enabled. Drawing on its national technical leadership role and district expertise, Save the Children worked with the MoH and partners to design and test a strategy and model for an integrated, streamlined community package. CSHGP interventions: Maternal and Newborn Care (MNC) (40%), Pneumonia Case Management (PCM) (20%), Control of Diarrheal Diseases (CDD) (20%), and Prevention and Treatment of Malaria (20%).

*Mwayi wa Moyo* innovated by transforming an existing approach, and streamlining and integrating current community packages into a single coherent package of high-impact MNCH interventions that filled gaps in the Community Maternal and Child Health and delivered more interventions at better quality and less cost. The commitment by the MoH to meet MDGs 4 and 5 and its interest in developing an integrated approach justify the innovation.

**Project context *Geographical, gender, cultural factors***

Located in the Shire Highlands, in the Southern Region, Blantyre District is situated on the eastern edge of the Great Rift Valley. It has a varied topography with an elevation ranging from 780-1,612 meters above sea level and experiences a tropical continental climate with two distinct annual seasons. Located in the district is Blantyre City, Malawi's largest city and "commercial" capital. *Mang'anja* and *Yao* speaking people constitute 60% of the district's indigenous population. The remaining 40% come from other ethnic groups (e.g., *Lomwe, Ngoni, Sena, Tumbuka, Chewa*) who migrated to the district in search of urban employment. Most indigenous residents follow matrilocal marriage and matrilineal descent patterns with rank and property inherited through the female line. A majority of rural families in Blantyre make their livelihoods by subsistence farming. Rural Blantyre's literacy rate is 72%; 63% for women[2].

Traditional beliefs and practices persist in communities and may adversely affect health outcomes. At home births, for example, neonates are often neither dried nor warmed until the placenta is delivered; they are bathed immediately, not given colostrum nor put to the mother's breast immediately, and given pre-lacteal feeds. In 2009, Save the Children supported a study[3] that confirmed the high degree of invisibility that surrounds the death of a newborn in Malawi. In local culture, a neonate has not yet attained personhood and a newborn's death does not have the same status as an older child's death. Families and communities accept the death as God's will. The practice is to not name infants before they reach two to six weeks of age, as parents cannot be sure they will survive. *"We would rather if they die [they do so] without a name: it is not as painful. The culture says the newborn is a thing and not a human being."*

At the HH level in the Southern Region, recognition of danger signs and care-seeking are poor. For example, a study conducted in Mwanza District, neighboring Blantyre, showed that despite high knowledge about malaria among caregivers, prompt treatment and health-seeking behavior were poor, with the majority of children first being managed at home with treatment regimens other than effective anti-malarials. Traditional beliefs about causes of fever, lack of availability of anti-malarial drugs within the community, barriers to accessing the formal health care system, and distrust of traditional medicine were all associated with delays in seeking appropriate treatment for fever[4]. Another study in the same district documented reasons for delay in seeking care, reliance on traditional birth attendants (TBAs) and traditional medicines, and lack of awareness regarding signs of an obstetric emergency.

***Blantyre's epidemiological context*** Blantyre District's under-five mortality rate is 121/1000[5], showing a decline from 156/1000 reported in 2004 (District Health Survey-DHS 2004). Its infant mortality rate is 74, and neonatal mortality rate is 30 per 1000 live births. Blantyre is one of Malawi's average districts as compared with Chitipa (IMR=52 and U5MR=99) and Phalombe (IMR=104 and U5MR=161). In 2006, 42% of the district's children under five were moderately or severely stunted; and 76% were fully immunized.

***Pneumonia*** The MICS 2006 reported that 6% of children under 5 had ARI in the past two weeks, of which only 39% received antibiotics. As per the Health Management Information System (HMIS) data reported by the District Health Management Team (DHMT), HCs in Blantyre reported a total of 31,383 pneumonia cases in 2010.

***Malaria*** transmission occurs year round in Blantyre, peaking during the rainy season, typically from November through May. Since 1998, ITNs have been distributed in Blantyre through a social marketing program administered by Population Services International (PSI)[6]. A retrospective review of pediatric hospital records at the Queen Elizabeth Central Hospital (QECH) in Blantyre from 1998 to 2008 showed that the burden of malaria during the six first months of life may be substantial[7]. Prompt access to effective treatment for malaria is unacceptably low in Malawi. Less than 20% of children under the age of five with fever received appropriate anti-malarial treatment within 24 hours of fever onset.

***Diarrhea*** As per MICS 2006,17% of children under five in Blantyre District had an episode of diarrhea in the previous two weeks. The prevalence was highest among children 6-11 months old (27%) and 12-23 months old (34%). Among the children who had diarrhea, 63% (56% rural) received fluids made with oral rehydration solution (ORS) packets, 7% received recommended home fluids, and 27% received no treatment. In 2010, the Blantyre District HMIS reported 2,368 cases of diarrhea in children treated at HCs, though the majority of diarrhea cases go unreported as caregivers do not seek outside treatment and may or may not manage episodes at home.

## 2.0 Endline survey objectives

The objectives of the endline survey included the assessment of project achievements compared to KPC indicators measured at baseline. The endline survey addressed the following research questions: *To what extent did the project accomplish and/or contribute to the results (goals/objectives) stated in proposal?*

a. Are there measurable differences in people's knowledge, practices and coverage of interventions at endline compared to findings at baseline?
b. Are there differences between the intervention and control arms of the project in terms of the KPC indicators measured at endline?

## 2.1 Study methodology

The main tool for data collection for the endline survey was a questionnaire. The questionnaire was designed in line with the objectives of the study, the KPC 2000+ modules, the recently Revised Rapid CATCH (December 16, 2007, 2014). Indicators, a tabulation plan, and interviewer instructions to match the questionnaire were also developed during the study process.

In line with the objectives of the study, and in order to make informed judgments on the outcome indicators, the study assumed a two-pronged approach, which included:

1. Literature review - thorough review of project document(s) including proposal, baseline report, concept notes, and the CATCH/KPC 2000+ implementation manual; and
2. KPC survey questionnaire - used to interview 445 caregivers of children ≤ 24 months. The

consultant adapted the KPC survey questionnaire based on a similar tool that was developed during the baseline study. The contents of the KPC survey questionnaire included a cover page, consent form, questions based on the initial KPC questionnaire and the training curriculum messages that the communities had learned, as well as indicators being measured. The survey's selected questions covered the following 17 areas: 1) Respondent background and characteristics; 2) MNC; 3) Child spacing; 4) ANC; 5) Delivery and postnatal care; 6) PPFP; 7) Breastfeeding and Infant and young child feeding; 8) vitamin A coverage; 9) Child immunization; 10) Management of childhood illness; 11) Malaria; 12) Treatment of fever; 13) CDD; 14) ARI/pneumonia; 15) Water and sanitation; 16) ITN use; and 17) Anthropometry.

***Stakeholder involvement:*** *Mwayi wa Moyo* recognized the need for closely collaborating with key stakeholders. The MoH through the Blantyre DHO, has been informed and oriented on the KPC process and they approved the process. Key personnel from the HCs were recommended as survey respondents. The Blantyre DHMT was aware of the exercise and contributed to the training of enumerators.

Throughout the process, Health Surveillance Assistances (HSAs) were involved during pre-awareness, training and actual data collection. HSAs played a key role in contacting communities, providing village lists and monitoring enumerators' field progress. Their involvement was aimed at increasing their capacity in survey methodology, creating ownership of the results as well as creating awareness about the content of the survey and its role in planning and implementation; thereby strengthening the Save the Children-MoH partnership.

The *Mwayi wa Moyo* Manager, the Save the Children (Malawi) Operations Research Officer, the Africa Regional Health Advisor, and Senior Director of Family Planning and Health from headquarters, reviewed the questionnaire and included family planning elements. Save the Children country office M&E specialists provided other inputs.

## 2.2 Design, data collection, entry and analysis

### 2.2.1 Sampling

Save the Children wanted to utilize this survey to ascertain whether differences across the KPC indicators were detected between the intervention and control arms of the *Mwayi wa Moyo* Project. As such, the sample size has been adjusted to 450 HHs. A two-stage, 30x15 cluster design was adopted for the survey, in line with the design that was implemented during the baseline survey. A total of 30 villages were randomly selected from the list of potential villages identified by Save the Children Malawi with probability proportional to size.

In the second stage, for each of the thirty selected clusters, a complete list of all children 0-59 months old, was obtained from the village chief with input from the HSAs. Although the standard method was to select children between 0-24 months, experiences from the baseline showed that it was very difficult to get children within this age category alone and so it was agreed to include children between 0-59 months. Fifteen HHs per village were randomly selected from available lists, using random generating numbers software. In those cases where a HH with more than one child had been selected, interviewers focused their questions on the youngest child in the family. An extra two HHs were selected per cluster, in

order to allow for replacement in cases of absence or refusal of selected respondents. Enumerators interviewed the primary caregiver other than the child's mother only in the case that the mother had died, or did not live in the HH any more. Since participants were randomly selected from an available sampling frame, village leaders were informed about the interviewee names a few days before the data collection, setting a day and a time for interviews and asking them to pre-alert mothers about the interview. If a caregiver /woman meeting the selection criteria was absent from the house, the team had to determine if she would return within 30 minutes or whether the team could return in the afternoon to interview her. If she would be unavailable at those times, the enumerators were instructed to interview another HH from the randomly selected reserves for that particular village.

### 2.2.2 Selection and training of enumerators

Ten enumerators with a health and nutrition background were recruited to collect data for the survey. The consultant selected these based on extensive experience in conducting similar studies. The lead consultant and two other research experts supervised the enumerators making a total survey team of thirteen. The survey training was conducted for three days and included both in-class training plus field pre-testing. The training dates were November 1-3, 2015 and were held at Byte Lodge in Lilongwe. As a result, all the enumerators and Save the Children field staff understood the purpose of the KPC survey. The training schedule was drafted and circulated to Save the Children staff for comments prior to carrying out the study, and covered the following topics:

- Background of Save the Children's work in Blantyre (*Mwayi wa Moyo Project*);
- Purpose of the endline survey;
- Training objectives and expected results;
- Content and format of the KPC questionnaires;
- Key rules for completing the questionnaire;
- Field data collection protocols;
- Interview techniques;
- Role of interviewer and supervisor;
- Data quality control procedures;
- Organization of field work and definition of teams; and
- Field pre-test of questionnaire.

The training was organized and delivered by the Lead Consultant in collaboration with Save the Children staff members and the M&E Officer. Ten enumerators and two supervisors were trained on data collection tools and techniques, which the team applied during the survey. Pre-testing was done with 20 HHs in one pre-selected village based on convenience. After pre-testing was complete, the questionnaires were refined. As a result of the pre-test:

- Save the Children project staff clarified some technical health jargon which helped to improve the accuracy of data collection;
- Enumerators were able to get first-hand experience with the revised questionnaire which they used in the field;
- The time it took to administer each questionnaire was reduced from 1 hour and twenty minutes to about 1 hour;

- Some questions were re-stated or completely abandoned; and
- Teams were re-organized to ensure a mix of personnel and backgrounds.

There were a number of lessons learned from the pre-testing process which will aid future programming such as:

- When conducting a similar future survey, more time needs to be allocated for planning and questionnaire revision/construction, with both the consultants and clients present in order to ensure a thorough design of the tool.
- It would be very helpful for Save the Children to provide an office for consultants to work from so they may interact closely with program staff.
- The training program for enumerators should be extended to four days in order to ensure thorough input and familiarization with the tool.

### 2.2.3 Data collection and quality control

After the training and field test, two teams were formed, each comprised of five enumerators and one supervisor. Each team covered about two villages per day. Data collection took a total of 14 days to complete.

Throughout the study process, care was exercised to collect high quality data. The sampling frame was carefully examined to ensure that all eligible participants were included in the sampling process. As required in any data collection exercise, questionnaires were thoroughly checked by the data manager (consultant) and supervisors for errors or inconsistencies. Call back was done if questionnaires were not thoroughly completed.

### 2.2.4 Survey supervision

The survey supervisors randomly provided supervision to data collectors during and after interviews. The supervision team included the M&E Coordinator from Save the Children, who checked the questionnaires for completeness and occasionally required the data collector to return to a HH to collect missing or incomplete information.

### 2.2.5 Measurements

As children's birth dates in Malawi are recorded in their health passports, the survey team recorded childbirth dates (day, month, and year) from the same. When health passports were unavailable, mothers were helped to recall their child's birthdate with a local calendar of events. The age of the child was then recorded in months. The child's weight was recorded in kilograms. Children were weighed with a 25 kg Salter scale. The supervisor and enumerators checked closely the accuracy of the scales on a daily basis.

### 2.2.6 Ethics

In compliance with ethical survey requirements, mothers were informed of their right to participate or not in the survey. Mothers were informed of the purpose of the survey and were also assured of the confidentiality of their responses. They were interviewed in private to ensure an open discussion and response.

### 2.3 Data entry and analysis

Once completed and checked by the team supervisor, the questionnaires were submitted to the consultant who developed the data entry templates, using CS Pro and SPSS version 16. Data analysis was done using Stata and SPSS. Data entry included independent double entry of 445 questionnaires (each questionnaire was entered twice, by two different data entry clerks, in a separate database). The team committed to 98% accuracy on the data entered. The team also calculated Chi-Square test and P-Values to assess the significance of the results calculated at baseline and endline at 95% confidence intervals, taking into account the design effect due to cluster sampling. Data was analyzed based on comparing the baseline and endline figures as well as the control versus the intervention arms of the program.

### 2.4 Challenges encountered during the survey

There were several challenges that the team faced during the study as follows:

- Data were recorded on forms that had been designed to be scanned using CS Pro software. The system has been in use among various projects in Save the Children and in Malawi. However none of the project members had experience using the system for data capture. As such data processing and cleaning proved more tedious and complex than anticipated.
- There were problems scheduling and conducting observations and interviews with some HSAs and caregivers. For two of these data collection was not successful on the first revised date, and a further re-scheduling was necessary.
- The volume of data collected was larger than the baseline as we targeted 450 caregivers as compared with 300 caregivers at baseline. This meant that the field team had to spend more time and effort collecting the data during endline than during baseline.

### 2.5 Study indicators

Save the Children provided the set of 29 population-based indicators this survey, adjusted take into account the local context and Malawian protocols. A tabulation of results is presented in Annex I with the calculation of indicators including statistical significance.

**Indicators collected at baseline and endline of the *Mwayi wa* Moyo project**

- *Percentage of mothers of children age 0-23 months who had four or more antenatal visits when they were pregnant with their youngest child.*
- *Percentage of mothers with children age 0-23 months who received at least two tetanus toxoid vaccinations before the birth of their youngest child.*
- *Percentage of children age 0-23 months whose births were attended by skilled personnel.*
- *Percentage of children age 0-23 months who received a postnatal visit from an appropriate trained health worker within two days after birth.*
- *Percentage children age 0-23 months that had clean cord cutting at the time of birth.*
- *Percentage of mothers of children age 0-23 months who received Intermittent Preventive Treatment (IPT) for malaria during the pregnancy with the youngest child.*
- *Percentage of children age 0-23 months who were dried and wrapped with a cloth or blanket immediately after birth.*
- *Percentage of mothers of children age 0-23 months who are using a modern contraceptive method.*

- *Percentage of mothers of children age 0-23 months who know at least two risks of having a birth to pregnancy interval of less than 24 months.*
- *Percentage of mothers of children age 0-23 months who took iron tablets before the birth of their youngest child.*
- *Percentage of mothers of children age 0-23 months who know that a woman should wait 24 months after a live birth before trying to get pregnant again.*
- *Percentage of children age 0-23 months who were put to the breast within one hour of delivery.*
- *Percentage of children age 0-5 months who were exclusively breastfed during the last 24 hours.*
- *Percentage of children age 6-23 months fed according to a minimum of appropriate feeding practices.*
- *Percentage of children age 6-23 months who received a dose of vitamin A in the last 6 months: card verified or mother's recall.*
- *Percentage of children aged 12-23 months who received measles vaccine according to the vaccination card or mother's recall by the time of the survey.*
- *Percentage of children aged 12-23 months who received DTP1 according to the vaccination card or mother's recall by the time of the survey.*
- *Percentage of children aged 12-23 months who received DTP3 according to the vaccination card or mother's recall by the time of the survey.*
- *Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment.*
- *Percentage of sick children age 0–23 months who received increased fluids and continued feeding during an illness in the past two weeks.*
- *Percentage of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began.*
- *Percentage of children age 0-23 months with diarrhea in the last two weeks who received oral rehydration solution and/or recommended home fluids.*
- *Percentage of children age 0-23 months with chest-related cough and fast and/or difficult breathing in the last two weeks who were taken to an appropriate health provider.*
- *Percentage of households of children age 0-23 months that treat water effectively.*
- *Percentage of mothers of children age 0-23 months who live in households with soap at the place for hand washing.*
- *Percentage of mothers who wash their hands before food preparation, before infant/child feeding, after defecation, and after attending to a child who has defecated.*
- *Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night.*
- *Percentage of children 0-23 months who are underweight (-2 SD for the median weight for age, according to WHO/NCHS reference population).*

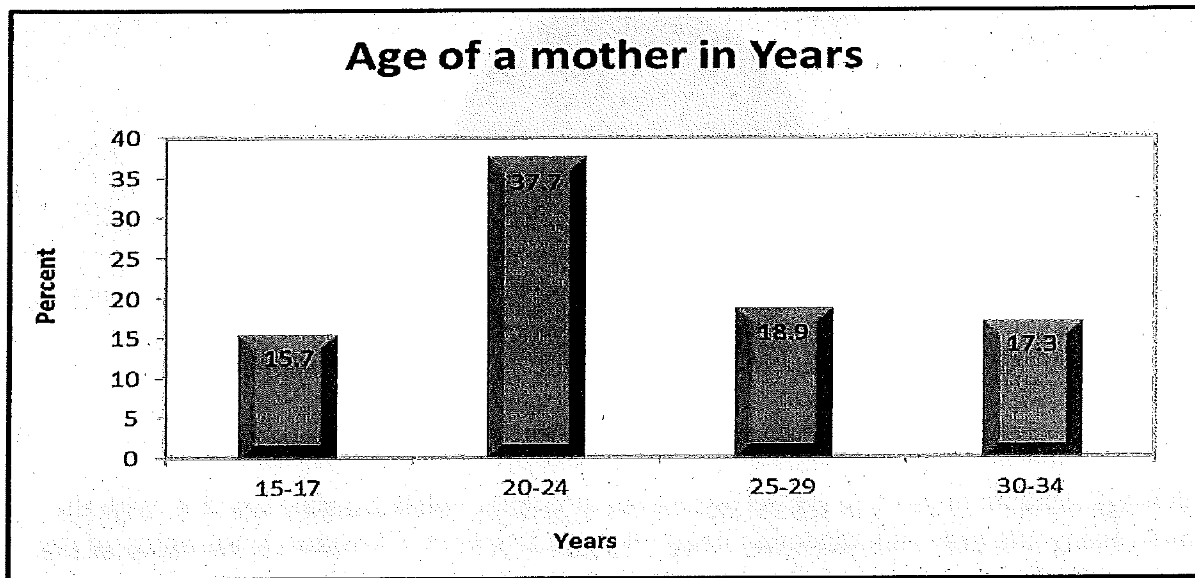
# RESULTS AND DISCUSSION

## 1.0 Socio-economic background of the caregiver

### 1.1 Age and household headship

The majority of the respondents were in the 20-24 year old age group (37.7%) followed by those aged 25-29 years (18.9%). The age group with the smallest number of individuals

interviewed was those aged 15-17 years (15.7%) and those over 40 years old. This was expected as most women bear children when they are between 18-40 years old; women older than 40 years old, have largely passed their child bearing years. Interestingly, there were also a significant number of mothers aged 15-17 years old (15.7%) who were considered high risk for giving birth at a young age.



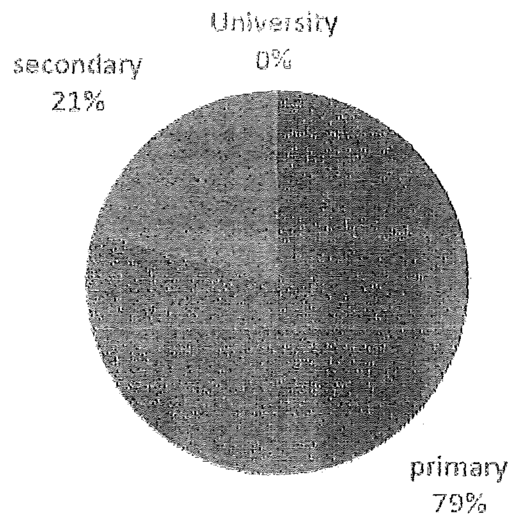

With regard to HH headship, most of the caregivers were not HH heads as the majority (64.21%) stated that their husband or partner was considered the head of the HH. Only 141 of the 394 mothers considered themselves HH heads and this mostly consisted of female-headed HHs and those women who were divorced or widowed. In some cases, the grandmother was considered the head of the HH.

## 1.2 Age and sex distribution of the children

With regard to age and sex distribution of the youngest child, it was observed that the majority (88.5%) 394/445 of the children were 0-23 months old; this was true for both girls and boys. A total of 195 of 445 children were in the 12-23 month-old age category (43.8%). This finding was comparable to baseline (43.3%) where similar figures were found for the 12-23 month old category. The majority of the youngest children (54.8%) were female at both the baseline and endline. Detailed results of children's age and sex distribution are shown in the table below.

## Educational background and number of years of caregiver schooling

The majority of the caregivers had ever been to school with 91.88% of them reporting having attended school (362/394). Most of these mothers had gone as far as primary school education (79.28%), followed by those who had gone as far as secondary school (20.44%). The level of education was related to respondents' ages, with younger mothers/caregivers presenting higher levels of education. Illiteracy (no education) was proportionately higher in the groups of mothers over 35 years old.




The average number of years in school was seven at endline, while baseline was 6.4, with the minimum being one year and maximum being 14 years in school. Considering the setup of the Malawi educational system, this reflects the norm that in rural areas, the majority of girls still go as far as primary school, but that barely any of the mothers go as far as tertiary education.

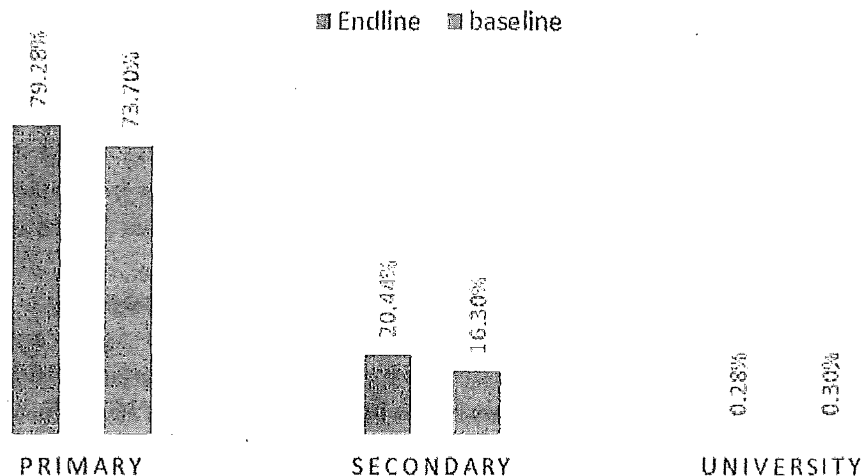


**Table 1: Socio-economic description of the caregivers**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| **Male Child** | 146 | 300 | **48.7** | 181 | 394 | **45.9** |
| **Female Child** | 154 | 300 | **51.3** | 213 | 394 | **54.1** |
| **Age of Child (in months)** | | | | | | |
| • 0-23 | 300 | 300 | **100%** | 394 | 394 | **100** |
| • 12-23 | 130 | 300 | **43.3** | 195 | 394 | **49.5** |
| **Caregiver ever attended school?** | | | | 362 | 394 | **91.87** |

**Status of biological father**
For all age groups, the biological father frequently lived in the HH (62.4%) although the number had decreased slightly since baseline (81.0%). For HHs where the child was between 12 and 23 months old, this figure was slightly higher. The presence of the biological father in the HH meant that children received parental care from both parents, which generally improves overall child development.

**Working status and child care habits**
When asked whether the mothers were working outside the home to earn money, 20.05% of caregivers declared that they do not have any outside work. This was lower than the baseline figure of 52.7%, signifying that more women were now engaging in other income generating activities. A total of 36.8% reported engaging in some forms of business while 26.1% indicated that they were involved in piece-work; fewer than 3.3% of interviewees were engaged as salaried workers.

The majority of the respondents stated that the mother (38.58%) took care of the child all the time, while 15.8% stated that the child was left with the husband/partner when they were away doing some other activities. There was also considerable support given by older children (10.91%) and Granny (28.1%) when the mother or caregiver was away. None of the interviewed caregivers had access to any form of nursery school or daycare where they could leave the child when they were away.

**Table 2: Household Headship, Income Generation and Child Care Practices**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| **Biological Father living in HH** | 243 | 300 | **81.0** | 246 | 394 | **62.44** |
| **Household Headship** | | | | | | |
| • Mother | 60 | 300 | **20.0** | 141 | 394 | **35.79** |
| • Husband/Partner | 227 | 300 | **75.7** | 253 | 394 | **64.21** |
| **Work Outside Home** | | | | | | |
| • No outside work | 158 | | **52.7** | 79 | 394 | **20.05** |
| • Business | 78 | 300 | **26.6** | 145 | 394 | **36.8** |
| | 28 | 300 | **9.3** | 103 | 394 | **26.14** |

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| • Piece work | | 300 | | | | |
| **Care for child when away** | | | | | | |
| • Mother | 90 | 300 | **30.0** | 152 | 394 | **38.58** |
| • Husband/Partner | 46 | 300 | **15.3** | 61 | 394 | **15.48** |
| • Older children | 48 | 300 | **16.0** | 43 | 394 | **10.91** |
| • Granny | 35 | 300 | **11.7** | 111 | 394 | **28.17** |

**Languages of communication and access to radio**

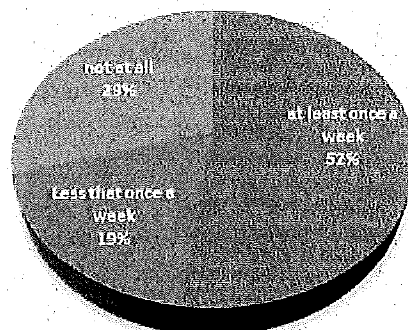
Almost all the respondents (373/394) indicated Chichewa as the language that they felt most comfortable with for regular communication. This was also the most common language spoken with 376 respondents (95.3%) comfortable answering questions in Chichewa. However, there were other languages that caregivers were able to use, including Lomwe (8.12%), Yao (4.31%), and Ngoni (3.8%).

**Table 3: Main Languages of Communication and Access to Radio**

| Indicator | Numerator | Denominator | Endline Percentage (%) |
|---|---|---|---|
| **Languages Spoken** | | | |
| • Chichewa | 373 | 394 | **95.67** |
| • Ngoni | 15 | 394 | **3.8** |
| • Yao | 17 | 394 | **4.31** |
| • Lomwe | 32 | 394 | **8.12** |
| • Others | 42 | 394 | **10.66** |
| **Main Languages for Communication** | | | |
| • Chichewa | 376 | 394 | **94.43** |
| • Ngoni | 4 | 394 | **1.02** |
| • Yao | 2 | 394 | **0.51** |
| • Lomwe | 6 | 394 | **1.52** |
| • Others | 3 | 394 | **0.76** |

In order to gauge access to radio messages among the caregivers, the revised endline survey included a question related to radio listening by caregivers. Results from the study indicated that the majority (52.03%) of caregivers listened to a radio at least once a week followed by those that did not listen to a radio at all (29.44%). There were also a group of caregivers that listened less than once a week. Despite a group of caregivers that did not listen to the radio at all, there was a good indication of caregivers accessing message from the radio at different intervals, which may also include messages regarding maternal and child health.

Respondents radio listenship frequency




## 2.0 Key maternal and child health indicators

In the following sections, survey results are presented and analyzed per each of the indicators assessed. In some cases, more indicators have been grouped by topic on one single sheet. Each of the sections below presents the indicator results, where the proportion and percentage numbers are indicated.

### 2.1 Child spacing

There were mainly two key indicators considered under this topic:

1. *Percentage of mothers of children age 0-23 months who know that a woman should wait 24 months after a live birth before trying to get pregnant again.*
2. *Percentage of mothers of children age 0-23 months who know at least two risks of having a birth to pregnancy interval of less than 24 months.*

The objective of these indicators was to increase the percentage of pregnant mothers able to state at least two advantages of child spacing. By adopting this behavior, women have time to regain the own personal health and focus on their child's development and social issues. This interval also provides time for fathers/husbands to take care of their families and plan for another baby financially and otherwise. Similarly the objective of this indicator is to ensure that the child will grow up well before their mother shifts her attention to a new pregnancy and new baby.

Results from the endline survey showed that 79.4% (313/394) of the mothers of children 0-23 months old knew that a woman should wait for 24 months after a live birth before trying to get pregnant again. This was higher than the baseline figure of 76.3% although not statistically significant change from the baseline (P-Value 0.3267, 95% CI).

Similarly, for mothers of children 0-23 months old who knew at least two risks of having a birth to pregnancy interval of less than 24 months, results showed that 99.5% (392/394) were aware at endline of at least two risks of having a birth to pregnancy interval of less than 24 months. This was very high compared to the baseline figure of 62.3% and a very significant difference

from the baseline; reflecting programmatic impact on beneficiaries (P-Value 0.000, 95% CI). These results are shown in Table 4 below.

**Table 4: Child Spacing**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| Percentage of mothers of children age 0-23 months who know that a woman should wait 24 months after a live birth before trying to get pregnant again | 229 | 300 | 76.3 | 313 | 394 | 79.44 |
| Percentage of mothers of children age 0-23 months who know at least two risks of having a birth to pregnancy interval of less than 24 months. | 187 | 300 | 62.3 | 392 | 394 | 99.49 |
| **No. of Children under 5** | | | | | | |
| • One Child | 183 | 300 | 61.0 | 240 | 394 | **60.17** |
| • Two Children | 110 | 300 | 36.7 | 142 | 394 | **36.04** |
| • Three Children | 7 | 300 | 2.3 | 9 | 394 | **2.28** |
| **No. of Biological Children** | | | | | | |
| • One Child | **162** | 300 | **54.0** | 241 | **394** | **61.17** |
| • Two Children | **107** | 300 | **35.6** | 129 | **394** | **32.74** |
| • Three Children | **31** | 300 | **10.3** | 23 | **394** | **5.84** |
| **Sex of Second Youngest Child** | | | | | | |
| • Male | 64 | 138 | **46.4** | 119 | **218** | 54.59 |
| • Female | 74 | 138 | **53.6** | 99 | **218** | 45.41 |
| **Length of Wait before Next Pregnancy after Birth** | | | | | | |
| • Less than 2 years | 36 | 300 | **12.0** | **14** | **394** | **3.55** |
| • 2 to 5 years | 229 | 300 | **76.3** | **313** | **394** | **79.44** |
| • More than 5 years | 28 | 300 | **9.3** | **51** | **394** | **12.94** |

### 2.1.1 Number of children under 5 years

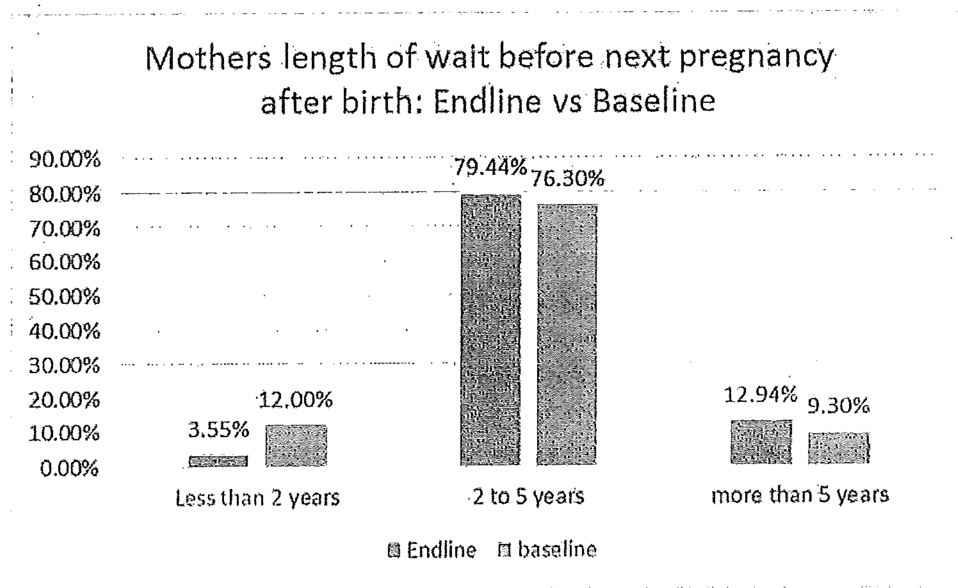
The majority (60.91%) of HHs (240/394) interviewed had one child under five years old; this is very similar to the baseline findings of 61%. This was followed by respondents with two biological children under five (129/394 or 32.74%). Similar results were obtained during the baseline where 54.0% reported having one biological child under five and 35.7% with two biological children under 5.

Furthermore, results showed that the majority of second children were male with a frequency of 54.59% while females were 45.41%. This was in contrast to the baseline, which found that the majority of second children were female (56.3%) followed by the male children (46.4%).

### 2.1.2 Length of waiting period before next pregnancy

Mothers were asked how long they should wait after childbirth before getting pregnant again.

This was important in order to find out how they understood child spacing as reflected in the key indicators above. Results from the endline survey showed that the majority of mothers (79.44%), 313/394 indicated two to five years as the best waiting period for mothers before getting pregnant again. This was similar to the baseline findings whereby 76.3% of the mothers indicated that two to five years were an ideal waiting period. This was followed by those who stated more than five years (12.94%) as the waiting period compared to a baseline figure of 9.3%. Results show that the project has had a positive influence on mothers' perceptions of child spacing practices. The majority now recognize the need to wait additional years before getting pregnant again, as compared with the baseline results, as shown in Table 4 above.




## 2.2 Family planning and access to contraceptives

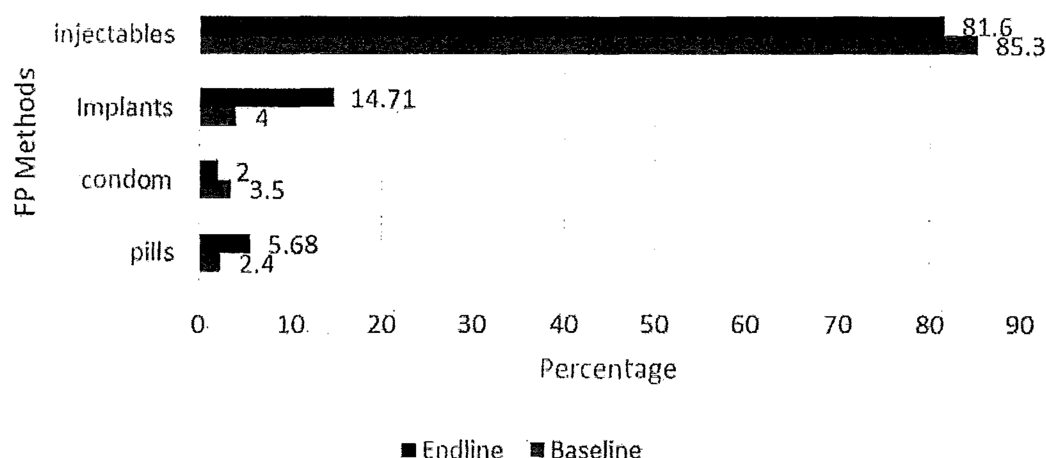
Under family planning practices for the HHs, the main indicator was ***the percentage of mothers of children age 0-23 months who are using a modern contraceptive method***. This indicator assesses the number of mothers of children 0-23 months old who are using a modern contraceptive method. The goal was to see an increase in the number of mothers using modern contraceptive methods. The objective of this indicator was to assess the percentage of mothers accessing a modern contraceptive method and being able to identify the type of contraceptive method used, as well as being able to state the advantage of using a modern contraceptive method.

Results showed that at endline, 75.9% (299/394) of mothers of children aged 0-23 months were using a modern contraceptive method. This was higher than the baseline figure of 56% and statistically significant with P-Value, 0000, 95% C.I. The results showed that the program had a positive influence on women's ability to access and use modern family planning methods compared to when the project just started. This was an encouraging result considering that mothers will have time to rebuild body strength as well as concentrate on taking care of their newborn before having another baby. Additionally, the baby will have time to fully breastfeed before the next pregnancy.

With regard to the family planning method being used, the majority of respondents at endline reported using injectables as a family planning method. This was stated by 260/345 of the mothers, or 75.4% of all current family planning users. This was lower than the baseline figure of 85.3% because some mothers had shifted to other family planning methods such as implants (14.2%), pills (5.5%) and condoms (1.7%). Just as at baseline, it was surprising that despite its wide publicity and known benefits of HIV/AIDS prevention, condom use among mothers was very low at endline. Detailed results are shown in Table 5 below.

**Table 5: Access and Use of Family Planning Methods**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of mothers of children age 0-23 months who are using a modern contraceptive method* | 168 | 300 | 56.0 | 299 | 394 | 75.89 |
| **Methods of family Planning** | | | | | | |
| • Injectable | 145 | 170 | **85.3** | 244 | 299 | **81.60** |
| • Implant | 7 | 170 | **4** | 44 | 299 | **14.71** |
| • Condom | 6 | 170 | **3.5** | 6 | 299 | **2.00** |
| • Pills | | | **2.4** | 17 | 299 | **5.68** |




## 2.3 Antenatal health care practices

Proper care during pregnancy and delivery is important for the health of both the mother and the baby, and is the fifth Millennium Development Goal (MDG). In the 2010 MDHS, women who had given birth in the five years preceding the survey were asked a number of questions about maternal care. Mothers were asked whether they had received tetanus toxoid injections while pregnant and whether they had obtained ANC during the pregnancy for their most

recent live birth, in the last five years. For each live birth during the same period, the mothers were also asked what type of assistance they received at the time of delivery.

ANC from a trained provider is important in order to monitor the pregnancy and reduce morbidity and mortality risks for the mother and child during pregnancy and delivery. According to the 2010 MDHS results, 97% of women who gave birth in the five years preceding the survey received ANC from a trained health professional at least once for their last birth. Urban women are slightly more likely than rural women to have received ANC from a health professional (98% and 96%, respectively). ANC from a health professional is almost universal throughout Malawi and does not vary much by age or residence.

### 2.3.1 Access to antenatal services

The main indicator for access to antenatal services is the ***number of mothers of children age 0-23 months who will have at least four or more antenatal visits when they are pregnant.*** The antenatal period presents important opportunities for reaching pregnant women with a number of interventions that may be vital to their health and the well-being of their infants. WHO recommends a minimum of four antenatal visits based on a review of the effectiveness of different models of ANC. This indicator measures the number of mothers of children age 0-23 months who had at least four or more antenatal visits when they were pregnant. It shows the progress mothers make at each antenatal visits. It also assesses their level of understanding of family planning methods and pregnancy danger signs.

This indicator measures the average number of women who start ANC within the first three months of pregnancy. It also measures the percentage of pregnant mothers confiding in a close community member, about the existence of a pregnancy within the first three months. During ANC visits, mothers are provided with tetanus immunizations, presumptive treatment of malaria (IPT), management of anemia, and treatment of STIs, which can significantly improve fetal outcomes and maternal health.

Results from the endline survey showed that 49.49% (195/394) of the mothers of children age 0-23 months had four or more antenatal visits when they were pregnant with their youngest child. This was slightly higher than the baseline figure of 44.3% and not very statistically significant (P-Value, 0.18, 95% CI).

**Table 6: Maternal and Newborn Care**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of mothers of children age 0-23 months who had four or more antenatal visits when they were pregnant with the youngest child* | 133 | 300 | **44.3** | **195** | **392** | 49.49 |
| *Percentage of mothers of children age 0-23 months who know at least two danger signs during pregnancy* | 120 | 300 | **62.3** | 388 | 394 | 98.48 |
| **Overall ANC Visits by Mothers** | 297 | 300 | **99.0** | 392 | 394 | 99.49 |
| **Place of ANC** | | | | | | |

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| • Public Hospital | 39 | 297 | **13.0** | 11 | 392 | **2.81** |
| • HC | 234 | 297 | **78.0** | 354 | 392 | **90.31** |
| • Private Hospital | 2 | 297 | **0.7** | 2 | 392 | **0.51** |
| **Skilled health personnel visited** | | | | | | |
| • doctor/Clinical Officer (CO) | 34 | 297 | **12.2** | 66 | 392 | **16.83** |
| • nurse | 263 | 297 | **87.6** | 260 | 392 | **66.32** |
| **No. of months pregnant at first ANC visit** | | | | | | |
| • 1-3 months | 44 | 297 | **14.81** | 97 | 392 | **24.7** |
| • 4-6 months | 220 | 297 | **70.1** | 283 | 392 | **72.19** |
| • 7-9 months | 33 | 97 | **11.1** | 12 | 392 | **3.06** |
| **Told of pregnancy complication signs** | 252 | 297 | **84.0** | 365 | 392 | **93.11** |
| **Information on where to go with pregnancy complications** | 244 | 252 | **96.8** | 362 | 392 | **92.34** |

During the antenatal visits, the majority of the mothers indicated that they were attended to by a nurse (66.32%), followed by those who stated they were seen by a doctor (16.83%). This was also similar to the baseline findings that showed that the 87.6% were seen by a nurse while only 12.2% were seen by a doctor. The main place of the ANC visit was a HC with over 90.31% (354/392) mentioning it. This was similar to the baseline where 78.0% of the caregivers mentioned HC as the place for ANC support.

In terms of months of pregnancy before starting to access ANC services, the majority (72.19%) of mothers were between 4-6 months pregnant (283/392), followed by those who started ANC visits when they were between 1-3 months pregnant (24.74%) compared to the baseline figure of 14.8%. A smaller number of mothers started antenatal visits when they were between 7-9 months pregnant, which was very late for the mother to get all the advice and support related to pregnancy care. Refer to Table 6 for details.

During ANC visits, the majority of mothers (93.11 %) 365/392 were provided with information on signs of pregnancy complications, which was higher than the baseline figure of 84.0 of women who acknowledged receiving information on pregnancy complications during ANC visits. Mothers also acknowledged that they were provided with information on where they could go with pregnancy complications, as indicated by 92.34% of the respondents at endline, compared to 96.8% at baseline.

### 2.3.2 Knowledge of at least two danger signs in pregnancy

This indicator assessed the number of women who were able to identify at least two danger signs during pregnancy. The objective of the indicator is an increased % of pregnant women able to identify at least two danger signs during pregnancy and an increased % of pregnant women able to state where they should go for treatment when they have danger signs.

Results from the endline study indicated that almost 98.48% of the mothers of children aged 0-23 months knew of at least two danger during their most recent pregnancy. This was a significant improvement from the baseline figure of 62.3% and was also statistically significant with Chi-square 296.87, P-Value <0.0000, 95 CI). Questions were asked as to what type of symptoms would cause the mother to seek immediate medical care at a health facility (HF). Results showed that vaginal bleeding was considered a major symptom that would cause a mother to seek immediate health care, and was stated by about 75% of the mothers interviewed. Other signs and symptoms included severe abdominal pains, fever, headache/blurred vision and leaking of brownish/greenish fluid.

## 2.4 Tetanus toxoid coverage, malaria treatment and access to iron tablets

Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, a major cause of early infant death in many developing countries, often due to failure to observe hygienic procedures during delivery. The endline survey wanted to determine whether mothers had access to TT during pregnancy. The key indicators under this component were the following:

1. *Percentage of mothers with children age 0-23 months who received at least two tetanus toxoid vaccinations before the birth of their youngest child.*
2. *Percentage of mothers of children age 0-23 months who received Intermittent Preventive Treatment (IPT) for malaria during the pregnancy with the youngest child.*
3. *Percentage of mothers of children age 0-23 months who took iron tablets before the birth of their youngest child.*

### 2.4.1 Tetanus toxoid coverage

This indicator shows the percentage of mothers with children age 0-23 months who received at least two tetanus toxoid vaccinations before the birth of their youngest child. Tetanus immunization (TT) during pregnancy can be life-saving for both the mother and infant. Prevention and treatment of malaria among pregnant women (IPT) and management of anemia during pregnancy can significantly improve fetal outcomes and improve maternal health.

Results from the endline survey showed that a total of 227 of 394 mothers of children age 0-23 months had at least two tetanus toxoid vaccines before the birth of their youngest child. This represented 57.61% of those interviewed and when compared to the baseline figure of 59.6%, the endline result was lower. However, these results were not statistically significant at P-Value 0.58, 95 CI. Refer to Table 6 for further results.

### 2.4.2 Malaria management in pregnancy

For malaria management in pregnant women, the endline survey showed that 91.88% of the mothers of children age 0-23 months had received Intermittent Preventive Treatment for malaria during the pregnancy of their youngest child. This was also statistically significant and an improvement from the baseline figure of 77.0%. For those mothers who had received malaria prevention drugs, the majority reported that they had received Fansidar (94.48%) followed by Chloroquine (0.83%).

The 2010 MDHS also collected data on malaria treatment during pregnancy. WHO recommendations to prevent malaria during pregnancy include intermittent preventive

treatment (IPT) with at least two doses of an effective antimalarial drug, such as sulfadoxine-pyrimethamine (SP), during routine ANC visits (WHO, 2008). Results from the DHS showed that 91% of pregnant women in Malawi took antimalarial drugs for malaria prevention during their last pregnancy.

Access to ITNs during pregnancy was crucial to preventing mothers from contracting malaria. The endline asked whether the mother was given a mosquito net to prevent her from being bitten by mosquitoes that cause malaria. Results showed that a slightly higher proportion of mothers (75.38%; 297 of 394) had received a mosquito net during pregnancy. Despite a higher figure of mothers who had access to mosquito net, the results still indicated a significant proportion of mothers did not receive a mosquito net as well. There is a clear need to re-orient the program towards supporting efforts to increase access to mosquito nets by women of reproductive age (WRA).

**Table 7: Tetanus Toxoid, Malaria Management and Access to Iron Tablets**

| Indicator | N | D | Baseline Percentage % | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of mothers of children age 0-23 months who received Intermittent Preventive Treatment (IPT) for malaria during the pregnancy with the youngest child.* | 231 | 300 | **77.0** | 362 | 394 | 91.88 |
| *Percentage of mothers with children age 0-23 months who received at least 2 tetanus toxoid vaccinations before the birth of their youngest child.* | 179 | 300 | **59.6** | 227 | 394 | 57.61 |
| *Percentage of mothers of children age 0-23 months who took iron tablets before the birth of their youngest child.* | 263 | 300 | **87.6** | 367 | 394 | 93.15 |
| **Frequency of Accessing Iron Tablets** | | | | | | |
| • Once | | | | | | |
| • Twice | 61 | 263 | **23.2** | | 394 | 16.62 |
| • Three or more | 77 | 263 | **29.3** | 113 | 394 | 30.79 |
| | 124 | 263 | **47.1** | 193 | 394 | 52.59 |
| **Access to a Mosquito Net During Pregnancy** | 165 | 300 | **55.0** | 297 | 394 | **75.38** |
| **Name of Malaria Drug** | | | | | | |
| • SP/Fansidar | 227 | 233 | **98.3** | 342 | 394 | **94.48** |
| • Chloroquine | 2 | 233 | **0.9** | 3 | 394 | **0.83** |

### 2.4.3 Access to iron tablets

Access to iron tablets was very high among the mothers of children age 0-23 months interviewed, with 93.15% acknowledging having received or bought iron tablets during their most recent pregnancy. This was positive, as iron tablets are critical to ensure adequate blood supply for the mother during pregnancy and childbirth. The result was very comparable to the baseline, where only 87.7% of the mothers had access to iron tablets.

In terms of the frequency of accessing iron tablets, the majority of mothers interviewed had taken iron tablets three or more times during their pregnancy (52.59 %; baseline 47.1%) followed by those who had two doses of iron tablets (30.79% vs. 29.3% at baseline) and one dose (16.62%). Further results are shown in Table 7 above.

## 3.0 Delivery and postnatal management

Access to proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections which may lead to death or serious illness for mother and/or baby (Van Lerberghe, W., and V. De Brouwere, 2001; WHO, 2006). Results from the DHS showed that although 97% of mothers reported that they received ANC for their last birth from a health professional, only 73% reported that their births in the last five years were delivered by a health professional. Seventy-two percent of births were delivered in a HF; the percentage of births that occurred in a HF increased from 57% in 2004.

Four key indicators were assessed to show progress in the knowledge, attitudes and practices related to clean delivery and PNC as follows:

1. *Percentage of children age 0-23 months whose births were attended by skilled personnel.*
2. *Percent children age 0-23 months that had clean cord cutting at the time of birth.*
3. *Percentage of children age 0-23 months who were wiped immediately and wrapped with a cloth or blanket immediately after birth.*
4. *Percentage of children age 0-23 months who received a postnatal visit from an appropriate trained health worker within two days after birth.*

## 3.1 Proportion of infants whose births were attended by skilled birth attendant

This strategic indicator is a good measure of access to ANC services and shows the proportion of infants aged 0-23 months whose birth was attended by a skilled birth attendant (SBA). This indicator directly measures whether or not deliveries were being attended by a SBA according to the WHO definition of this level of provider. It also serves as a proxy measure for quality of care during labor and delivery.

Results from the endline survey showed that 93.4% (368/394) of the children aged 0-23 months had their births attended by skilled health personnel; this was an improvement from the baseline figure of 84.7%. The difference between the baseline and the endline figures were significant with a P-Value of 0.0002, 95 CI. A majority of support was provided by nurses (72.8%), followed by doctor or medical assistant/clinical officer (19.3%). Refer to Table 8.

**Table 8: Delivery and Postnatal Care**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of children age 0-23 months whose births were attended by skilled personnel.* | 254 | 300 | 84.7 | 368 | 394 | 93.40 |
| **Delivery Support from Health Personnel** | | | | | | |

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| • nurse | 213 | 300 | **71.0** | 289 | 394 | **73.35** |
| • doctor/CO/MA | 41 | 300 | **13.7** | 79 | 394 | **20.05** |
| **Maternal check after delivery** | 212 | 300 | **70.7** | 352 | 394 | 89.34 |
| **Child check after delivery** | 215 | 300 | **71.6** | 364 | 394 | **92.39** |
| *Percent children age 0-23 months that had clean cord cutting at the time of birth.* | 288 | 300 | **96.0** | 373 | 394 | 94.67 |
| **Anything Placed on the Umbilical Cord** | 90 | 300 | **30.0** | 315 | 394 | 79.95 |
| *Percentage of children age 0-23 months who were wiped immediately and wrapped with a cloth or blanket immediately after birth.* | 281 | 300 | **93.7** | 324 | 394 | 82.23 |
| **Colostrum Given to Child immediately after birth** | 296 | 300 | **98.7** | 388 | 394 | 98.48 |
| *Percentage of children age 0-23 months who received a postnatal visit from an appropriate trained health worker within two days after birth.* | 69 | 300 | **23.0** | 143 | 394 | 36.29 |

### 3.2 Percentage of children that had clean cord cutting at the time of birth

Mothers of children aged 0-23 months were asked whether a clean kit had been used during the delivery of their child. Results showed that for 94.7% (373/394) of the children aged 0-23 months, a clean cord kit had been used at their birth. This was very similar to the baseline figure of 96.0%.

### 3.3 Percentage of children aged 0-23 months who were wiped and wrapped with a cloth or blanket immediately after birth

This measure is an indication of thermal care and immediate drying of children aged 0-23 months received immediately after birth. Mothers were asked whether the child had been dried (wiped) and wrapped with a cloth or blanket immediately after birth before the placenta was delivered. Results showed that over 82.2% (324/394) of these children, were wiped immediately and wrapped with a cloth or blanket after birth. This was lower than the baseline figure of 93.7%; however the difference might have been the use of an overall denominator, instead of only for children 0-23 months.

#### 3.3.1 Utilization of colostrum (first milk) and prelacteal feeding

For approximately three days after delivery, the breasts secrete colostrum. There are some communities that believe colostrum is not good for infants and do not allow them to have it. Fluids and/or semi-solids given to infants in the first few days after delivery are called prelacteal feeds. They may introduce pathogens that cause diarrhea and other diseases.

The endline survey asked mothers whether they had given colostrum to their youngest child immediately after birth. Results showed that 98.5% of mothers had given colostrum to the baby; a similar figure was also reported during the baseline (98.7%).

### 3.4 Number of mothers of children 0-23 months who received a postnatal home visit from an appropriate trained health worker within two days after birth

The objective of this indicator is to increase the percentage of mothers who understand the importance of a postnatal check-up, and increase the percentage of mothers who are able to state the advantages of a postnatal check-up for both mother and baby. This indicator is designed to encourage PNC in order to identify/treat maternal and newborn danger signs early.

Mothers were asked whether they and their newborn had received a postnatal home visit from an appropriate health care provider after the delivery of their youngest child. Results showed that 36.3% (143/394) of the mothers had received a postnatal visit from an appropriate health care provide who checked on their health and that of the child. This was an improvement from baseline where only 23.0% of caregivers reported receiving a postnatal visit from an appropriate health worker, though the change was not significant (P-Value at 0.1704, 95% CI).

#### 3.4.1 Source of health care

Asked which health care provider had visited the mother and child during the postpartum period, results showed that nurses/midwives were the most frequently mentioned individuals (73.4%) 289/394. This was followed by a doctor/MA/CO (20.1%; 79/394).

#### 3.4.2 Timing of the check-up

Most mothers were checked within one week of delivery (40.3%) 142/352 followed by those checked within two days of delivery (40.9%) 144/352, while very few mothers were visited and checked within one hour of delivery (16.5%) 58/352. Similar trends were also observed for checking on the child; these results were comparable to baseline.

### 3.5 Postpartum family planning

Mothers were asked whether they were counseled on a number of PPFP methods, including exclusive breastfeeding, Lactational Amenorrhea Method (LAM), family planning methods, and the use of an effective/modern contraceptive method for at least two years before trying to become pregnant again.

Results showed that 97.2% of the mothers had been counseled on exclusive breastfeeding during antenatal check-up, while 60.9% were counseled on LAM, which was higher than the baseline figure of 43.3%. For FP, the endline survey found that 93.9% of the mothers were counseled while 87.3% were counseled on effective/modern contraceptive method.

Similar trends were observed during postpartum checks where 97.2% of the mothers were counseled on exclusive breastfeeding, 68.3% on LAM, 91.6% on FP methods and 86.8% on effective/modern contraceptive methods. Detailed results are shown in Table 9 below.

**Table 9: Postpartum Family Planning**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| **Antenatal Counseling** | | | | | | |
| • Breastfeeding | 284 | 300 | **94.7** | 383 | 394 | **97.21** |
| • Lactational Amenorrhea | 130 | 300 | **43.3** | 240 | 394 | **60.91** |
| • Family Planning | 263 | 300 | **87.7** | 370 | 394 | **93.91** |
| • Effective contraceptive | 239 | 300 | **79.7** | 344 | 394 | **87.31** |
| **Postnatal Counseling** | | | | | | |
| • Breastfeeding | 274 | 300 | **91.3** | 383 | 394 | 97.21 |
| • Lactational Amenorrhea | 128 | 300 | **42.7** | 269 | 394 | 68.27 |
| • Family Planning | 256 | 300 | **85.3** | 361 | 394 | 91.62 |
| • Effective contraceptive | 225 | 300 | **75.0** | 342 | 394 | 86.80 |
| **Postpartum Family Planning** | 166 | 300 | **55.3** | 292 | 394 | 74.11 |
| **Timing of PPFP** | | | | | | |
| • Six weeks or earlier | 73 | 300 | **24.3** | 132 | 292 | 45.21 |
| • 7 week or later | 92 | 300 | **30.7** | 160 | 292 | 54.79 |
| *Percentage of children age 0-23 months who were put to the breast within one hour of delivery.* | 237 | 300 | 79 | 268 | 394 | 68.02 |
| **Ever Breastfed the Child** | 293 | 300 | **98.0** | 394 | 394 | **100.0** |
| **Still Breastfeeding** | 280 | 300 | **93.3** | 371 | 394 | 94.16 |
| **Initiation of Breastfeeding after birth** | | | | | | |
| • Immediate (within 1 hr.) | | | **65.7** | 268 | 394 | 68.02 |
| • Hours | | | **29.0** | 94 | 394 | 23.86 |
| • Days | | | **4.6** | 15 | 394 | 3.81 |

The overall number of women using a postpartum method of family planning was 74.1% (292/394) which was very high compared to the baseline figure of 55.3%. The majority of the women (54.8%) initiated PPFP seven weeks or more, following the birth of their youngest child. A significant number (45.2%) initiated PPFP within six weeks or earlier of giving birth, which was higher compared to the baseline figure of 24.3%.

### 3.6 Infant breastfeeding after delivery

Immediate breastfeeding ensures that the infant begins to receive the nutritional and antiviral/antibacterial benefits of the mother's colostrum. Colostrum is yellow and thicker than the mature milk, and it contains more antibodies and white blood cells. It gives the infant protection against bacteria and viruses. Immediate breastfeeding also ensures that body warmth is maintained after delivery.

The key indicator for breastfeeding upon delivery is **the *percentage of children age 0-23 months who were put to the breast within one hour of delivery.*** Results from the endline showed that 68.0% (268/394) of these children were put to the breast within one hour of

delivery. This was comparable to the baseline figure of 79.0%, although the higher figure may have been calculated from the overall sample rather than the 0-23 month age group.

The endline survey also asked mothers whether they ever breastfed their children or not. Results showed that all of the mothers 100% (394/394) had ever breastfed their child after birth; of these, 94.2% were still breastfeeding. This was higher than the baseline figure of 93.3% of mothers still breastfeeding during the survey.

## 4.0 Breastfeeding/infant and young child feeding practice

Breastfeeding is sufficient and beneficial for infant nutrition in the first six months of life. Breastfeeding immediately after birth also helps the uterus contract hence reducing the mother's postpartum blood loss. Supplementing breast milk before the child is four months old is discouraged because it may inhibit breastfeeding and expose the newborn to illness. At a later stage of the baby's development, breast milk should be supplemented by other liquids and eventually by solid or mushy food to provide adequate nourishment (PAHO, 2002). The main indicators under this section are:

1. *Percentage of children age 6-23 months fed according to a minimum of appropriate feeding practices.*
2. *Percentage of children age 0-5 months who were exclusively breastfed during the last 24 hours.*

## 4.1 Percentage of children age 6-23 months fed according to minimum of appropriate feeding practices

This indicator measures the average number of different food groups consumed by children aged 6-23 months, on a daily basis. A child is considered fully dietary diversified if s/he consumes a meal defined as a combination of foods from eight food groups eaten together to provide all nutrients in adequate amounts and the right proportion for good health. The eight food groups are: 1) Infant formula, milk other than breast milk, cheese or yogurt; 2) Foods made from grains, roots, and tubers, including porridge, fortified baby food; 3) vitamin A-rich fruits and vegetables (and red palm oil); 4) Other fruits and vegetables; 5) Eggs; 6) Meat, poultry, fish, and shellfish (and organ meats); 7) Legumes and nuts; and 8) Foods made with oil, fat, and/or butter.

Results from the endline survey showed that 59.7% (179/300) of children aged 6-23 months were fed according to the minimum of appropriate feeding practices. This was higher than the baseline figure of 55.0%. Table 10 provides additional details.

**Table 10: Young Child Feeding Practices**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of children age 0-5 months who were exclusively breastfed during the last 24 hours.* | 54 | 80 | **67.5** | 73 | 94 | 77.66 |
| *Percent of children age 6-23 months fed according to a minimum of appropriate feeding practices* | 121 | 220 | **55.0** | 179 | 300 | 59.67 |

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| **Vitamin A supplementation among all children** | 203 | 300 | **67.6** | 351 | 394 | **89.09** |
| **Vitamin A supplementation in the last 6 months (among those 6-23 months old)** | 171 | 220 | **77.7** | 286 | 351 | **81.48** |

### 4.2 Exclusive breastfeeding

This indicator measures the amount of breastfeeding mothers provide to their children under 5 months old. Breast milk is sufficient and beneficial for infant nutrition in the first six months of life, while supplementing breast milk before the child is four months old is discouraged because it may inhibit breastfeeding and expose the newborn infant to illness.

Mothers were asked whether they were exclusively breastfeeding their children; 77.7% stated that they were exclusively breastfeeding their children. This was higher than the baseline figure of 67.5%. There was no significant difference between the two figures at P-Value, 0.1325, 95 CI.

### 4.3 Vitamin A supplementation

The purpose of this indicator is to find out whether or not the infant/child received a dose of vitamin A in the last six months. Lack of vitamin A causes children to get sick more easily and in extreme cases, lack of vitamin A can cause eye damage and blindness. Vitamin A supplements are given because many children do not get enough vitamin A from the foods they eat.

Mothers were asked whether the child has ever received a vitamin A dose. Results showed that 89.0% (351/394) of children have received a vitamin A dosage which was higher than the baseline figure of 67.6%. For children aged 6-23 months who had received vitamin A in the last 6 months, results showed that 81.5% (286/351) had received vitamin A within the last six months verified by a card or mother's recall. This was significantly different from the baseline figure of 77.7% with P-Value of 0.0011, Chi-square, 10.66, 95 CI.

### 4.4 Immunization coverage

According to the World Health Organization (WHO), a child is considered fully vaccinated if he or she has received a BCG vaccination against tuberculosis; three doses of DPT (now Penta) vaccine to prevent diphtheria, pertussis, and tetanus (DPT); at least three doses of polio vaccine; and one dose of measles vaccine. These vaccinations should be received during the first year of life. The 2010 MDHS collected information on the coverage for these vaccinations among all children born in the five years preceding the survey. In Malawi, BCG vaccine should be given at birth, and DPT and polio vaccines should be given at approximately 6, 16, and 20 weeks of age; there is also a dose of polio vaccine that should be given between 0 and 14 days after birth (polio 0). The measles vaccine should be given at or soon after the child reaches nine months of age. It is also recommended that children receive the complete schedule of vaccinations before their first birthday, and that the vaccinations be recorded on a health card that is given to the parents or guardians.

**The key indicators under this section include:**

1. *Percentage of children aged 12-23 months who received measles vaccine according to the vaccination card or mother's recall by the time of the survey.*
2. *Percentage of children aged 12-23 months who received DTP 1/Penta 1 according to the vaccination card or mother's recall by the time of the survey.*
3. *Percentage of children aged 12-23 months who received DTP 1/Penta 1 according to the vaccination card or mother's recall by the time of the survey.*
4. *Percentage of children aged 12-23 months who received Penta 3/DTP3 according to the vaccination card or mother's recall by the time of the survey.*

### 4.4.1 Percentage of children aged 12-23 months who received measles vaccine according to the vaccination card or mother's recall at the time of the survey

The primary source of verification was the child health card and in its absence caregiver recall. Results from the endline survey showed that 93.3% (182/195) of the children aged 12-23 months had received the measles vaccine according to the vaccination card or mothers recall by the time of the survey. This was higher than the baseline figure of 87.6%.

### 4.4.2 Percentage of children aged 12-23 months who received DTP 1/Penta 1 according to the vaccination card or mother's recall at the time of the survey

As for DTP1/Penta 1, results from the endline survey showed that 85.1% (166/195) had received DTP 1/Penta 1 according to the vaccination card or mother's recall. This was also higher than the baseline figure of 65.3% and statistically very significant change from the baseline at P-Value 0.000, chi-square 17.29, 95 CI.

### 4.4.3 Percentage of children aged 12-23 months who received Penta 3/DTP3 according to the vaccination card or mother's recall at the time of the survey

As for Penta 3/DTP3, results showed that only 72.8% (142/195) had received Penta 3/DTP 3 according to mother's recall or the vaccination card at the time of the survey. This was higher than the baseline figure of 59.2% as per Table11 below.

**Table 11: Coverage of Essential Vaccines**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of children aged 12-23 months who received measles vaccine according to the vaccination card or mother's recall by the time of the survey.* | 114 | 130 | 87.6 | 182 | 195 | 93.33 |
| *Percentage of children aged 12-23 months who received DTP 1/Penta 1 according to the vaccination card or mother's recall by the time of the survey.* | 77 | 130 | 65.3 | 166 | 195 | 85.13 |

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of children aged 12-23 months who received Penta 3/DTP3 according to the vaccination card or mother's recall by the time of the survey.* | 85 | 130 | 59.2 | 142 | 195 | 72.82 |
| **Overall receipt of BCG** | 215 | 300 | **71.6** | 371 | 394 | 94.16 |
| **Overall receipt of polio 0** | 128 | 300 | **42.6** | 378 | 394 | 95.94 |

Finally, the overall receipt of BCG vaccine among children was 94.2%, higher than the baseline figure of 71.6%. The overall rate of polio immunization was 95.9% which was also higher than the baseline figure of 42.6% signifying major improvements in the knowledge and practice of mothers related to having their children vaccinated against polio and tuberculosis.

## 5.0 Integrated management of childhood illnesses

ARI, fever, and dehydration from diarrhea are important contributing causes of childhood morbidity and mortality in developing countries (WHO, 2003). Prompt medical attention when a child has the symptoms of these illnesses is, therefore, crucial in reducing child deaths. In the 2010 MDHS, for each child under age 5, mothers were asked if the child had experienced an episode of diarrhea, a cough accompanied by short, rapid breathing (symptoms of ARI), or fever in the two weeks preceding the survey. Information was also collected on the percentage of episodes in which mothers sought treatment for their children. The key indicators under this component are as follows:

1. *Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment.*
2. *Percentage of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began.*

### 5.1 Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment

This indicator defines the number of women who can identify at least two danger signs in children that would prompt them to go and seek treatment from a caregiver. Reasons for adopting the proposed behaviour include children being treated before they become too ill and children recovering more quickly than if they had been treated when they were seriously ill. Similarly, mothers have more time to do other HH and community activities when their children are well.

The endline survey asked whether mothers were familiar with the signs of illness that would indicate the child needs treatment. Results showed that 100% of the mothers interviewed indicated that they knew at least two signs of childhood illness that indicated the need for treatment. This was higher than the baseline figure of 92.3% and statistically significant at Chi-square 31.24, p<0.0000, 95 CI. Fever was reported as a major sign that the child is ill and needs treatment, followed by those who indicated vomiting all that is eaten by the child.

## 5.2 Percentage of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began

This indicator measures the prevalence of recent episodes of fever in children 0-59 months. According to WHO, in malaria-endemic areas such as Malawi, fever is primarily caused by Malaria infection therefore this indicator can be used as a proxy measure of malaria prevalence. The MDHS 2010 reported actual malaria prevalence at 35%. Results from the endline survey showed that 58.4% (87/149) of children age 0-23 months had a febrile episode during the previous two weeks, and were treated with an effective anti-malarial drug within 24 hours after the fever began. This was higher than the baseline figure of 19.1% probably due to the timing of the two studies in different seasons. See results in Table 12.

**Table 12: Malaria and Fever Case Treatment and Care**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment.* | 277 | 300 | 92.3 | 394 | 394 | 100 |
| *Percentage of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began.* | 29 | 152 | 19.1 | 87 | 149 | 58.38 |
| **Suffered fever last 2 weeks** | 189 | 300 | **63.0** | 149 | 394 | 37.82 |
| **Appropriate Care-Seeking for fever** | 178 | 300 | **59.2** | 145 | 149 | 97.32 |
| **Health Facility** | | | | | | |
| • Hospital | 27 | 178 | **15.2** | 6 | 145 | 4.13 |
| • HC | 85 | 178 | **47.8** | 64 | 145 | 44.14 |
| • Community Health Worker (CHW) | 43 | 178 | **24.2** | 51 | 145 | 35.17 |
| • Clinic | 2 | 178 | **1.1** | 16 | 145 | 11.03 |
| **Decision on Appropriate Care-Seeking (multiple response)** | | | | | | |
| • Mother | 146 | 187 | **82.0** | 106 | 149 | 71.14 |
| • Husband/Partner | 29 | 187 | **16.3** | 44 | 149 | 29.53 |
| **Timing of Appropriate Care-Seeking** | | | | | | |
| • Same day | 22 | 178 | **12.4** | 99 | 149 | 66.44 |
| • Next day | 38 | 178 | **21.3** | 46 | 149 | 30.87 |
| **Treatment of fever with drug** | 152 | 178 | **86.3** | 141 | 149 | 94.63 |

## 5.3 Treatment of fever

The study also found out that the overall prevalence of fever in the two weeks preceding the survey was at 37.8% (149/394) which was lower than the baseline figure of 63.0%. Most of the mothers sought appropriate care for fever as indicated by 97.3% of the respondents who had children with fever. Results also showed that the most common place for advice and treatment for fever was the HC (44.1%) followed by field/CHW (35.2%) and clinic (11.0%). The decision to go for advice or treatment was made by the mother/caregiver in most of the cases (71.1%), followed by the husband or partner (29.5%).

In terms of the number of days it took to seek treatment, the majority stated that they sought treatment the same day that the fever was detected (66.4%), followed by the next day (30.9%). This was an improvement from the baseline where fewer mothers (21.3%) sought treatment the next day after the fever had started or the same day (12.4%). The majority of mothers (94.6%) reported that after consultation with medical personnel, the fever was treated with drugs for the fever which varied from ACT/LA, Asprin and Quinine.

### 5.4 Malaria management

This section addresses ownership of an insecticide treated bednet by the mother interviewed as well as how it is used for family protection from malaria. The key indicator is the *percentage of children age 0-23 months who slept under an insecticide treated bednet the previous night.*

Results from the endline survey showed that 64.2% (253/394) of children aged 0-23 months had slept under an insecticide treated bednet the previous night. This was very high compared to the baseline figure of 44.3% and statistically significant improvement at chi-square 28.17, P-Value <0.0000, 95 CI. However, overall ownership of ITNs was 80.5% which was also higher than the baseline figure of 61.7%. Refer to Table13 below.

**Table 13: Malaria Management**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of children age 0-23 months who slept under an insecticide treated bednet the previous night.* | 132 | 300 | 44.3 | 253 | 394 | 64.21 |
| **Ownership of ITN** | 185 | 300 | **61.7** | 317 | 394 | 80.46 |
| **Net already treated when bought** | 169 | 185 | **91.4** | 293 | 317 | 92.43 |
| **Soaking of nets** | 40 | 185 | **21.6** | 53 | 317 | 16.72 |
| **Type of Nets Owned** | | | | | | |
| • Long lasting nets | 165 | 185 | **89.2** | 312 | 317 | 98.42 |
| • ITN | 19 | 185 | **10.2** | 5 | 317 | 1.58 |

#### 5.4.1 Type of nets owned

Mothers were asked about the type of net owned by the HH; most (98.4%) HHs owned the long lasting treated net, while 1.6% owned another type of ITN as shown in Table 11 above.

### 6.0 Diarrhea case management

This indicator measures diarrhea prevalence in children under 5 and is a useful proxy indicator of the availability of a safe water supply. Diarrhea in children under 5 is a direct measure of morbidity or illness. As such, it is one of the more important indicators to measure the contribution of Save the Children's interventions towards improving the physical health status of children. The key indicators under this section were as follows:

1. *Percentage of children aged 0-23 months with diarrhea in the last two weeks who received oral rehydration solution and/or recommended home fluids.*
2. *Percentage of sick children aged 0–23 months who received increased fluids and continued feeding during an illness in the past two weeks.*

### 6.1 Percentage of children age 0-23 months with diarrhea in the last two weeks who received oral rehydration solution and/or recommended home fluids

The endline survey sought to find out whether the child had diarrhea in the last two weeks. Results showed that 67.5% (81/120) of children 0-23 months had suffered from diarrhea in the past two weeks. This was almost similar to the findigns of the baseline figure of 64.5%. Most HHs gave the child ORS fluid to treat the diarrhea, although others provided zinc, herbal medicines or nothing. The overall number of children that suffered from diarrhea in the two week prior to the survey was 29.4%, which was lower than the baseline figure of 41.3%.

### 6.2 Percentage of sick children age 0–23 months who received increased fluids and continued feeding during an illness in the previous two weeks

This is an indicator for effective diarrhea treatment among children under 5. The indicator measures the prevalence of appropriate management with oral rehydration therapy (ORT) of children aged 0-23 months with diarrhea in the prior two weeks. Treatment using low osmolarity ORS and zinc is recommended by WHO.

Results showed that about 39.2 % (47/120) of the sick children aged 0-23 months received increased fluids and continued feeding as part of the treatment for diarrhea. Refer to Table14.

**Table 14: Diarrhea Case Management**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| **Suffered Diarrhea for the Past two weeks** | 124 | 300 | **41.3** | 120 | 394 | **30.46** |
| *Percentage of children aged 0-23 months with diarrhea in the last two weeks who received oral rehydration solution and/or recommended home fluids.* | *80* | *124* | *64.5* | *81* | *120* | *67.50* |
| **Care seeking during diarrhea** | 60 | 124 | **48.4** | 52 | 120 | 43.33 |
| **Source of Treatment** | | | | | | |
| • Hospital | 6 | 60 | **10** | 3 | 52 | 5.77 |
| • HC | 28 | 60 | **46.7** | 22 | 52 | 42.31 |
| • CHW | 5 | 60 | **8.3** | 22 | 52 | 42.31 |
| **Decision on Diarrhea treatment** | | | | | | |
| • Mother | 45 | 60 | **75.0** | 36 | 52 | 69.23 |
| • Husband/Partner | 9 | 60 | **15.0** | 13 | 52 | 25.00 |
| *Percentage of sick children age 0–23 months who received increased fluids and continued feeding during an illness in the past two weeks.* | *65* | *124* | *52.4* | *47* | *120* | *39.17* |

A total of 52 of 120 mothers sought treatment for diarrhea; this treatment was sought equally from HCs and CHWs (42.31%), with very little treatment sought from hospitals (5.48%). The decision to seek treatment was mainly made by the mother (69.2%) followed by the husband or partner (25.0%). Similar trends were observed at baseline.

## 7.0 Acute respiratory infections

This indicator measures the prevalence of children under 5 who have a respiratory infection with signs of 'presumed pneumonia.' Presumed pneumonia is defined as fast breathing rate, in-drawing of ribs, nasal flare and cough. Sometimes the combination of these signs is termed "danger signs" of pneumonia. Under this component, the key indicator was:

1. *Percentage of children aged 0-23 months with chest-related cough and fast and/or difficult breathing in the last two weeks who were taken to an appropriate health provider.*

Mothers of children aged 0-23 were asked about the occurrence of a cough and fast or difficult breathing at any time in the previous two weeks. Results showed that 71.2% (74/104) of the children aged 0-23 months had chest-related cough, and fast and/or difficult breathing in the previous two weeks and were taken to an appropriate health provider. This finding was higher than the baseline figure of 65.0% and but not statistically significant with chi-square 0.89, P-Value <0.346, 95 CI.

**Table 15: Acute Respiratory Infections**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of children age 0-23 months with chest-related cough and fast and/or difficult breathing in the last two weeks who were taken to an appropriate health provider.* | 67 | 154 | 43.5 | 74 | 104 | 71.15 |
| **Appropriate Care-Seeking** | 114 | 154 | **74.0** | 146 | 185 | 78.92 |
| **Timing of Treatment** | | | | | | |
| • Same day | 85 | 154 | **55.7** | 52 | 146 | 35.62 |
| • Next day | 24 | 154 | **15.6** | 55 | 146 | 37.67 |
| **Source of advice or treatment** | | | | | | |
| • Hospital | 20 | 154 | **13.0** | 3 | 146 | 2.05 |
| • HC | 53 | 154 | **34.4** | 59 | 146 | 40.41 |
| • CHW | 5 | 154 | **3.2** | 43 | 146 | 29.45 |
| **Overall occurrence of a cough and difficult breathing** | 154 | 300 | **51.3** | 185 | 394 | 46.95 |

However, the overall occurrence of a cough was 47.0% (185/394) which was lower than the baseline figure of 51.3%. Of these, 78.9% (146/185) of mothers stated that they had sought appropriate care, including advice or treatment from a HC the same day (35.6%) and the next day (37.7%). The main source of treatment and advice was the HC (40.4%), followed by CHW (29.5%) and hospital (2.1%) as shown in Table 15 above.

## 8.0 Household water supply, sanitation and hygiene

The purpose of this indicator is to assess whether the HH used an improved supply source for drinking water, and the degree of access to this source. Access was measured indirectly by asking about the amount of time it takes to fetch water, which also determined how much water HHs use, and whether the supply was available every day. If drinking water was obtained

from several sources, the enumerator had to probe to determine the source from which the HH obtains most of its drinking water. Key indicators under this component are:

1. *Percentage of households of children age 0-23 months that treat water effectively.*

## 8.1 Treatment of water

Results from the endline survey showed that 68.0% (268/394) of the HHs with children aged 0-23 months treated water effectively. The main treatment methods ranged from adding bleach/chlorine, sedimentation, boiling and other minor ways such as using a water guard and covering the container.

**Table 16: Household Water Supply, Sanitation and Hygiene**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of households of children aged 0-23 months that treat water effectively.* | 240 | 300 | 80.0 | 268 | 394 | 68.02 |
| **Source of Drinking water** | | | | | | |
| • Tubewell/Borehole | 259 | 300 | **86.3** | 330 | 394 | 83.76 |
| • Protected Dug Well | 20 | 300 | **6.7** | 9 | 394 | 2.28 |
| **Source of washing/bathing water** | | | | | | |
| • Tubewell/Borehole | 206 | 300 | **68.7** | 301 | 394 | 76.40 |
| • Protected Dug Well | 21 | 300 | **7.0** | 10 | 394 | 2.54 |
| **Minutes taken to and from drawing water** | | | | | | |
| • 2-10 minutes | 131 | 300 | **43.7** | 156 | 369 | 42.28 |
| • 11-30 minutes | 105 | 300 | **35.0** | 126 | 369 | 34.15 |
| **Responsibility for drawing water** | | | | | | |
| • Adult woman (age 15 or older) | 236 | 313 | **78.7** | 335 | 394 | 85.03 |
| • Female child | 36 | 313 | **12.0** | 6 | 394 | 1.52 |
| • Adult man | 6 | 313 | **2.0** | 53 | 394 | 13.45 |

## 8.2 Sources of water

The main source of drinking water for HHs was a Tubewell/borehole as stated by 83.8% of the respondents. This was also the main source for cooking or hand washing (76.4%). Other sources included protected dug well, unprotected dug well and public tap as per Table16 above.

## 8.3 Distance to nearest source of water

With regard to the time it takes to get to the water source, the majority of mothers (42.3%) stated that it took 2-10 minutes to get to the water source; while 34.2% of respondents stated that the longest it took to get to the water source was about 11-30 minutes.

The majority of HHs (85.0%) reported that the adult woman (age 15 or older) was responsible for collection of water in the HH. Other members of the HH responsible for water collection were female and male children under 15 years old.

### 8.4 Sanitation and hygiene

Hand-washing practice is an indicator of cleanliness. Washing hands, especially before handling food, can protect people from various diseases such as diarrhea. Under this component, two key indicators were measured as follows:

1. *Percentage of mothers of children age 0-23 months who live in households with soap at the place for hand washing.*
2. *Percent of mothers who wash their hands before food preparation, before infant/child feeding, after defecation, and after attending to a child who has defecated.*

#### 8.4.1 Percentage of mothers of children aged 0-23 months who live in households with soap at the place for hand washing

The endline asked mothers of children aged 0-23 months whether they lived in HHs that had soap at the place for hand washing. Results showed that 121/394 of mothers indicated that they had soap at the place for handwashing; representing 30.7% of the sampled mothers. This figure was lower than the baseline figure of 77.0% due to the fact that most of the HHs could either not afford soap or consider it a HH priority.

Furthermore, results indicated that only 64.0% (352/394) of the overall respondents had a hand washing place. This was higher than the baseline figure of 43.0%. The primary place for hand washing was a basin with most of the respondents mentioning it. This was followed by those who mentioned the availability of soap or ash at the hand washing facility, as well as water/tap.

**Table 17: Sanitation and Hygiene**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of mothers of children age 0-23 months who live in households with soap at the place for hand washing* | 231 | 300 | 77.0 | 121 | 394 | 30.71 |
| *Percent of mothers who wash their hands before food preparation, before infant/child feeding, after defecation, and after attending to a child who has defecated* | 39 | 300 | 13.0 | 366 | 394 | 92.89 |
| • **Overall availability of Special Place for Hand washing** | 129 | 300 | **43.0** | 352 | 394 | 63.96 |
| • **Mothers who wash hands before food preparation** | | | **19.7** | 93 | 394 | 23.60 |
| • **Mothers who wash hands after defecation** | | | **89.7** | 337 | 394 | 85.53 |

#### 8.4.2 Percent of mothers who wash their hands before food preparation, before infant/child feeding, after defecation, and after attending to a child who has defecated

The overall proportion of mothers who washed their hands after defecation was 85.5%. However, as a composite indicator of washing hands before food preparation, before

infant/child feeding, after defecation and after attending to a child who has defecated, results from the endline survey showed that over 92.9% of the mothers were washing hands before food preparation, before infant feeding, after defecation and after attending to a child who has defecated. This was very high and a great improvement from the baseline figure of only 13.0%. This change was highly statistically significant with P-Value <0.0000, chi-square 329.39, 95, CI).

## 9.0 Anthropometry

Being underweight is a composite measure of long-term and short-term under-nutrition. In addition, two common measures of nutritional status are *stunting* (low height-for-age), which reflects long-term under-nutrition, and *wasting* (low weight-for-height), which reflects acute (short-term) under-nutrition. In order to assess underweight status, only the child's age (date of birth) and weight are needed. About 9.7% of the children had a z-score below -2SD indicating they were underweight, which may reflect stunting, wasting or both. This was lower than the baseline figure of 18.7%.

**Table 18: Anthropometry**

| Indicator | N | D | Baseline Percentage (%) | N | D | Endline Percentage (%) |
|---|---|---|---|---|---|---|
| *Percentage of children aged 0-23 months who are underweight (-2 SD for the median weight for age, according to WHO reference population).* | 56 | 300 | 18.7 | 38 | 392 | 9.67 |

# ANNEXES

## Annex 1: Summary of Key Indicators Measured through the KPC/CATCH Baseline and Endline Survey

| | Baseline Values | | | Endline Values | | | | P-Value |
|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Numerator** | **Denominator** | **Percentage (%)** | **Numerator** | **Denominator** | **Percentage (%)** | **Chi2 Value** | p ******* significant |
| *Percentage of mothers of children age 0-23 months who had four or more antenatal visits when they were pregnant with the youngest child* | **133** | **300** | 44.3 | **195** | **394** | 49.49 | 1.82 | 0.1775 |
| *Percentage of mothers with children age 0-23 months who received at least 2 tetanus toxoid vaccinations before the birth of their youngest child* | 179 | 300 | 59.6 | 227 | 394 | 57.61 | 0.30 | 0.58 |
| *Percentage of children age 0-23 months whose births were attended by skilled personnel* | 254 | 300 | 84.7 | 368 | 394 | 93.40 | 13.97 | p<0.0002 |
| *Percentage of children age 0-23 months who received a postnatal visit from an appropriate trained health worker within two days after birth* | 69 | 300 | 23.0 | 143 | 394 | 36.29 | 1.88 | p<0.1704 |
| *Percent children age 0-23 months that had clean cord cutting at the time of birth* | 288 | 300 | 96.0 | 373 | 394 | 94.67 | 0.67 | 0.4147 |
| *Percentage of mothers of children age 0-23 months who received Intermittent Preventive Treatment (IPT) for malaria during the pregnancy with the youngest child* | 231 | 300 | 77.0 | 362 | 394 | 91.88 | 30.32 | p<0.0000 |
| *Percentage of children age 0-23 months who were wiped immediately after birth* | 281 | 300 | 93.7 | 324 | 394 | 82.23 | 19.91 | p<0.0000 |
| *Percentage of children age 0-23 months who were wrapped with a cloth or blanket immediately after birth* | 298 | 300 | 99.3 | 387 | 394 | 98.22 | 1.64 | 0.2004 |
| *Percentage of mothers of children age 0-23 months who are using a modern contraceptive method* | 168 | 300 | 56.0 | 299 | 394 | 75.89 | 30.61 | p<0.0000 |
| *Percentage of mothers of children age 0-23 months who know at least two risks of having a birth to pregnancy interval of less than 24 months* | 187 | 300 | 62.3 | 392 | 394 | 99.49 | 170.11 | p<0.0000 |
| *Percentage of mothers of children age 0-23 months who took iron tablets before the birth of their youngest child* | 263 | 300 | 87.6 | 367 | 394 | 93.15 | 6.11 | p< 0.0134 |

| Indicator | Baseline Values | | | Endline Values | | | Chi2 Value | P-Value |
|---|---|---|---|---|---|---|---|---|
| | Numerator | Denominator | Percentage (%) | Numerator | Denominator | Percentage (%) | | p ****** significant |
| *Percentage of mothers of children age 0-23 months who know that a woman should wait 24 months after a live birth before trying to get pregnant again* | 229 | 300 | 76.3 | 313 | 394 | 79.44 | 0.96 | 0.3267 |
| *Percentage of mothers of children 0-23 months who knew at least two danger signs for the mother during pregnancy* | 120 | 300 | 40.0 | 388 | 394 | 98.48 | 296.87 | p<0.0000 |
| *Percentage of children age 0-5 months who were exclusively breastfed during the last 24 hours* | 54 | 80 | 67.5 | 73 | 94 | 77.66 | 2.26 | 0.1325 |
| *Percent of children age 6-23 months fed according to a minimum of appropriate feeding practices* | 121 | 220 | 55.0 | 179 | 300 | 59.67 | 1.13 | 0.2870 |

**PART 2**

| Indicator | Baseline | | | Endline | | | Chi2 Value | P-Value |
|---|---|---|---|---|---|---|---|---|
| | Numerator | Denominator | Percentage (%) | Numerator | Denominator | Percentage (%) | | P ****** significant |
| *Percentage of children age 6-23 months who received a dose of vitamin A in the last 6 months: card verified or mother's recall* | 171 | 220 | 77.7 | 254 | 287 | 88.5 | 10.66 | p<0.0011 |
| *Percentage of children aged 12-23 months who received measles vaccine according to the vaccination card or mother's recall by the time of the survey* | 114 | 130 | 87.6 | 182 | 195 | 93.33 | 3.05 | 0.0805 |
| *Percentage of children aged 12-23 months who received DTP1 according to the vaccination card or mother's recall by the time of the survey* | 85 | 130 | 65.3 | 166 | 195 | 85.13 | 17.29 | p<0.0000 |
| *Percentage of children aged 12-23 months who received DTP3 according to the vaccination card or mother's recall by the time of the survey* | 77 | 130 | 59.2 | 142 | 195 | 72.82 | 6.55 | p<0.0105 |
| *Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment* | 277 | 300 | 92.3 | 394 | 394 | 100 | 31.24 | p<0.0000 |

| Indicator | Baseline | | | Endline | | | Chi2 Value | P-Value |
|---|---|---|---|---|---|---|---|---|
| | Numerator | Denominator | Percentage (%) | Numerator | Denominator | Percentage (%) | | P<br>******<br>significant |
| *Percentage of sick children age 0–23 months who received increased fluids and continued feeding during an illness in the past two weeks* | 274 | 300 | 91.3 | 47 | 120 | 39.17 | 129.48 | p<0.0000 |
| *Percentage of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began* | 29 | 152 | 19.1 | 87 | 149 | 58.38 | 49.09 | p<0.0000 |
| *Percentage of children age 0-23 months with diarrhea in the last two weeks who received oral rehydration solution and/or recommended home fluids* | 80 | 124 | 64.5 | 81 | 120 | 67.50 | 0.24 | 0.6228 |
| *Percentage of children age 0-23 months who were put to the breast within one hour of delivery* | 237 | 300 | 79.0 | 268 | 394 | 68.02 | 10.36 | p<0.0013 |
| *Percentage of children age 0-23 months with chest-related cough and fast and/or difficult breathing in the last two weeks who were taken to an appropriate health provider* | 67 | 103 | 65.0 | 74 | 104 | 71.15 | 0.89 | 0.346 |
| *Percentage of households of children age 0-23 months that treat water effectively* | 240 | 300 | 80.0 | 268 | 394 | 68.02 | 12.46 | p<0.0004 |
| *Percentage of mothers of children age 0-23 months who live in households with soap at the place for hand washing* | 231 | 300 | 77.0 | 121 | 394 | 30.71 | 146.01 | p<0.0000 |
| *Percent of mothers who wash their hands before food preparation, before infant/child feeding, after defecation, and after attending to a child who has defecated* | 39 | 300 | 13.0 | 366 | 394 | 92.89 | 329.39 | p<0.0000 |
| *Percentage of children age 0-23 months who slept under an insecticide treated bednet the previous night* | 132 | 300 | 44.3 | 253 | 394 | 64.21 | 28.17 | p<0.0000 |
| *Percentage of children 0-23 months who are underweight (-2 SD for the median weight for age, according to WHO reference population)* | 56 | 300 | 18.7 | 38 | 392 | 9.67 | 492.47 | p<0.0000 |

## Annex 2: Summary of Indicators Measured through Intervention and Control Arms of the Programme

**Table 1: Caregiver Socio-economic Description**

| Indicator | Control (N=196) | | Intervention (N=249) | | Overall (N=445) | |
|---|---|---|---|---|---|---|
| | n | % | N | % | n | % |
| Male Child | 89 | 45.41 | 112 | 44.98 | 201 | 45.2% |
| Female Child | 107 | 54.59 | 137 | 55.02 | 244 | 54.8 |
| **Age of Child (in months)** | | | | | | |
| 0-23 | 165 | 84.18 | 229 | 91.97 | 394 | 88.5 |
| 0-49 | 196 | 100 | 249 | 100 | 445 | 100.0 |
| 12-23 | 84 | 42.86 | 111 | 44.58 | 195 | 43.8 |
| **Age of Mother in Years** | | | | | | |
| 15-17 | 27 | 13.78 | 43 | 17.27 | 70 | 15.7 |
| 20-24 | 81 | 41.33 | 87 | 34.94 | 168 | 37.7 |
| 25-29 | 40 | 20.4 | 44 | 17.67 | 84 | 18.9 |
| 30-34 | 27 | 13.78 | 50 | 2.08 | 77 | 17.3 |
| 35-39 | 16 | 8.16 | 22 | 8.84 | 38 | 8.54 |
| 40-44 | 3 | 1.53 | 3 | 1.20 | 6 | 1.35 |
| 45-49 | 2 | 1.02 | - | - | 2 | 0.45 |
| **Caregiver ever attended school?** | 185 | 94.39 | 226 | 90.76 | 411 | 92.36 |
| **Highest Education Level** | N=185 | % | N=226 | % | N=411 | % |
| Primary | 44 | 77.84 | 187 | 82.74 | 331 | 80.54 |
| Secondary | 40 | 21.62 | 39 | 17.26 | 79 | 19.22 |
| University | 1 | 0.54 | - | - | 1 | 0.24 |
| **Radio Listening Frequency** | | | | | | |
| At least once a Week | 106 | 54.08 | 128 | 51.41 | 234 | 52.58 |
| Less than once a Week | 33 | 16.84 | 47 | 18.88 | 80 | 17.98 |
| Not at all | 57 | 29.08 | 74 | 29.72 | 131 | 29.44 |
| **Source of Money/ Income Outside Home** | | | | | | |
| No outside work | 43 | 21.94 | 48 | 19.28 | 91 | 20.45 |
| Handcrafting | 9 | 4.59 | 7 | 2.81 | 16 | 3.60 |
| Harvesting | 14 | 7.14 | 20 | 8.03 | 34 | 7.64 |
| Business | 73 | 37.24 | 94 | 37.75 | 167 | 37.53 |
| Servant/household worker | 3 | 1.53 | 2 | 0.80 | 5 | 1.12 |
| Salaried worker | 7 | 3.57 | 7 | 2.81 | 14 | 3.15 |
| Piece work | 47 | 23.98 | 64 | 25.70 | 111 | 24.94 |
| Other | - | | 7 | 2.81 | 7 | 1.57 |

**Table 2: Child Spacing**

| Indicator | Control (N=165) | | Intervention (N=229) | | Overall (N=394) | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Percentage of mothers of children age 0-23 months who know that a woman should wait 24 months after a live birth before trying to get pregnant again. | 135 | 81.82 | 178 | 77.73 | 313 | 79.44 |
| Percentage of mothers of children age 0-23 months who are using a modern contraceptive method | 127 | 76.97 | 172 | 75.11 | 299 | 75.89 |
| **No of Children under 5** | Control (N=196) | | Intervention (N=249) | | Overall (N=445) | |
| | N | % | N | % | n | % |
| One Child | 119 | 60.71 | 166 | 66.67 | 285 | **64.04** |
| Two Children | 72 | 36.73 | 75 | 30.12 | 147 | **33.03** |
| Three Children | 3 | 1.53 | 7 | 2.81 | 10 | **2.25** |
| **No of Biological Children** | | | | | | |
| One Child | 116 | 59.18 | 164 | 65.86 | 280 | **62.92** |
| Two Children | 65 | 33.16 | 73 | 29.32 | 138 | **31.01** |
| Three Children | 14 | 7.14 | 12 | 4.82 | 26 | **5.84** |
| **Length of Wait before Next Pregnancy after Birth** | | | | | | |
| Less than 2 years | 6 | 3.06 | 9 | 3.61 | 15 | **3.37** |
| 2 to 5 years | 158 | 80.61 | 194 | 77.91 | 352 | **79.10** |
| More than 5 years | 21 | 10.71 | 36 | 14.46 | 57 | **12.81** |
| Don't know | 11 | 5.61 | 10 | 4.02 | 21 | **4.72** |
| **Overall knowledge of at least 2 risks of giving birth to pregnancy interval less than 24 months** | 195 | 99.49 | 248 | 99.60 | 443 | 99.55 |
| **Using any contraceptive method** | 153 | 78.06 | 192 | 77.11 | 345 | **77.53** |

| Methods of family Planning | Control (N=153) | | Intervention (N=192) | | Overall (N=345) | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Male sterilization | - | - | 1 | 0.52 | 1 | 0.29 |
| PILL | 9 | 5.88 | 10 | 5.21 | 19 | 5.51 |
| IUCD | 4 | 2.61 | 3 | 1.56 | 7 | 2.03 |
| Injectable | 113 | 73.86 | 147 | 76.56 | 260 | 75.36 |
| Implants | 22 | 14.38 | 27 | 14.06 | 49 | 14.20 |
| Male condoms | 3 | 1.96 | 3 | 1.56 | 6 | 1.74 |
| Others | 2 | 1.31 | 1 | 0.52 | 3 | 0.87 |

**Table 3: Maternal and Newborn Care**

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| Percentage of mothers of children age 0-23 months who had four or more antenatal visits when they were pregnant with the youngest child | 163 | 83, (50.61%) | 228 | 111, (49.12%) | 392 | 195, (49.74%) |
| Percentage of mothers of children age 0-23 months who know at least two risks of having a birth to pregnancy interval of less than 24 months | 165 | 164, (99.39%) | 229 | 228, (99.56%) | 394 | 392, (99.49%) |
| Percentage of children age 0-23 months whose births were attended by skilled personnel | 165 | 149, (90.30%) | 229 | 219, (95.65%) | 394 | 368, (93.40%) |
| **No. of months pregnant before seeking ANC** | | | | | | |
| 1-3 months | 194 | 42, (21.65%) | 247 | 70, (28.34%) | 441 | 112, (25.40%) |
| 4-6 months | | 142, (73.20%) | | 172, (69.64%) | | 314, (71.20%) |
| 7-9 months | | 8, (4.12%) | | 5, (2.02%) | | 13, (2.95%) |
| Don't Know | | 2, (1.08%) | | - | | 2, (0.45%) |

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| Percentage of mothers of children age 0-23 months who received Intermittent Preventive Treatment (IPT) for malaria during the pregnancy with the youngest child | 165 | 151, (91.52%) | 229 | 211, (92.14%) | 394 | 362, (91.88%) |
| Percentage of mothers with children age 0-23 months who received at least 2 tetanus toxoid vaccinations before the birth of their youngest child | 110 | 95, (86.36%) | 149 | 132, (88.59%) | 259 | 227, (87.64%) |
| Percentage of mothers of children age 0-23 months who took iron tablets before the birth of their youngest child | 165 | 154, (93.33%) | 229 | 213, (93.01%) | 394 | 367, (93.15%) |
| **Frequency of accessing iron tablets** | | | | | | |
| Once | 183 | 36, (19.67%) | 232 | 34, (14.66%) | 415 | 70, (16.87%) |
| Twice | | 63, (34.43%) | | 66, (28.45%) | | 129, (31.08%) |
| Three or more | | 84, (45.90%) | | 132, (56.90%) | | 216, (52.05%) |

## Table 4: Delivery and Postnatal Care

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| Percentage of children age 0-23 months whose births were attended by skilled personnel | 165 | 149, (90.30%) | 229 | 219, (95.63%) | 394 | 368, (93.40%) |
| **Maternal check after delivery** | 196 | 166, (84.69%) | 249 | 226, (90.76%) | 445 | 392, (88.09%) |
| **Child check after delivery** | 196 | 174, (88.78%) | 249 | 232, (93.17%) | 445 | 406, (91.24%) |
| Percent children age 0-23 months that had clean cord cutting at the time of birth | 165 | 154, (93.33%) | 229 | 219, (95.63%) | 394 | 373, (94.67%) |
| Percentage of children age 0-23 months who were wiped immediately and wrapped with a cloth or blanket immediately after birth | 165 | 137, (83.03%) | 229 | 187, (81.66%) | 394 | 323, (82.23%) |
| Percentage of children age 0-5 months who were exclusively | 35 | 27, (77.14%) | 59 | 46, (77.97%) | 94 | 73, (77.66%) |

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| breastfed during the last 24 hours | | | | | | |
| Percentage of children age 0-23 months who received a postnatal visit from an appropriate trained health worker within two days after birth | 53 | 52, (98.11%) | 91 | 91, (100%) | 144 | 143, (99.31%) |
| **Colostrum given** | 196 | 196, (100%) | 249 | 241, (96.79%) | 445 | 437, (98.20%) |
| **Ever breastfed the child** | | 196, (100%) | | 249, (100%) | | 445, (100%) |
| **Still breastfeeding** | | 161, (82.14%) | | 220, (88.35% | | 381, (85.62%) |

## Table 5: Immunizations

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| Percentage of children age 6-23 months who received a dose of vitamin A in the last 6 months: card verified or mother's recall | 124 | 110 (88.71%) | 163 | 144, (88.34%) | 287 | 254, (88.5%) |
| Percentage of children aged 12-23 months who received measles vaccine according to the vaccination card or mother's recall by the time of the survey | 84 | 76, (90.48%) | 111 | 106, (95.50%) | 195 | 182, (93.33%) |
| Percentage of children aged 12-23 months who received DTP 1/Penta 1 according to the vaccination card or mother's recall by the time of the survey | 84 | 69, (82.14%) | 111 | 97, (87.39%) | 195 | 166, (85.13%) |
| Percentage of children aged 12-23 months who received Penta 3/DTP3 according to the vaccination card or mother's recall by the time of the survey | 78 | 19, (24.36%) | 102 | 20, (19.61%) | 180 | 39, (21.67%) |
| **BCG** | | 183, (93.37%) | | 238, (95.58%) | | 421, (94.61%) |
| **Polio 0** | 196 | 187, (95.41%) | 249 | 241, (96.79%) | 445 | 428, (96.16%) |

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| **Overall Measles** | | 126, (64.29%) | | 148, (59.44%) | | 274, (61.57%) |
| **Overall Penta1/DPT1** | | 159, (89.12%) | | 208, (83.53%) | | 367, (82.47%) |

## Table 6: Malaria and Fever Management

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment | 196 | 196, (100%) | 249 | 249, (100%) | 445 | 445, (100%) |
| Percentage of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began | 55 | 32, (58.18%) | 86 | 55, (63.95%) | 141 | 87, (61.7%) |
| Percentage of children age 0-23 months who slept under an insecticide treated bednet the previous night | 127 | 96, (75.59%) | 185 | 153, (82.70%) | 312 | 249, (79.81%) |
| **Ownership of ITN** | 196 | 147, (75%) | 249 | 204, (81.93%) | 445 | 351, (78.88%) |
| **ITN Use by Child (overall)** | | 111, (75.51%) | | 167, (81.86%) | | 278, (79.20%) |
| **Net already treated when bought** | 147 | 136, (92.52%) | 204 | 185, (90.69%) | 351 | 321, (91.45%) |
| **Soaking of nets** | | 21, (14.29%) | | 43, (21.08%) | | 64, (18.23%) |
| Long lasting nets owned | | 145, (98.64%) | | 200, (98.04%) | | 345, (98.29%) |
| **Suffered fever last 2 weeks** | 196 | 77, (39.29%) | 249 | 96, (38.55%) | 445 | 173, (38.88%) |
| **Appropriate care-seeking for fever** | 77 | 74, (96.10%) | 96 | 94, (97.92%) | 173 | 168, (97.11%) |
| **Where treatment was sought for fever** | | | | | | |
| Hospital | | 4, (5.41%) | | 4, (4.30%) | | 8, (4%) |
| HC | 75 | 31, (41.89%) | 93 | 36, (38.71%) | 168 | 67, (40%) |
| CHW | | 21, (28.38%) | | 40, (43.01%) | | 61, (36%) |
| Clinic | | 10, (13.51%) | | 7, (7.53%) | | 17, (10%) |

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| **Decision on appropriate care-seeking (multiple response)** | | | | | | |
| Mother | 75 | 56, (74.67%) | 93 | 71, (74.67%) | 168 | 127, (75.60%) |
| Husband/Partner | | 22, (29.33%) | | 25, (26.88% | | 47, (27.98%) |
| **Duration of appropriate care-seeking** | | | | | | |
| Same day | 70 | 41, (58.57%) | 93 | 61, (65.59%) | 163 | 102, (62.58%) |
| Next day | | 22, (31.43%) | | 24, (25.81%) | | 46, (28.22%) |
| **Treatment of fever with drug** | 77 | 70, (90.91%) | 96 | 93, (96.88%) | 173 | 163, (94.22%) |

**Table 7: Diarrhea Case Management**

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| **Suffered diarrhea in past two weeks** | 196 | 61, (31.12%) | 249 | 70, (28.11%) | 445 | 131, (29.44%) |
| Percentage of children age 0-23 months with diarrhea in the last two weeks who received oral rehydration solution and/or recommended home fluids | 53 | 35, (66.04%) | 67 | 46, (68.66%) | 120 | 81, (67.50%) |
| **Care seeking during diarrhea** | 61 | 30, (49.18%) | 70 | 25, (35.71%) | 131 | 55, (41.98%) |
| **Source of Treatment** | | | | | | |
| Hospital | 30 | 2, (6.67%) | 25 | 1, (4%) | 55 | 3, (5.45%) |
| HC | | 14, (46.67%) | | 8, (32%) | | 22, (40%) |
| CHW | | 11, (36.67%) | | 14, (56%) | | 25, (45.45%) |
| Clinic | | - | | 2, (8%) | | 2, (3.64%) |
| **Decision on diarrhea treatment** | | | | | | |
| Mother | 30 | 22, (73.33%) | 25 | 17, (68%) | 55 | 39, (70.91%) |
| Husband/Partner | | 9, (30%) | | 4, (16%) | | 13, (23.64%) |

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| Percentage of sick children age 0–23 months who received increased fluids and continued feeding during an illness in the past two weeks | 53 | 18, (33.96%) | 67 | 29, (43.28%) | 120 | 47, (39.17%) |

## Table 8: Acute Respiratory Infections

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| Percentage of children age 0-23 months with chest-related cough and fast and/or difficult breathing in the last two weeks who were taken to an appropriate health provider | 36 | 32, (88.89%) | 49 | 45, (91.84%) | 85 | 77, (90.5%) |
| **Sought treatment for cough** | 48 | 42, (87.50%) | 68 | 54, (79.41%) | 116 | 96, (82.76%) |
| **Timing of treatment** | | | | | | |
| Same day | 42 | 22, (52.38%) | 54 | 14, (25.93%) | 96 | 36, (37.50%) |
| Next day | | 12, (28.57%) | | 24, (44.44%) | | 36, (37.50%) |
| **Source of advice or treatment** | | | | | | |
| Hospital | 42 | 1, (2.38%) | 54 | 2, (3.70%) | 96 | 3, (3.13%) |
| HC | | 13, (30.95%) | | 22, (40.74%) | | 35, (36.46%) |
| CHW | | 14, (33.33%) | | 14, (25.93%) | | 28, (29.17%) |
| Clinic | | 5, (11.90%) | | 6, (11.11%) | | 11, (11.46%) |
| **Overall occurrence of a cough** | 196 | 89, (45.41%) | 249 | 116, (46.59%) | 445 | 205, (46.07%) |
| **Overall occurrence of a cough with difficulty in breathing** | 89 | 48, (53.93%) | 116 | 68, (58.52%) | 205 | 116, (56.59%) |

**Table 9: Household Water Supply, Sanitation and Hygiene**

| Indicator | Control | | Intervention | | Overall | |
|---|---|---|---|---|---|---|
| | N | (n, %) | N | (n, %) | N | (n, %) |
| Percentage of households of children age 0-23 months that treat water effectively | 165 | 112, (67.88%) | 229 | 156, (68.12%) | 394 | 268, (68.02%) |
| Percentage of mothers of children age 0-23 months who live in households with soap at the place for hand washing | 101 | 41, (40.59%) | 151 | 80, (52.98%) | 252 | 121, (48.02%) |
| Percent of mothers who wash their hands before food preparation, before infant/ child feeding, after defecation, and after attending to a child who has defecated | 196 | 182, (92.86%) | 249 | 232, (93.17%) | 445 | 414, (93.03%) |
| **Source of drinking water** | | | | | | |
| Tubewell/borehole | 196 | 159, (81.12%) | 249 | 219, (87.95%) | 445 | 378, (84.98%) |
| Protected dug well | | 4, (2.04%) | | 5, (2.01%) | | 9, (2.02%) |
| Unprotected well | | 23, (11.73%) | | 20, (8.3%) | | 43, (9.66%) |
| **Source of washing/bathing water** | | | | | | |
| Tubewell/borehole | 196 | 143, (72.96%) | 249 | 202, (81.12%) | 445 | 345, (77.53%) |
| Protected dug well | | 5, (2.55%) | | 5, (2.01%) | | 10, (2.25%) |
| Unprotected well | | 32, (16.33%) | | 29, (11.65%) | | 61, (13.71%) |
| **Minutes taken to and from drawing water** | | | | | | |
| 2-10 minutes | 182 | 80, (43.96%) | 232 | 89, (38.36%) | 414 | 169, (40.82%) |
| 11-30 minutes | | 53, (29.12%) | | 90, (38.78%) | | 143, (34.54%) |
| **Responsibility for drawing water** | | | | | | |
| Adult woman (age 15 or older) | 196 | 169, (86.22%) | 249 | 210, (84.34%) | 445 | 379, (85.15%) |
| Female child | | 5, (2.55%) | | 2, (0.80%) | | 7, (13.26%) |
| Adult man | | 22, (11.22%) | | 37, (14.86%) | | 59, (1.57%) |

**Annex 3a: List of Sampled Villages - Intervention**

| | HSA Name | Healthy Facility Staff | Village Name | Population | Contact | Cluster Number |
|---|---|---|---|---|---|---|
| 1 | Tamala Katuli | Madziabango | Zonsezi | 1540 | 888616735 | 24 |
| 2 | John Bondo | Madziabango | Chikalema | 993 | 884652212 | 25 |
| 3 | Gloria Gwinya | Soche | Khola | 1256 | 884415958 | 26 |
| 4 | Elise Nazombe | South Lunzu | Chilaweni | 2489 | 999649748 | 27 |
| 5 | Mercy Phiri | South Lunzu | Nkozomba | 1603 | 999552382 | 28 |
| 6 | Edina Dick Wemba | South Lunzu | Chumbulu | 1498 | 995474641 | 29 |
| 7 | Symon Zimbiri | South Lunzu | Bondo | 3245 | 884280169 | 30 |
| 8 | Blessings Kuthambo | Chikowa | Loda | 2400 | 888619819 | 31 |
| 9 | Levison Chibwe | Chikowa | Kusena | 900 | 881509657 | 32 |
| | Samuel Manyamba | Lundu | Keyala | 1240 | 996854771 | 33 |
| | Rodney Mtayamanja | Lundu | Mgwanya | 1622 | 888100063 | 34 |
| | Anderson Greyson | Lundu | Pindani | 2280 | 999119341 | 35 |
| | Rabson Jeremia | Lundu | Bota | 2092 | 888498872 | 36 |
| | Gray Kazembe | Makata | Gomani | 3847 | 999218699 | 37 |
| | Saidi Namunkhuyo | Makata | Mpopo | 2125 | 881819160 | 38 |
| | Raphael Mwase | Makata | Chimtengo | 4120 | 999433063 | 39 |
| | Christon Lukulungwa | Makata | Mkwate | 1502 | 881090677 | 40 |
| | Block Mabomba | Makata | William | 2568 | 995689132 | 41 |
| | Mercy Muhaniwa | Makata | Chakwiya | 3451 | 996029252 | 42 |
| | John Andsen | Chileka SDA | Kantumbiza | 1875 | 888166450 | 43 |
| | Omar Chekucheku | Mlambe | Manja | 4430 | 999777718 | 44 |
| | Mercy Banda | Mlambe | Maleule | 1463 | 882866008 | 45 |

**Annex 3b: List of Sampled Villages – Control**

| HSA Name | Healthy Facility Staff | Village Name | Contact | Senior HSA | Cluster No. |
|---|---|---|---|---|---|
| Henry Mussa | Mpemba | Chamba | 884534455 | Tendai Chimtengo | 1 |
| Nicholas Banda | Mpemba | Mabala | 882866363 | 888653966 | 2 |
| Francis Auphi | Mpemba | Kumbendera/Solomon1 | 888235591 | | 3 |
| Snowder Khamula | Chilomoni | Chimwanga/Mbokola | 888694716 | Charles Salima; 9993588719 | 4 |
| Thokozani Mlongoti | Dziwe | Katchakhwala A | 884118634 | | 5 |
| William Malombe | Dziwe | Wilson | 888117932 | | 6 |
| Chiyanjano Chilombo | Chavala | Chiribwalo | 881033389 | Elizabeth Kasakatiza | 7 |
| James Chilumpha | Chavala | Kabuluzi | 888587294 | | 8 |
| Elizala Saizi | Mdeka | Mgwanya | 881096661 | Steven Yona | 9 |
| Chipiliro Ngwali | Mdeka | Chibweya | 888167350 | 888980261 | 10 |
| Agnes Namakhoma | Mdeka | Thombela | 884924028 | | 11 |
| Ellen Maunde | Mdeka | Mkanda | 881045613 | | 12 |
| Benson Kalasi | Namikoko | Gombe | | Zondiwe Zungu | 13 |
| Samson Gwaligwali | Namikoko | Jodarn | 888912761 | | 14 |
| Kondwani Chaima | Lirangwe | Issah | 881786244 | Christopher Baluti; 0888601889 | 15 |
| Lawrence Mlongoti | Limbe | Bandawe | 888129141 | Willard Bokosi | 16 |
| Linly Chilinzule | Limbe | Mzedi | 996229674 | Violet Mota | 17 |
| Harry Thomson | Limbe | Sukali | 999690491 | 888754629 | 18 |
| Jude Kuseliwe | Limbe | Mang'omba | 888562336 | Willard Bokosi | 19 |
| Sophie Nowa | Limbe | Matalala | 996394395 | Willard Bokosi | 20 |
| Helix Mulima | Limbe | Chiwaya | 999784574 | Willard Bokosi | 21 |
| Hendrix Mchoma | Chimembe | Makanjira | 882677821 | Edwin Ludoviko | 22 |
| John Ngo`mbe | Chimembe | Mtiza | 888710846 | | 23 |

## Annex 4: Data Collection Teams

| CODE | Interviewer | Contact No. | Professional Background | Sex | Role |
|---|---|---|---|---|---|
| **Team 1** | | | | | |
| **1** | **Amon Kabuli** | 0999919885 | Team Leader | M | **Coordination** |
| **2** | **Chilimbikitso Kawinga** | 0999676507 | Research Officer | M | **Interviewer** |
| **3** | **Chisomo Jinazali** | 0991511997 | College students | F | **Interviewer** |
| **4** | **Tadala Magombo** | 0993886683 | Nurse | F | **Interviewer** |
| **5** | **Linda Kachale** | 0999955822 | Enumerator | F | **Interviewer** |
| **6** | **James Phiri** | 0888899031 | Enumerator | M | **Interviewer** |
| **Team 2** | | | | | |
| **7** | **Dorothy Likole** | 0884263025 | Enumerator | F | **Interviewer** |
| **8** | **Fidelis Balakasi** | 0997145083 | Team Leader | M | **Supervisor** |
| **9** | **Enock Kabuli** | 0999798377 | Research Officer | M | **Interviewer** |
| **10** | **Suzgo Nkhata** | 0999812587 | Enumerator | M | **Interviewer** |
| **11** | **Ziliro Makwakwa** | 0999238011 | Enumerator | F | **Interviewer** |
| **12** | **Florence Mwakanandi** | 09 | Enumerator | F | **Interviewer** |

## Annex 5: Detailed Training Schedule for Enumerators/Supervisors

### VENUE – BYTE LODGE, LILONGWE
### 1 NOVEMBER – 3 NOVEMBER 2015

| TIME | ACTIVITY | RESPONSIBLE PERSON(S) | Preparation Needed |
|---|---|---|---|
| **DAY 1** | | | |
| 8:00 – 8:15 | Introduction exercise and house-keeping issues<br>Announcement and administration issues | Amon Kabuli, Lead Consultant, KIDERTCO | |
| 8:15 – 8:30 | Welcome Remarks,<br>Brief overview of MwM program<br>– goals and objectives<br>– Target beneficiaries<br>– Implementation strategy<br>– Activities<br>– Progress to-date<br>Background of Final Survey and its objectives. | Save the Children Staff/ Amon Kabuli | Stationery, Handouts |
| 8:30 – 9:00 | Workshop objectives and outputs<br>Reviewing workshop programme | Amon Kabuli/Save the Children Staff | |
| 9:00 – 10:00 | Presentation on the survey methodology (cluster sampling, data collection tools etc.) | Amon Kabuli/<br>Save the Children Staff | Handouts |
| 10:00 – 10:15 | Tea break | KIDERTCO | |
| 10:15 – 11:00 | Introduction to Data Collection in Survey | Amon/Enock | " " |
| 11:00 – 12:00 | Principles / Basics of good data collection/Interviewing Skills | Chilimbikitso Kawinga/Amon Kabuli | |
| 12:00 – 13:00 | Lunch Break | KIDERTCO | |
| 13:00 – 14:00 | Principles of Field Work and Ethics. | Fidelis Balakasi/Amon | |
| 14:00 – 15:00 | Introduction to the KPC Endline Questionnaire (Overview and Indicator Targets) | Amon/Enock/Chilimbikitso | |
| 1500 – 15:15 | Tea Break | KIDERTCO | |
| 15:15 – 16:45 | Review of Endline Questionnaire (Health Indicators, Translations, and Interviewing Skills) | Enock and Chilimbikitso | |
| **DAY 2** | | | |
| 8:00 – 8:10 | Recap day 1 | Secretary | |
| 8:15 – 10:00 | Plenary presentation of translated questionnaires | Volunteer Enumerator | |

| TIME | ACTIVITY | RESPONSIBLE PERSON(S) | Preparation Needed |
|---|---|---|---|
| 10:00 – 10:15 | Tea Break | Save the Children | |
| 10:15 – 12:00 | Introduction to KPC Survey for Caregivers of Children 0-23 Months & Procedures for collecting health data | Amon Kabuli | |
| **12:00 – 13:00** | **LUNCH BREAK** | Save the Children | |
| 13:00 – 14:00 | Methodology for selecting households | Amon Kabuli | |
| 14:00— 15:00 | Field ethics and handling data in the field | Balakasi/Chilimbikitso | |
| **15:00 – 15:15** | **Tea Break** | KIDERTCO | |
| 15:15 – 16:45 | Role play on how to collect data<br>Logistics for pre-testing<br>- Development of teams<br>- Programme of visits<br>- Field logistics | Amon/Enumerators | Vehicles, booking meetings with beneficiaries |
| **DAY 3** | | | |
| Up to 13:00 | Pre-testing (Data collection in the field) in Lilongwe | Amon/Fidelis/Enumerators | Vehicles, booking meetings with beneficiaries |
| 13:00 – 15:00 | Debriefing and sharing lessons | Amon/Fidelis/Enumerators | |
| 15:00 – 15:30 | Tea break | | |
| 15:30 – 17:00 | **Field Logistics**<br>• Teams and team leaders<br>• Development of field work plans and Save the Childrenhedules<br>• Materials (equipment needed, transport, stationary, etc)<br>• Communication with communities<br>• Data management and supervision<br>• Roles of team members<br>• Photocopying final questionnaires | Amon/Enumerators | Vehicle allocations, confirmations of meetings |

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| Annex 6: Community Health Worker Training Matrix (Integrated Service Delivery Areas) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Facility | HSAs Name | Community Mobilization | Cross Cutting Issues | CBMNC | CCM 0-2 months | Postpartum Family Planning | Contacts |
| | 1 Soche | | | | | | | |
| 1 | | John Bakuwo (SHSA) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 2 | | Gloria Ngwinya | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 3 | | Joseph Matambo | | | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 4 | | Edward Likupe | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 5 | | Lyton Kennedy | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 6 | | Harry Kadewere | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | | |
| | 2 Mlambe | | | | | | | |
| 7 | | Wilson Gomes (SHSA) | 19th - 25th March 2013 | | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 8 | | Wester Kafumbi | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 9 | | Kelvin James | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 10 | | Mercy Banda | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 11 | | Omar Cheucheu | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| | | | | | | | | |
| | 3 South Lunzu | | | | | | | |
| 12 | | David Muhome (SHSA) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 13 | | Vincent Makoloma | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 14 | | Gofrey Chakhaza | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 15 | | Felious Kankhono | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 16 | | Elise Nazombe | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 17 | | Edina Dick | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 18 | | Stritha Kalino | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 19 | | Mercy Phiri | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 20 | | Gift Chisale | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 21 | | Grace Kambalame | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 22 | | Symon Zimbiri | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | | |
| | 4 Makata | | | | | | | |
| 23 | | Mac Donald Munthali (SHSA) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 24 | | Grey Kazembe | 19th - 25th March 2013 | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 25 | | Mercy Chikudzu | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 26 | | Rafile Mwase | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 27 | | Saidi Namukhoyo | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 28 | | Fanny Kaliwo | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 29 | | Lenard Muyaya | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 30 | | Block Mabomba | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 31 | | Christon Likhulungwa | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 32 | | Mercy Muhariwa | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | | |
| | 5 Madziabango | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 33 | | Patrick Nsona (SHSA) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 34 | | Tamala Katuli | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 35 | | John V Bondo | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 36 | | Skeyard Chakuamba | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 37 | | Edina Mwanyopa | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 38 | | Egi Kunsanama | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| | | | | | | | | |
| | 6 Lundu | | | | | | | |
| 39 | | Shadreck Kazimu (SHSA) | 19th - 25th March 2013 | | 1st - 7th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 40 | | Richard Mawanga | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 41 | | Samuel Manyamba | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 42 | | Patrick Maseya | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 43 | | Rodney Mtayamanja | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 44 | | Mere Wandale | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 45 | | Anderson Gryson | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 46 | | Rabson Jeremia | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 47 | | Antony Mkwezalamba | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | | |
| | 7 Chileka SDA | | | | | | | |
| 48 | | Charles Potani (SHSA) | 19th - 25th March 2013 | | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 49 | | Square Amoni Banda | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 50 | | Cathrine Kachikondo | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 51 | | John Andson | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 52 | | Doreen Mkwate | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | | |
| | 8 Chikowa | | | | | | | |
| 53 | | Lester Salimu (SHSA) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 54 | | Owen Manyamba | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 55 | | Peterson Khanawe | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 56 | | Duncan Chikwindire | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 57 | | Blessings Kuthambo | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 58 | | Peter Nyambi | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 59 | | Levison Chibwe | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| | *Totals* | 59 | 9 | 51 | 59 | 59 | 59 | |

Take note community mobilization training for intervention arm involved only SHSAs

| Community Health Worker Training Matrix (Vertical Areas) | | | | | | | |
|---|---|---|---|---|---|---|---|
| No | Facility | HSAs Name | Community Mobilization | CBMNC | CCM 0 - 2 months | PP Family Planning | Contacts |
| | 1 Chavala | | | | | | |
| 1 | | Elizabeth Kasakatira (SHSA) | 21st - 27th March 2013 | 9th - 19th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 2 | | Nelson Ching'amba | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 3 | | James Chilumpha | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 4 | | Jambukira Mosses | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 5 | | Chiyanjano Chirombo | 21st - 27th March 2013 | 9h - 19th June 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| | | | | | | | |
| | 2 Mpemba | | | | | | |
| 6 | | Tendai Chimtengo (SHSA) | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 7 | | Alice Bonya | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 8 | | Alone Yalu | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 9 | | Henry Musa | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 10 | | Charity Chadzala | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 11 | | Francis Aufi | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 12 | | Nicholas Banda | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | |
| | 3 Limbe | | | | | | |
| 13 | | Wallard Bokosi (SHSA) | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 14 | | Violet Mota (SHSA) | 15th - 21st April 2013 | | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 15 | | Linley Chilinzule | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 16 | | Harry Tomson | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 17 | | Memory Mkumba | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 18 | | Jude Kuseluwe | 15th - 21st April 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 19 | | Muhajira Sayidi | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 20 | | Sofi Nowa | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 21 | | Lowrence Mlongoti | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 22 | | Heliks Mulima | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 23 | | Barbra Kabaghe | 21st - 27th March 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 24 | | Stanley Sekeya | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | |
| | 4 Lirangwe | | | | | | |
| 25 | | Ernest Mtawali (SHSA) | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 26 | | Caroline Chiwoctha | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 27 | | Patson Nakuha | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |

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|---|---|---|---|---|---|---|---|
| 28 | | Kondwani Chaima | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 29 | | Christopher Baluti | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| | | | | | | | |
| | **5 Mdeka** | | | | | | |
| 30 | | Edwin Ludoviko (SHSA) | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 31 | | Elizala Saizi | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 32 | | Masautso Jumbe | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 33 | | Chipiliro Ngwali | 21st - 27th March 2013 | 1st - 10th July 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 34 | | Agness Namakhoma | 21st - 27th March 2013 | 1st - 10th July 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 35 | | Patricia Ntambo | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 36 | | John Litchowa | 15th - 21st April 2013 | 9h - 19th June 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 37 | | Ellen Maunde | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | |
| | **6 Chimembe** | | | | | | |
| 38 | | Steve Yona (SHSA) | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 39 | | Hendrick Mchoma | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 40 | | Discult Chikhoza | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 41 | | Lazarous Bwanali | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 42 | | John Ngo`mbe | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | **7 Namikoko** | | | | | | |
| 43 | | Zondiwe Dzungu (SHSA) | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 44 | | Samson Gwaligwali | 15th - 21st April 2013 | 9h - 19th June 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 45 | | Dyson Mwangala | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 46 | | Agnes Biza | 21st - 27th March 2013 | 1st - 10th July 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| | | | | | | | |
| | | | | | | | |
| | **8 Dziwe** | | | | | | |
| 47 | | Emmanuel Binali (SHSA) | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 48 | | William Malombe | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 49 | | Paul Mpira | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 50 | | Tiyamike Zuze | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 51 | | Thokozani Mulongoti | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 52 | | Juliana Majawa | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 53 | | Chimwemwe Kamanga | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| | | | | | | | |
| | **9 Chilomoni** | | | | | | |
| 54 | | Charles Salima (SHSA) | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 55 | | Peter Phakati | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |

| 56 | | Snoden Khamula | 15th - 21st April 2013 | 1st - 10th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
|---|---|---|---|---|---|---|---|
| 57 | | Christopher Nyalinyali | 21st - 27th March 2013 | 9h - 19th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| | ***Totals*** | **57** | **57** | **57** | **57** | **57** | |

| Clinical Mentoring Training for Health Workers (Integrated Service Delivery Areas) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Facility | Health Workers Name | Mentorship training on integrated MNCH + PPFP | Cross Cutting Issues | CBMNC | CCM 0-2 months | PP Family Planning | Contacts |
| | 1 Chabvala | | | | | | | |
| 1 | | Justice Chimwaza (Nurse) | 17th - 21st December 2012 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 2 | | Ethel Chimutu (Nurse) | 17th - 21st December 2012 | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 3 | | | | | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| | | | | | | | | |
| | 2 Lirangwe | | | | | | | |
| 7 | | Promise Kachale (MA) | 17th - 21st December 2012 | | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 8 | | Millica Msumba (Nurse) | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 9 | | Kelvin James | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 10 | | Mercy Banda | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 11 | | Omar Cheucheu | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| | | | | | | | | |
| | 3 South Lunzu | | | | | | | |
| 12 | | Maria Malele (Nurse) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 13 | | Liz Maseko | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 14 | | | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 15 | | | | 7th - 10 th May 2013 | 1st - 7th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 16 | | | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| | | | | | | | | |
| | 4 Makata | | | | | | | |
| 23 | | Mac Donald Munthali (SHSA) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 24 | | Grey Kazembe | 19th - 25th March 2013 | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 25 | | Mercy Chikudzu | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 26th - 31st August 2013 | |
| 26 | | Rafile Mwase | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 27 | | | | | | | | |
| 28 | | | | | | | | |
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| 30 | | | | | | | | |
| 31 | | | | | | | | |
| 32 | | | | | | | | |
| | | | | | | | | |
| | 5 Madziabango | | | | | | | |
| 33 | | Jean Chomanika ( Nurse) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 34 | | James Sebastiano (MA) | | | | | | |
| 35 | | | | | | | | |
| 36 | | | | | | | | |
| 37 | | | | | | | | |
| 38 | | | | | | | | |
| | | | | | | | | |
| | 6 Lundu | | | | | | | |
| 39 | | William Gama | 19th - 25th March 2013 | | 1st - 7th July 2013 | 24th - 27th July 2013 | 12th - 17th August 2013 | |
| 40 | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | **7 Chileka SDA** | | | | | | | |
| 48 | | Mzondwase Phiri ( Nurse) | 17 | | 1st - 7th July 2013 | 24th - 27th July 2013 | 26th - 31st August 2013 | |
| 49 | | Brightson Khaneni MA | | | | | | |
| 50 | | | | | | | | |
| | | | | | | | | |
| | **8 Chikowa** | | | | | | | |
| 53 | | Regina Nyerere (Nurse) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 54 | | Kanjere Nsakambewa MA | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 55 | | Peter Manda (Nurse) | | | | | | |
| | | | | | | | | |
| | **9 Chabvala** | | | | | | | |
| 53 | | Justice Chimwaza (Nurse) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 54 | | Ethel Chimutu (Nurse) | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 55 | | | | | | | | |
| | | | | | | | | |
| | **10 Mdeka** | | | | | | | |
| 53 | | Mirriam Khoza (Nurse) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 54 | | Angella Kayange (Nurse) | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| | | Ireen Nyirenda | | | | | | |
| 55 | | Nancy Malanda ( Nurse) | | | | | | |
| | | | | | | | | |
| | **11 Mpemba** | | | | | | | |
| | | Rodgers Kuyokwa CO | | | | | | |
| 53 | | Wemma Mbalame ( Nurse) | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 54 | | Emily Chamtula (Nurse) | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 55 | | Saezi Malikebu (Nurse) | | | | | | |
| | | | | | | | | |
| | **12 Limbe** | | | | | | | |
| 53 | | Throne Kawiya | 19th - 25th March 2013 | | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 54 | | Kanjere Nsakambewa MA | | 7th - 10 th May 2013 | 10th - 17th June 2013 | 17th - 20th July 2013 | 12th - 17th August 2013 | |
| 55 | | | | | | | | |

# Annex 7: Evaluation Scope of Work

## *Mwayi wa Moyo* ("A Chance to Live") Project<br>Blantyre District, Malawi

### I. Background

Save the Children is partnering with the Ministry of Health (MoH), Malawi College of Medicine (COM), and Blantyre District Health Management Team (DHMT) to implement a four-and-half-year innovation project (30 September 2011-31 March 2016) called *Mwayi wa Moyo* ("A Chance to Live"). Our goal is to reduce under-5 mortality by increasing use of key Maternal, Newborn, and Child Health (MNCH) services and practices that are accessed, of quality, demanded, and enabled. Our overall strategy is to minimize duplication of content areas in existing community packages; streamline training, monitoring, and supervision for more efficient use of resources; and reduce missed opportunities for delivery and use of high-impact interventions by supporting government partners to integrate existing packages and vertical interventions. The project's Operations Research (OR) component is entitled: *Vertical vs. Integrated: Assessing the effectiveness of an integrated community-based MNCH and FP package in reducing missed opportunities.*

***Project location*** Located in the Shire Highlands in Malawi's Southern Region, Blantyre District is situated on the eastern edge of the Great Rift Valley. Blantyre has a varied topography (elevation ranging from 780-1,612 meters above sea level) and a tropical continental climate with two distinct annual seasons. Located in the district is Blantyre City, Malawi's largest city and "commercial" capital. Mang'anja and Yao speaking people constitute 60 percent of the district's indigenous population. The remaining 40 percent come from other ethnic groups (e.g., Lomwe, Ngoni, Sena, Tumbuka, Chewa) who have migrated to Blantyre in search of livelihood opportunities. Most indigenous residents follow matrilocal marriage and matrilineal descent patterns with rank and property inherited through the female line. A majority of rural families in Blantyre make their livelihoods by subsistence farming.

### II. Introduction

Save the Children will hire an independent consultant to conduct a final performance evaluation (FE) for the *Mwayi wa Moyo* ("A Chance to Live") Innovation Category project funded by the United States Agency for International Development (USAID) Child Survival and Health Grants Program (CSHGP), Cooperative Agreement AID-OAA-A-11-00058, 1 October 2011-31 March 2016, in Blantyre District, Malawi. The *Mwayi wa Moyo* project is funded with an award of US$2,000,000, including $250,000 in FP funds.

USAID's CSHGP supports community-oriented projects implemented by U.S. private voluntary organizations (PVOs) and nongovernmental organizations (NGOs) and their local partners. The purpose of this program is to contribute to sustained improvements in child survival and health outcomes by supporting the innovations of PVOs/NGOs and their in-country partners in reaching vulnerable populations.

This document describes the FE terms of reference (TOR) and External Evaluator's terms of reference for the *Mwayi wa Moyo* FE.

## III. Background

Malawi is one of the few low-income countries that succeeded in reducing its under-5 mortality rate, attaining Millennium Development Goal (MDG) 4 ahead of the 2015 deadline. Under-5 mortality in Malawi now stands at 71/1000, down from 112 in 2010 and 234 in 1992, according to the joint UN child mortality estimates report (IGME 2013). Malawi recorded the second highest rate of reduction of all low-income, high-mortality countries, at 5.6 percent, with only Bangladesh gaining a higher rate of reduction at 5.7 percent. Its rate for under-5 deaths is now lower than neighboring countries Zambia, Zimbabwe, Mozambique and Kenya. Malawi achieved its MDG 4 success through political will, evidence-based strategies and programs, strong partner support, and innovative approaches.

While Malawi is still far from obtaining equitable health outcomes among the country's rich and poor, it has outpaced other sub-Saharan African countries by committing more government funds to healthcare, prioritizing MNCH, and bringing essential healthcare resources to rural areas. A key feature of the continuing decline in Malawi's childhood mortality is the increased use of key high-impact services and practices - e.g., immunization and insecticide-treated nets to prevent malaria, as well as increased availability in hard-to-reach areas of a package of evidence-based curative interventions delivered by trained Health Surveillance Assistants (HSAs). Since 2008 more than 3,000 of these trained community health workers have provided life-saving medicine to treat pneumonia, malaria, and diarrhea to more than 10,400 isolated communities. Known as Integrated Community Case Management (iCCM), this strategy addresses the leading causes of death for children under 5 by making high-quality assessment and treatment available as close as possible to the household level. HSAs trained in iCCM are expected to hold "village clinics" at least three times per week.

The HSA cadre is rooted in the domains of disease surveillance and environmental health. Over the past decade, the HSAs' portfolio of interventions has expanded in number and complexity to include MNCH and family planning (FP), in addition to a range of other preventive and promotional interventions that now constitute the Community-Essential Health Package (C-EHP). Task-shifting has recently added additional responsibilities, many performed at health facilities where HSAs are called upon to fill in for staff shortages. The C-EHP interventions and packages (e.g., iCCM, Community-Based Maternal and Newborn Care [CBMNC], FP) are often added and implemented in a vertical and fragmented manner, resulting in gaps in the continuum of care and missed opportunities for integrated service delivery.

***Overall strategy*** Through *Mwayi wa Moyo,* Save the Children, and its operations research (OR) partner the Malawi College of Medicine, are supporting the Ministry of Health (MoH) and the Blantyre District Health Management Team (DHMT) to improve integrated service delivery at the community level by strengthening the capacity of HSAs to provide MNCH and FP interventions in their communities. *Mwayi wa Moyo's* strategy is work with partners to streamline and integrate the MNCH interventions with post-partum FP (PPFP) into a single coherent package that fills the gaps in the continuum of care, delivers more services at better quality and less cost, and reduces missed opportunities.

***Project Goals, Objectives, Results*** (Result Framework - Annex I)

| | |
|---|---|
| *Project goal:* | Under-5 mortality reduced |
| *Strategic objective:* | Use of key MNCH+FP services and practices increased |
| *Intermediate results:* | IR1: Access to and availability of high-impact interventions increased<br>IR2: Quality of interventions assured<br>IR3: Demand for interventions increased<br>IR4: Environment enabled |

## IV. Project Population

| Beneficiaries* | Total |
|---|---|
| Total population | 538,413 |
| Total neonates | ~26,900 |
| Infants aged 0–11 months | ~26,900 |
| Children aged <5 years | 91,530 |
| Women of reproductive age (15–49 years) | 113,067 |
| Total beneficiaries | 204,597 |
| Expected pregnancies | 26,921 |
| Community health workers or volunteers (CHWs), disaggregated by sex | 94 HSAs (hard-to-reach areas) (28F, 66M)<br>347 CBDAs (230F, 117M) |
| Health facilities (hospital to sub health post) | Project targets 17 of 28 health facilities in district<br>94 village clinics |
| Community-based structures (e.g., Village Development Committees [VDCs]) | 94 VHCs<br>80 CAGs |

**Source: Blantyre DHO*

## V. Partners

Key partners in *Mwayi wa Moyo* include: Blantyre DHMT and District Health Office (DHO), Malawi COM, MoH, and numerous communities. Other partners and stakeholders include: *Banja la Mtsogola*, the National Statistics Office, and World Vision. In addition, *Mwayi wa Moyo* has collaborated with two of the three USAID mission-funded bilateral Support for Service Delivery Integration (SSDI) projects, SSDI-Services and SSDI-Communication.

## VI. Key Activities

***Key technical interventions and corresponding levels of effort:***

- Pneumonia case management (18%);
- Malaria control (18%);
- Control of diarrheal diseases (18%);
- Maternal and newborn care (34%); and
- Family planning (12%).

***Major cross-cutting areas:***

- Integration;
- Community systems strengthening; and
- Community mobilization.

***Key activities:***

- Joint planning with Blantyre DHMT/DHO;
- Support for training of HSAs, Community-Based Distribution Agents (CBDAs), facility-based health workers;
- Support for supervision, coaching, clinical mentoring;
- Support for monitoring & evaluation and data quality assessments;
- Support for community mobilization using Community Action Cycle;
- Support for strengthening of supply chain for iCCM drugs and FP products; and
- Collaboration with COM on OR.

## VII. Purpose of Final Evaluation

The purpose of USAID's CSHGP is to contribute to advancing the health system strengthening goals of the MoH toward achieving sustained improvements in child survival and health outcomes, particularly among vulnerable populations, by supporting the innovative, integrated community-oriented programming of PVOs/NGOs and their in-country partners. CSHGP cooperative agreements offer unique opportunities to demonstrate the links between specific delivery strategies and measured outcomes. The FE is intended as a performance evaluation, but should be broadly accessible to various audiences, including the MoH, with findings that contribute evidence relevant to global initiatives such as the Global Health Initiative and Feed the Future.[1] It is important that the final evaluator consider the audiences listed below, when conducting the evaluation and writing the report.

The FE provides an opportunity for all project stakeholders to take stock of accomplishments to date and to listen to the beneficiaries at all levels, including mothers and caregivers, other community members and opinion leaders, health workers, health system administrators, local partners, other organizations, and donors. The following audiences may use the FE final report as a source of evidence to help inform decisions about future program designs and policies:

- In-country partners at national, regional, and local levels (e.g., MoH and other relevant ministries, district health teams, local organizations, and communities in project areas).
- USAID (CSHGP, Global Health Bureau, USAID missions), Maternal Child Survival Project (MCSP) and other CSHGP grantees.
- The international global health community. The FE report will be posted for public use at http://www.mchipngo.net and the USAID Development Experience Clearinghouse at https://dec.usaid.gov.

[1] For more information on these two initiatives, visit http://www.usaid.gov and http://www.feedthefuture.gov.

**The Final Evaluation Report Is a Stand-Alone Document**

The FE report is the record of the overall project results and how these results were obtained. It is important for evaluators and the grantee to understand that this report will be read by a wide range of stakeholders who may have varying degrees of familiarity with the project. The final evaluator should include enough detail about the project for the report to be a stand-alone document—including the results framework, which should be the basis for structuring the evaluation, and a description of the community platforms. In cases where interesting results are presented without sufficient supporting evidence, it will be difficult to include them in USAID communications regarding accomplishments of the project or the overall CSHGP program.

## VIII. Methodology

The evaluation methodology consists of a mixed-methods approach using both quantitative and qualitative data. The approach comprises both a desk review of secondary data sources and the collection of qualitative data to complement existing data. The written design of the evaluation must be further defined and specified by the final evaluator (e.g., number of key informant interviews, focus groups discussions, observations, and locations) and must be shared with project stakeholders and implementing partners for comment before the evaluation commences. Save the Children will facilitate this sharing and feedback.

***Secondary data*** The final evaluator will review project reports (e.g., Detailed Implementation Plan; annual reports; knowledge, practice, and coverage baseline and final survey reports and any monitoring reports) to assess the quality of quantitative and qualitative data and make assessments of project results in relation to the project design and targets set. The final evaluator should also review key U.S. Government/USAID strategic documents at the global and national levels relevant to the content of project. All relevant policy and strategy documents at the national level (e.g., MoH policies and strategies) are also crucial and should be used and referenced.

***Qualitative data*** In-depth qualitative interviews or focus group discussions may be conducted with stakeholders, including project staff, MoH, local NGOs and community-based organizations, district health teams, community- and facility-based health workers, community members, community leaders, and mothers (exit interviews). If possible, the assessment will also include observations of activities supported by the project. This will involve site visits to one or more implementation areas. It is recommended that the final evaluator randomly select communities to visit, from a list provided by Save the Children. However, purposive sampling may be warranted in addition to explore certain areas in more depth to investigate particular results (e.g., high or low performance or unexpected results).

***Limitations*** The evaluation report must include a discussion of the methodological limitations of the evaluation. Additional guidance on reporting format is provided in the attached *CSHGP*

*Guidelines for Final Evaluations* (April 20, 2015), specifically in the Final Evaluation Report Template included therein.

## IX. Evaluation Questions

The final evaluator and the evaluation team will use existing data collected or compiled during the life of the project, as well as additional data collected during the evaluation to answer the following questions. These questions were adapted from the questions recommended for framing the evaluation and are tailored to the specific project context and to address the needs of in-country government and USAID stakeholders, by Save the Children and/or the USAID mission. Save the Children solicited and received feedback and input from Ruth Madison, the USAID mission in Malawi, and the Blantyre District Health Officer.

1. To what extent did the project accomplish and/or contribute to the results (goals/objectives) stated in the Results Framework from the project's Detailed Implementation Plan? (Annex 1)
    - What is the quality of evidence for project results?
    - How were results achieved? If the project improved coverage of high-impact interventions simultaneously, what types of integration enabled this? Specifically, refer to project strategies and approaches and construct a logic model describing inputs, process/activities, outputs, and outcomes.
    - Describe the extent to which the project was implemented as planned, any changes to the planned implementation, and why those changes were made.

2. What were the key strategies and factors, including management issues, that contributed to what worked or did not work?
    - How did basing the *Mwayi wa Moyo* team inside the DHO contribute to the partnership with the DHMT, relationship with key district-level counterparts and/or project impact? What are tangible results of the co-location? What have been challenges? Strong DHO- Owen and DHMT. "Full board" per diem problem.
    - What effect on Save morale did the co-location of Save within the DHO have?
    - What activities will the DHO be able to sustain without budget support from the project?
    - What capacities were built in partners and communities, and how?

3. What were specific enablers and barriers to integrating the package of community-based interventions delivered by HSAs (e.g., iCCM, CBMNC, FP, HIV/TB)?
    - What are the HSA perspectives on integrating FP into their roles and skills? National level consultation to develop materials. Integration on the ground by HSAs – still missing opportunities – but OR sample size was small.
    - What have been the challenges/lessons learned/best practices in FP/immunization integration? What results have been produced in FP and in immunization coverage? Training of HSAs – availability of products/commodities.

4. Which elements of the project have been or are likely to be sustained or expanded (e.g., through institutionalization or policies)? Focus on integration.

- Analyze the elements of scaling-up and types of scaling-up that have occurred or could likely occur (dissemination and advocacy, organizational process, costs and/resource mobilization, monitoring and evaluation using the ExpandNet resource for reference).[2]

5. Was the OR design adequate to answer the OR question?

6. What are stakeholder perspectives on the OR implementation, and how did the OR study affect capacity, practices, and policy?

7. How did HSA workforce and C-EHP structural issues (e.g., supervision, iCCM drug and FP commodity supply problems, non-residence in service areas, job dissatisfaction, task-shifting, transportation challenges, etc.) affect HSA performance? Some HSAs assigned a certain number of days/week or months/year at facilities. HSA supervisor district DEHO – but not enough. Now gone to Senior HSA supervision (S-HSA criteria for established, but no job description, no pay etc.)
    - Some HSAs in hard-to-reach areas are assigned by the DHO to work at health centers 3-5 days per week. How has this "task-shifting" affected access and availability of community-based services and project results?
    - How did the countrywide "full board" issue challenge the project and in what ways?

8. What were project learnings about the effectiveness and sustainability of community mobilization in the current context of Malawi that should be disseminated and taken forward? CAC – community mobilization teams from district AND HSAs. Community Action Groups – ideally should be based on local organization.

## X. Final Evaluator Characteristics and Expected Timeline

The consultant will serve as the evaluation team leader and is welcome to propose additional evaluation team members to round out the evaluation team's skill set in order to ensure adequate representation of evaluation, technical, geographic, cultural and language skills. Team members, their affiliations, and disclosure of conflicts of interest must be listed in an annex to the evaluation report. The consultant will coordinate closely with the Save the Children team regarding tool finalization, evaluation methodology, timeline, and draft report finalization.

***Requirements:***

The consultant must be approved by USAID CSHGP and should meet the following minimum requirements:

- Proven expertise and leadership in:
    - integrated community-oriented reproductive, MNCH projects; and
    - conducting evaluations (baseline, endline) using mixed methods.
- Experience with design, collection, and analysis using applied research methods in a program implementation context.
- Familiarity with public health system in Malawi.

[2]http://expandnet.net/PDFs/ExpandNet-WHO%20Nine%20Step%20Guide%20published.pdf

- Demonstrated ability to communicate with and lead a team of stakeholders, staff, and national experts in participatory evaluation.
- Familiarity with USAID programming.
- Skill or familiarity with cost analysis methods for program assessments.
- Excellent analytical and writing skills (English).
- Signed statement explaining any conflict of interest[3]

***Key tasks of the evaluation team leader:***

- Review project documents and resources to understand the project;
- Refine the evaluation objectives and key questions based on the CSHGP guidelines in coordination with Save the Children team and its partners;
- Develop the field evaluation schedule and assessment tools;
- Train enumerators and team members on objective and process of the evaluation including evaluation tools;
- Lead the team to complete the collection, analysis, and synthesis of supplemental information regarding the program performance;
- Interpret both quantitative and qualitative results and draw conclusions, lessons learned, and recommendations regarding project outcome;
- Lead an in-country debriefing meeting with key stakeholders, with a PowerPoint slideshow deliverable, no longer than 20 slides (with USAID/Washington, DC, participation remotely, as able);
- Prepare draft report consistent with CSHGP final evaluation guidelines and submit to grantee for review and feedback per schedule. Ensure that: (1) all findings are properly attributed; (2) data sources are integrated into the text to support findings; (3) Executive summary includes evaluation questions and information on methods; (4) operations research is integrated throughout the report; and (5) graphic representation of the findings is included.
- Respond to grantee feedback in the Statement of Differences, if applicable, and make any final revisions prior to grantee submission of the final report, which is due to USAID CSHGP GH/HIDN/NUT office on or before 90 days after the end of the project.

***Timeline (January-May 2016):***

- Preparation, review of project documents, tool development prior to travel to Malawi (5 days in January-February 2016);
- Travel to/from Malawi (2 days);
- Days in-country (18 days);
- Drafting of final evaluation report (7 days);
- Revising of final evaluation report based on reviewer comments (5 days); and
- TOTAL=37 days;

[3] CSHGP grantees are required to hire an external evaluator for the final evaluation. That fiduciary relationship creates a conflict of interest that is minimized by the CSHGP requirement of submission of a draft evaluation report directly to the CSHGP.

***In-country schedule for Mwayi wa Moyo final evaluation***

| Dates | Activities |
|---|---|
| Sat, 13 Feb | • Arrivals in Blantyre. |
| Sun, 14 Feb | • Morning meeting between Evaluator and Technical Backstop; afternoon meeting with Project Manager and key *Mwayi wa Moyo* team members. |
| Mon, 15 Feb | • FE team meets in SC office.<br>• Morning: Review of CSHGP FE Guidelines, reporting requirements and review/submission timeline (led by Technical Backstop); presentation of *Mwayi wa Moyo* (results framework, interventions, community mobilization).<br>• Afternoon: Review of evaluation schedule, sites selected for field visits, tools, and logistics arrangements and finalization of task assignments. |
| Tue, 16 Feb | • Morning: M&E/Results (Misozi) and OR (Dr. Ajib) presentations<br>• Afternoon: Meetings/interviews with Blantyre District Health Officer. |
| Wed, 17 Feb | • Stakeholders meeting with HSAs, SHSAs, district health partners. |
| Thu, 18 Feb | • Field visits. |
| Fri, 19 Feb | • Field visits. |
| Sat, 20 Feb | • Team meets to process field data. |
| Sun, 21 Feb | • R&R/writing. |
| Mon, 22 Feb | • Review of collected data, discussion of evaluation questions, and development of preliminary results. |
| Tue, 23 Feb | • Development of preliminary recommendations. |
| Wed, 24 Feb | • Development of preliminary recommendations, cont'd. |
| Thu, 25 Feb | • Partner/USAID de-briefing in Blantyre – full day (led by External Evaluator). |
| Fri, 26 Feb | • De-briefing with *Mwayi wa Moyo* team, travel to Lilongwe. |
| Sat, 27 Feb | • Work on writing assignments. |
| Sun, 28 Feb | • R&R/team work. |
| Mon, 29 Feb | • Work on writing assignments |
| Tue, 1 Mar | • De-briefing with SC Country Director/De-briefing with Ruth Madison and team members at USAID mission/departures. |

## X. Final Evaluation Report

The FE report should follow the outline in the attached USAID CSHGP's Guidelines for Final Evaluations (April 20, 2015). A draft (or drafts, in case of revisions) and final report, written by the final evaluator, must be submitted to the grantee per schedule established. The grantee is responsible for submission of the drafts and final report to the CSHGP and other required parties as indicated in the guidelines.

## XI. Budget
TBD

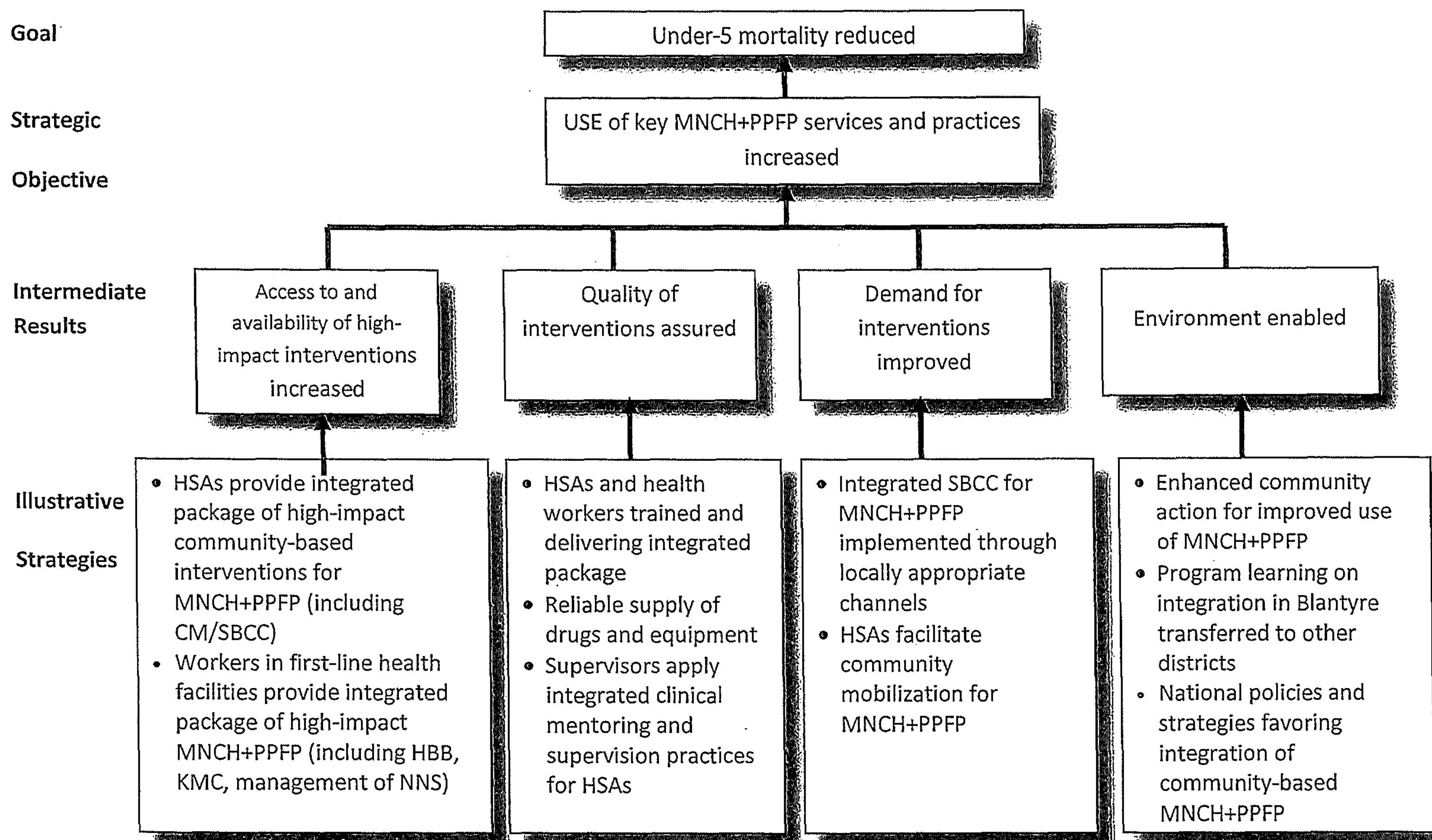
***Levels of efforts:***

- External Evaluator/Consultant (37 days).
- Karen Z. Waltensperger, Save the Children, Technical Backstop (.20 LOE).
- Local family planning consultant to join final evaluation team (~18 days).
- USAID mission HPN representative.
- COM OR representative.
- DHMT representative.
- Members of *Mwayi wa Moyo* team.

## XII. Deliverables

| What? | Who? | When? *(due date)* | Comments |
|---|---|---|---|
| Lead in-country debriefing meeting with key stakeholders with PowerPoint presentation no longer than 20 slides for distribution. | Evaluator | Scheduled **29 February 2016** in Blantyre | *Remote participation likely not possible from Blantyre or Lilongwe. TBD.* |
| Prepare draft report consistent with TOR and CSHGP guidelines. Submit draft report to Save the Children for review and feedback, including from MCSP/CSHGP. | Evaluator | **8 April 2016** | |
| Submit draft report to MCSP/CSHGP for review. | Save the Children | **11 April 2016** | |
| Return reviewer comments to Save the Children. | MCSP/CSHGP | **25 April 2016** | |
| Return reviewer comments to Evaluator. | Save the Children | **26 April 2016** | |
| Return report (second draft), responding to reviewer comments, to Save the Children. | Evaluator | **10 May 2016** | |
| Return second draft to MCSP/CSHGP | Save the Children | **11 May 2016** | |
| Return second draft review to Save the Children | MCSP/CSHGP | **25 May 2016** | |
| Return second draft reviewer comments to Evaluator (if third draft necessary) | Save the Children | **26 May 2016** | |
| Return third draft to Save the Children *(if third draft necessary)* | Evaluator | **2 June 2016** | |
| Submit third draft to MCSP/CSHGP *(if third draft necessary)* | Save the Children | **3 June 2016** | |
| Return third draft reviewer comments to Save the Children *(if third draft necessary)* | MCSP/CSHGP | **10 June 2016** | |
| Submit final evaluation report with all annexes to USAID CSHGP GH/HIDN/NUT | Save the Children | **On or before 30 June 2016** | |

## Annex I - Results Framework



# Annex 8: Evaluation Methods and Limitations

## 1. Summary of evaluation process

The final evaluation (FE) was designed to review progress towards achieving project objectives; and to determine whether the *Mwayi wa Moyo* integrated family planning, maternal, neonatal and child health project increased use of evidence-based, life-saving interventions by women, caretakers and children in the Blantyre District of Malawi. The *Mwayi ma Moyo* FE was conducted by a team led by an outside evaluator, which included a senior SC global advisor, three program coordinators from the District Health Office, and local SC Malawi staff. Evaluation team members are listed in Annex 13.

The evaluation was conducted between March 15 and 24, 2016. Seven principal methods were used for the evaluation, each of which will be discussed in turn:

1) Review of 30-cluster KPC surveys conducted at project baseline and endline; 2) Review of operations research data on integrated training, supervision and service delivery; 3) Review of routine data from Village Health Clinic registers; 4) Document review – including policy documents, program reports, technical reports, reports of training activities, HW registers, and training and health education materials. 5) Interviews with district staff and managers and a review meeting with the DHO, DEHO, Coordinators, SHSAs, HSAs, members of community groups – catchments of two facilities; 5) Field visits – site visits were made to eight randomly selected health centers and in-depth interviews were conducted with health workers and community groups and members; and 6) A final review and dissemination meeting with district and national stakeholders was conducted on March 24, 2016 to discuss preliminary findings and to secure inputs on project successes, challenges and next steps. Key informants and stakeholders were selected from all groups or organizations who had collaborated with the project or who worked in MNCH areas and were familiar with technical issues. All findings were discussed and synthesized by the evaluation group. A final summary of main findings and recommendations was reviewed and discussed with USAID Health Advisors on March 1, 2016. Following these meetings, evaluation findings and recommendations were further revised and finalized. Program data, documents and reports were available to the evaluation team. It is recognized that since it was not possible to interview staff in all parts of the district, that some views were not captured during field interviews.

## 2. Summary of evaluation methods

### 2.1 30-cluster HH (KPC) survey - baseline and endline

A baseline 30-cluster household survey was conducted in February, 2012 and a follow-up was conducted in November, 2015. Proportional sampling methods were used to select 30 clusters (villages) in all seventeen hard-to-reach catchment areas targeted by the project. Within each cluster, village household listings were used to randomly select caregivers of children aged 0-24 months (N=300 at baseline and N=450 at endline). At endline the sample-size was increased to permit analysis of coverage indicators by intervention and routine (vertical) areas. The study instrument was adapted from the Rapid CATCH 2014 questionnaire. Coverage indicators used

were consistent with standard international indicators. Baseline data were used to establish targets for key indicators. Oversampling in the endline survey attempted to allow estimations of whether coverage in intervention areas differed from those receiving vertical program activities. Intervention coverage in the two areas was similar at endline. Since coverage of HSAs is variable in the district, it is possible that some sampled areas did not receive project interventions. Uneven coverage of project interventions may reduce the ability of a sample to detect changes in key indicators at endline.

2.2 Operations research data

As discussed in section A6 and C.2.3, operations research data were collected as planned. A re-analysis was conducted following the final evaluation. Data show no significant differences in missed opportunities to provide key services or in case-management practices between the two groups receiving integrated and vertical programming. Operations research showed that a high proportion of HSAs practiced most case-management tasks correctly; that there were no significant differences in missed opportunities to provide integrated services (to women or to mothers and children) between the two study groups; and that mothers' satisfaction with HSA services, was generally high. Study design and methodological issues may limit the validity of OR findings, including low numbers of HSA observations and uncertain validity and reliability of satisfaction questions administered at the HSA clinics.

2.3 HSA register data

HSA registers are used for tracking field activities. Register data are summarized by HSAs monthly, aggregated by SHSAs at health centers and submitted to the DHMT. In project intervention areas, integrated HSA registers are used for collecting iCCM and MNCH data; in areas providing routine care, registers are non-integrated. Register data are used to track a number of elements of community-based iCCM and MNCH home care, including: FP method distribution, pregnancies receiving 4+ ANC visits, facility deliveries, newborn PNC contacts (24 hours, 3 and 8 days) and newborns with danger signs referred. Data on the availability of essential medicines and supplies and on supervisory visits conducted are also collected. Register data are available for the period January 2012- December 2015. The average proportion of HSAs reporting monthly between October 2014 and December 2015 was 88/93 (94%) – a high reporting rate. Data are reviewed at the HF level, for completeness and accuracy, by facility based staff – and corrections made when possible. Project team members follow up with health facility staff and HSAs when data gaps or errors are noted. Representativeness and quality of register data will be affected by: 1) the proportion of all women of reproductive age, pregnancies and sick children registered by HSAs in communities; 2) the proportion of HSAs reporting each month; and 3) the completeness and accuracy with which registers are filled-in by HSAs.

2.4 Document review

Key documents reviewed included:

- DIP;
- Annual Reports and OR reports;
- Project strategies, training materials, supervision checklists; health education materials and other project documentation;

- HSA registers; and
- National surveys and peer reviewed articles.

All key documents were reviewed. It is possible that other data from local projects or MoH activities were not identified during the evaluation period.

2.5 First review meeting with stakeholders

A review meeting with the DHO, DEHO, and district coordinators; and with SHSAs, HSAs, and members of community groups and caretakers from the catchments of Chileka and Mpemba health centers was conducted on February 17, 2016. This meeting reviewed strengths, challenges and possible solutions to challenges in four areas: 1) iCCM and community-based MNCH care; 2) community capacity and mobilization; 3) Medicine supply and supervision; and 4) HSA recruitment and placement. Participants worked in small groups that brought together district staff with HSAs and community members. Convening participants from different levels allowed local issues and problems to be raised and discussed – participation from community members was active.

2.6 Field visits

Four teams visited two facilities each on February 18 and 19, 2016 for a total of eight facilities visited. Facilities were sampled randomly from the total list of 17 facilities in hard to reach areas. At each sampled facility, teams interviewed health staff responsible for maternal and child care and SHSAs available at the health center. One HSA was randomly selected and visited in their village, where they were interviewed, and interviews also conducted with the village head man, the CAG or VHC and with one or two caretakers. Project team members synthesized findings from each field visit on February 20, 2016. The quality of information from field visits is potentially limited by the facilities, HSAs and villages selected (which may not be representative of the population as a whole, by chance). However, principal findings from field visits could be validated among the eight sampled sites – and common issues and findings synthesized.

# Annex 9: Data Collection Instruments-Final Evaluation of the *Mwayi wa Moyo* Integrated Maternal, Neonatal and Child Health Project: Key Informant Interview Guide

**What is the purpose of key informant interviews?**
Key informant interviews ask the question: "How well have program activities been implemented, and what are the barriers to effective implementation?"

Key informant interviews provide qualitative data from caregivers of children, community leaders and groups, CHWs, facility-based health workers and district staff. They provide information about difficulties caregivers face in accessing services or information in communities. They may help identify problems CHWs have in reaching communities they serve and of completing their tasks. They may also provide ideas for making improvements that will improve coverage.

Field interviews can help:

- Explain what is working and what is not working;
- Identify barriers to improving program performance; and
- Explore reasons for and solutions to problems.

**How many health workers, CHWs, community members or caregivers will be visited?**
Key district staff, as well as staff involved with operations research will be interviewed at the district. Four teams will have two days for field visits. Each team will visit one health center and the catchment area of that facility each day – a total of eight facilities and catchment areas be visited. At each facility we will conduct:

- An interview with at least two facility staff: nurse, nurse-midwife, clinical officer, environmental health officer (could be conducted individually or jointly);
- An interview with one SHSA and two HSAs;
- An interview with community leaders: village headman and CAG members; and
- An interview with two caregivers of children 0-11 months old.

**How should key informants be selected?**
At each health center, FE teams will conduct interviews with health workers responsible for seeing children and newborns. They will also interview a health worker responsible for deliveries at the facility, if available.

<u>Random selection of CHW/villages</u>
For the interviews, we will make a list of the total number of SHSAs and HSAs in the health catchment area. This list can be divided into two categories; 1) closer to the facility (within 1-2 miles); and 2) further from the facility (more than 1-2 miles). Once the list is complete, make any exclusions necessary (possible reasons for exclusion: team members not available on the dates of the visit; geographically very inaccessible; high levels of NGO activity which make them unusual). Then randomly select a SHSA and HSAs. Randomly select a village in one of the HSA catchment areas. At this village, interview village headman/CAG members/two mothers who live in the village. A focus group discussion can be conducted with several members of the CAG together.

**How should interviews be conducted?**

It is important that the interviewer does not prompt answers and that they allow informants to express their opinions. Caregivers of young children may respond better to female interviewers. Interviews should all be conducted with the informant alone, without other health staff, or community members present, in order to ensure that they do not influence responses. Interview topic guides are a way of guiding the discussion but are not a questionnaire. The questions do not have to be asked in any particular order, but the main issues should be covered – responses are noted in a separate notebook.

***Introducing Key Informant Interviews***

- Introduce yourself and explain that the interview is to find out about the family planning, maternal, newborn and child care program.
- Explain that all responses are anonymous and do not record the name of the respondent.
- Find a place away from others to ensure that respondents can answer without interference or the feeling that they are being observed or judged.
- Explain that you are asking questions about family planning, pregnancy, delivery, newborns and children. Newborns are babies between birth and 28 days of age.
- Explain that there are no right or wrong answers. You would like the respondent to answer questions based on his or her own experience and as honestly as possible. You are interested in his or her experience and opinions, so that the program is made better. If something is not working well, or if there are problems, then these should be mentioned. If something is working well, and there are no problems, then that should be mentioned too.
- If there is anything else that is of concern to the respondent that is not raised in the interview they are welcome to express these other concerns.

**Record responses in a separate notebook**

Record:

Health facility/community

Category of respondent (nurse, HSA, SHSA, Headman, CAG member, etc.)

Topic being discussed

Responses to the topic

*Remember*: Topic guides can help introduce and guide the discussion. There may be other issues or questions that you would like to raise as part of this discussion.

## *Topic Guide – Implementing iCCM*

***Suggested Respondents***

DHMT members, district medical officer/supervisors
Health workers based at HCs
HSAs
Village headman/village health committee members/CAG members
**NOT FOR CAREGIVERS (mothers)**

***Topics for discussion***

- **HSA training and coverage**. Does the training prepare HSAs to do their job? Is there anything about the training that you would do differently?
- **Community demand**. Are sick newborns and children taken to HSAs when they are sick? If yes, why do they seek care from HSAs first? If not, where do they go first? Why do they go to this source first? What could be done to encourage them to first seek care from HSAs?
- **Community case-management**. Is it difficult for HSAs to manage sick children? What are the reasons for these difficulties? Are there parts of this district/community where sick children may be difficult to reach? What would you do to improve the ability of HSAs to manage all children? Is it difficult for HSAs to follow-up on sick newborns and children in the home after they have been treated? If yes, why is it difficult?
- Have there been any problems with the use of antibiotics or anti-malarials by HSAs? Do they give a complete course of medicines when they have to give them? Do they charge for medicines?
- Do caregivers referred to the health facilities always accept referral? If not, what are the reasons they do not go for referral? What could be done to improve their likelihood of going for referral?
- Has there been any improvement in availability of transportation for sick mothers, newborns and children who need urgent referral? What methods have been used in this district or community? What needs to be done to improve the availability of transportation?
- **Facility case-management**. If a sick mother, newborn or child is able to be taken to the facility, are they treated well/correctly? Have health workers at health facilities been trained in IMCI/IMNC to manage sick newborns and children? If not, why not?
- **Facility support.** Do HSAs communicate frequently with health centers in their area? If yes, why? If not, why not? Is there anything you would do to improve links between health facilities and HSAs? Is the mentoring by facility staff working? What could be done to improve this work?
- **Sustainability.** Do you think iCCM is sustainable in the long term? What has been done to ensure that it continues when the project ends? Is there anything you would do to make it more likely to be sustainable?

## *Topic Guide – Integrated FP and MNCH - pregnancy, ENC and PNC*

***Suggested Respondents***
District supervisors.
Health workers based at HCs
HSAs
Village headman/village health committee members/CAG members
NOT FOR CAREGIVERS (mothers)

***Topics for discussion***

- **HSA training (in FP/MNCH care).** Is there enough skills practice included in the training? Does the training provide key skills needed to manage women, newborns and children? Is there anything about the training that you would do differently? Are there any skills that you need that have not been provided?
- **Access and availability:** Are there any barriers to seeing women and children in the community? If yes, what are they? Are all women and newborns reached within 24-48 hours after delivery? If not, why are women and newborns not reached? How could more women and newborns be reached?
  - ✓ Do women want family planning? Has the use of FP methods increased in the last two years? If yes, why? If no, why not? Can women get FP methods from HSAs when they want them? Have attitudes towards birth spacing changed? If yes, why? Are there any reasons why women do not want to use FP?
  - ✓ Do women go for antenatal care? Do they go in the first three months of pregnancy and make four visits? What barriers prevent mothers from getting antenatal care?
  - ✓ Do women in communities accept the advice of HSAs on postnatal care practices such as the need to give early breastfeeds, to dry and wrap the newborn, and to not bathe the newborn? If not, why not?
  - ✓ **Community demand.** Are more women aware of the need for FP, essential newborn care and PNC since activities began? Have attitudes and behavior towards pregnancy, delivery and care of newborns changed? What changes in attitudes have you seen?
  - ✓ What are the most difficult local practices around the time of childbirth and in the early newborn period to change? What are local attitudes to postpartum family planning? Why is this so? Is there anything that can be done to improve practices, in your opinion?

## *Topic Guide –Availability of essential supplies for HSAs delivering FP and MNC Care*

***Suggested Respondents***
District medical officers/supervisors
Health workers based at HCs
HSAs
**NOT FOR VILLAGE HEADMEN/VILLAGE HEALTH COMMITTEE/CAG MEMBERSs/CAREGIVERS (mothers)**

***Topics for discussion***

- Have stock-outs/lack of availability of essential supplies been a problem in the last three months. If so, which supplies have been in short supply? Consider:
  - ✓ ARI Timer

- ✓ MUAC
- ✓ Amoxicillin
- ✓ LA
- ✓ Zinc
- ✓ ORS
- ✓ Family Planning methods
- ✓ Job aids (Registers)
- ✓ Bicycles
- ✓ **Counseling cards, flip charts or other MNCH educational materials**

What are common reasons for stock outs in your area? Consider:

- ✓ Financial resources available;
- ✓ Provision of supplies from the central level;
- ✓ District re-ordering and distribution practices;
- ✓ Facility-level ordering or distribution practices.

- Have you seen any improvements in the availability of essential supplies in the last two years? If so what improvements have you seen? Do health facility staff use village registers to estimate medicine needs each month? If not, do you think this would be useful?
- Do you use C-stock? Does this work well? What changes have you seen since you began using C-Stock?
- What are the main problems with supply of essential medicines and supplies, from your point of view? Have any of these problems been solved by implementation of the project?
- What are possible solutions to supplying essential supplies, from your point of view?

## *Topic Guide – Availability of supervision for HSAs*

***Suggested Respondents***

District supervisors.
Health workers based at HCs
HSAs

**NOT FOR VILLAGE HEADMEN/VILLAGE HEALTH COMMITTEE/CAG MEMBERSs/CAREGIVERS (mothers)**

***Topics for discussion***

- Do you have a schedule for supervisory visits? Are supervisory visits conducted jointly with other program staff? Do you think that supervision is well coordinated with other programs working in the community? Do you receive supervision yourself? Do you think you receive enough supervision?
- Do supervisors use checklists? Do checklists work well? What are the problems with using checklists?
- Are any data available on how well HSAs are practicing key iCCM, FP and MNCH tasks? What is the impression of the quality of iCCM, based on supervisory visits?
- Do supervisors usually give immediate feedback on their findings?
- Are records of findings and actions to be taken, left at the facility or with health workers?
- Do supervisors usually follow-through with actions they have promised?
- Are supervisors generally supportive? What problems and successes have you seen?

- What are the most important reasons that supervision visits do not take place? What are the main problems with supervision, from your point of view? Will effective supervision continue when the project stops?
- What are possible solutions to supervision problems, from your point of view?
- For HSAs: if a newborn or child is sick and there is a health problem that you can't solve, who do you go to for help – and how do you contact them?

***Topic Guide –Collection and use of data***

***Suggested Respondents***
District medical officers/supervisors
Health workers based at HCs
HSAs
**NOT FOR VILLAGE HEADMEN/VILLAGE HEALTH COMMITTEE/CAG MEMBERSs/CAREGIVERS (mothers)**

***Topics for discussion***

✓ **Use of registers**. Are the HSA registers difficult to complete? Is there anything you would do to make the registers easier to complete?

- Have forms and registers been available?
- Is all the information on the forms/registers useful? If not, what information is not used? What modifications would you make to registers?
- Are summary forms completed every month, taken to facilities and summarized? If not, what problems have been seen?
- **Using data for decision making.** Are the data summarized regularly and given to HSAs, health facility staff? If so, how have the data been summarized? Has this been useful?
- Are the data used by HSAs or health facilities to make decisions? What kind of decisions have been guided by data from village clinic registers?
- **Sustainability.** Do you think that use of village clinic registers is sustainable after the project stops? If not, why? What could make their use more sustainable?
- **District data management**. Does the district now have the capacity to manage village register data, summarize and use data on its own without project support? If not, why not? Is the district producing monthly updates on progress with implementation of iCCM, FP and MNCH activities?

***Topic Guide –Availability of HSAs***

***Suggested Respondents***
District medical officers/supervisors
Health workers based at HCs
HSAs
Village headman/village health committee members/CAG members
Caregivers

***Topics for discussion***

- Do you think there are adequate numbers of HSAs are working in the community? If not, why not? How many HSAs are required? Do you think the selection process for

HSAs works well? Are the best people trained for these jobs? If not, what would you do differently?

- Have you had a problem with HSAs leaving their jobs? What is done now to encourage them to continue working? Could more be done to motivate them to continue? What more would you do to ensure that they remain in their jobs?
- Can you always find an HSA when you need one? How often is the village clinic unattended? Why is the village clinic sometimes unattended? What are the reasons that HSAs are not always available?
- What can be done to improve HSAs availability in communities? Have you done anything to make HSAs more available?
- What are the main reasons HSAs have limited time to spend with communities? What can be done to improve this situation?
- Are HSAs well accepted in villages? Why? Why not?
- What have HSAs done well? What have HSAs not done well?

### *Topic Guide – Community Mobilization*

***Suggested Respondents***

District medical officer/supervisors
Health workers based at HCs
HSAs
Village headman/village health committee members/CAG members
Caregivers

***Topics for discussion***

- **Community-mobilization training**: Is the community mobilization training useful? Does it give you skills that are useful? Is there enough skills practice included in the community mobilization training? Is there anything about the training that you would do differently?
- **Roles and responsibilities**. Have CAGs worked well? How have they been guided by the community action cycle? Are the CAGs active? Have they helped improve the management of mothers, newborns and children?
- What skills or capacities have been strengthened, if any, from CAGs' application of the community action cycle? What skills or capacities need further strengthening?
- Are materials such as counseling cards and other job aids available for community education? If no, why are these not available? Are they effective?
- Have all the key stakeholders in the community been trained in community mobilization – are there other groups or individuals who should be involved?
- **Funding and implementation of plans**. Have community action plans been developed? Are there any problems with the development of community action plans? How have they been used?
- Have these plans been implemented?
- What types of activities have been conducted by those who have been trained in community-mobilization? Has this been difficult?
- Have CAGs raised resources to support the implementation of their action plans? What type of resources?

- Have grants or other sources of support or funding been available to support all planned activities? Are any resources or additional support needed to allow community activities to be conducted better?
- **Sustainability**. What are the barriers to implementing effective community-mobilization? Will community mobilization activities continue without project support? What would you do to ensure that it continue in the longer term?

## *Topic Guide – Community capacity*

***Suggested Respondents***

District medical officer/supervisors
Health workers based at HCs
HSAs
Village headman/village health committee members/CAG members
Caregivers

***Topics for discussion***

- **Community support**. What are the most useful approaches to giving information about family planning, maternal, newborn and child health in your experience? Are the materials available for health education/community mobilization adequate? Are other materials needed? What materials are needed?
- What support do community leaders give to the CAGs and HSAs? Does this work well? Could this be done differently?
- Do local partners provide support for community-based activities? If not, why not? Would you like more involvement of partners? Which partners should be more involved and how?
- Can all people in the community reach health facilities? What are the barriers to getting to health facilities? What would you do to increase access to health facilities in this area?
- **Other community resources**. Are there individuals or groups in the community who could be providing information or services, but who are not being used? If yes, which individuals or groups do you mean? Why are they not being used? What could be done to use them better?

# Annex 10: Information Sources

| **List of Participants: Final Evaluation community consultation/discussion meeting with DHMT, SHSAs, HSAs and community members** | | |
|---|---|---|
| **Date: 17 February, 2016** | | |
| **NAME** | **CADRE** | **ORGANIZATION** |
| Dr. Medson Matchaya | DHO | BT DHO |
| Jameson Chausa | PEHO | BT DHO |
| Mary Asani | DNO | BT DHO |
| Melayi Mhone | Administrator | BT DHO |
| Samuel Tanaka Mbewe | Human Resources | BT DHO |
| Dr. Mbichira | DMO | BT DHO |
| Chrissy Msonthi | Transport Officer | BT DHO |
| Rodgers Kuyokwa | IMCI Coordinator | BT DHO |
| Fausta Mainje | MCH Coordinator | BT DHO |
| Austin Kapira | FP Coordinator | BT DHO |
| Chrissy Banda | IEC Coordinator | BT DHO |
| Boyise Musoni | SHSA | Chileka SDA |
| Amon Square | HSA | Chileka SDA |
| Catherine Kachikondo | HSA | Chileka SDA |
| Patricia Njoka | CAG Member | Chileka SDA |
| Beatrice Steven | CAG Member | Chileka SDA |
| Ireen Kaponda | Caregiver | Chileka SDA |
| Favour Mvundula | Caregiver | Chileka SDA |
| Christopher Songwe | Chief | Chileka SDA |
| Tendai Chimtengo | SHSA | Mpemba H/C |
| Francis Aufi | HSA | Mpemba H/C |
| Alice Bonya | HSA | Mpemba H/C |
| Friday Feston | CAG Member | Mpemba H/C |

| List of Participants: Final Evaluation community consultation/discussion meeting with DHMT, SHSAs, HSAs and community members | | |
|---|---|---|
| **Date: 17 February, 2016** | | |
| **NAME** | **CADRE** | **ORGANIZATION** |
| Bertha Mkongora | CAG Member | Mpemba H/C |
| Eggrey Payesa | Caregiver | Mpemba H/C |
| Idesi Mbawa | Caregiver | Mpemba H/C |
| Patricia Makumba | Chief | Mpemba H/C |
| Mary Masamba | Human Resources | BT DHO |
| Steve Macheso | Project Manager | SC/ BT DHO |
| Misozi Kambanje | OR/ME Coordinator | SC/ BT DHO |
| Davie Chimwaza | Training Officer | SC/ BT DHO |
| Erick Mwale | FP/ IIP Coordinator | SC/ BT DHO |
| Master Chitabwino | SBCC Officer | SC/ BT DHO |
| Elvis Bande | SBCC Facilitator | SC/ BT DHO |
| Heather Masina | HIV/TB Officer | SC/ BT DHO |
| Karen Waltensperger | Senior Advisor, Community & Child Health/Technical Backstop | Save the Children |
| John Murray | FE Team Leader | External Consultant |
| Innocent Mwaluka | HMIS Assistant | BT DHO |

**Field visit interviews: Mlambe and Lirangwe**

| Date | Clinic Name | Name/number | Cadre |
|---|---|---|---|
| 18/02/16 | Mlambe | - Ndaziona Kamanga<br>- Faikana Dinga | Caregivers |
| | | - Kosam Zulu<br>- Matrida Katunga<br>- Christina Phiri<br>- Mac Witness | CAG Members |
| | | - 1 (Name unavailable) | VHC Member |
| | | - GVH Kapeni | Village Headman |
| | | - Mercy Banda<br>- Ormar Cheucheu | HSAs |
| | | - Odeta Kanyongolo | Nurse |
| 19/02/16 | Lirangwe | - Munderanji Divasoni<br>- Mirriam Kayesi | Caregivers |

| Date | Clinic Name | Name/number | Cadre |
|---|---|---|---|
| | | - Peter Moffat<br>- Maliyoni Robert<br>- Felix Chikwakwa<br>- Felester Jailosi<br>- Gladys Chitawila<br>- Groria Chitsime | CAG Members |
| | | - 4 (Names unavailable) | GVH |
| | | - 2 (Names unavailable) | VHC Members |
| 19/02/16 | Lirangwe | - Christropher Baluti | Senior HSA |
| | | - Kondwani Chaima | HSA |
| | | - Beggie Tembo | Medical Assistant |
| | | - 1 (Name unavailable) | Nurse |

**Soche and South Lunzu**

| Date | Clinic Name | Name/number | Cadre |
|---|---|---|---|
| 18/02/16 | Soche | Health Center Staff | 1 |
| | | SHSA | 2 |
| | | HSA | 2 |
| | | Village Headman | 1 |
| | | CAG Members | 5 |
| | | Caregivers | 2 |
| 19/02/16 | South Lunzu | Health Center Staff | 2 |
| | | SHSA | 1 |
| | | HSA | 1 |
| | | Village Headman | 1 |
| | | CAG Members | 6 |
| | | Caregivers | 2 |

**Namiko and Makata**

| Date | Clinic Name | Name/number | Cadre |
|---|---|---|---|
| 18/02/16 | Namiko Health Center | Nelise Simbisi | Nurse |
| | | Precious Kadzinja | In-charge |
| | | Zondiwe Zungu | SHSA |
| | | Samson Gwaligwali | HSAs |
| | | Dyson Mwangala | |
| | | VH Nakhwala | Village Head |
| | | Davie Makwasa | VHC Members |
| | | Peter Kholomana | |
| | | Rhoda Julio | CAG Members |

| Date | Clinic Name | Name/number | Cadre |
|---|---|---|---|
| | | Mabvuto Scale | |
| | | Dorothy Emmanuel | |
| | | Elufy Jackson | |
| | | Christina Mathias | |
| | | Rhoda Jefrey | |
| | | Eness White | |
| | | Magret Matiasi | |
| | | Magaleta Kadangwe | |
| | | Christina John | |
| | | Magret Eleson | |
| | | Catherine Iron | |
| | | Harriet Mayikolo | |
| | | Funny Mlenga | Caregivers |
| | | Alinafe Joseph | |
| 19/02/16 | Makata Health Center | Kondwani Sulani | In-charge |
| | | Mc Donald Munthali | SHSA |
| | | Gray Kazembe | HSAs |
| | | Mercy Muhaniwa | |
| | | VH Chalimbe | Village Head |
| | | Rose Meter | VHC Member |
| | | Magret Likwinji | CAG Members |
| | | Lucy Grant | |
| | | Frank Majawa | |
| | | Flocy Kausiwa | |
| | | Diana Piasi | |
| | | 2 | Caregivers |

**List of Participants in the *Mwayi wa Moyo* Final Evaluation Stakeholder Dissemination Meeting, February 25, 2016, Blantyre**

| Name | Position | Organization | Email | Phone |
|---|---|---|---|---|
| Master Chitabwino | SBCC Officer | SCI | master.chitabwino@savethechildren.org | 0998965972 |
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|---|---|---|---|---|
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# Annex 11: Disclosure of Any Conflicts of Interest

## Conflict of Interest Forms Included

- Dr. John Murray, External Consultant
- Karen Waltensperger, Senior Advisor, Child & Community Health, Save the Children
- Steve Macheso, *Mwayi wa Moyo*, Project Manager, Save the Children, Malawi
- Misozi Kambanje, Operations Research, Monitoring & Evaluation Coordinator, *Mwayi wa Moyo*, Save the Children, Malawi
- Davie Chimwaza, *Mwayi wa Moyo* Training Officer, Save the Children, Malawi
- Margret Kambalame, Health Specialist, Reducing Teen Pregnancy Project, Save the Children, Malawi
- Master Chitabwino, *Mwayi wa Moyo* SBCC Officer, Save the Children, Malawi
- Elvis Bande, *Mwayi wa Moyo* Community Facilitator, Save the Children, Malawi
- Rodgers Kuyokwa, IMCI Coordinator, Blantyre, DHO
- Austin Kapila, FP Coordinator, Blantyre DHO
- Fausta Mainje, CBMNC Coordinator, Blantyre DHO
- Heather Masina, HIV/TB Officer, Save the Children, Malawi
- Erick Mwale, FP/Immunization Integration Project Coordinator, Save the Children, Malawi
- Boniface Chilembwe, SAEAO Deputy IMCI Coordinator, Blantyre DHO

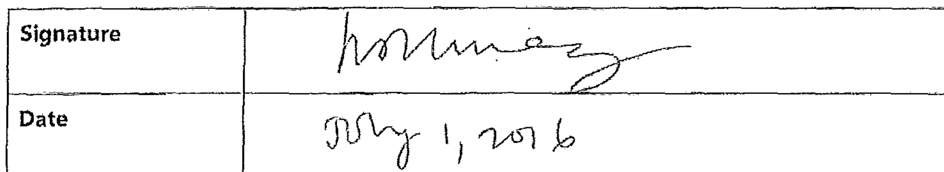
## Dr. John Murray, External Consultant

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

| Name | John Murray |
|---|---|
| **Title** | Dr. |
| **Organization** | Consultant |
| **Evaluation Position** | ☒ Team Leader<br>☐ Team Member |
| **Evaluation Award Number** *(Contract or other instrument)* | Cooperative Agreement: AID-OAA-A-11-00058 |
| **USAID Project(s) Evaluated** *(Include project name(s), implementer name(s) and award number(s), if applicable)* | *Mwayi wa Moyo ("A Chance to Live")*<br>Project Dates: 1 October 2011 - 31 March 2016 |
| **I have real or potential conflicts of interest to disclose.** | ☐ Yes<br>☒ No |
| **If yes answered above, I disclose the following facts:**<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including* | |

| | |
|---|---|
| *involvement in the project design or previous iterations of the project* | |
| 4. *Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated* | |
| 5. *Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated* | |
| 6. *Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation* | |

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.



| | |
|---|---|
| **Signature** | |
| **Date** | July 1, 2016 |

Karen Waltensperger, Senior Advisor, Child & Community Health, Save the Children

ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST

| Name | KAREN WALTENSPERGER |
|---|---|
| Title | Senior Advisor, Community & Child Health |
| Organization | Save the Children USA |
| Evaluation Position | ☐ Team Leader<br>☒ Team Member |
| Evaluation Award Number *(Contract or other instrument)* | N/A |
| USAID Project(s) Evaluated *(Include project name(s), implementer name(s) and award number(s), if applicable)* | Mwayi Wa Moyo<br>USAID CSHGP |
| I have real or potential conflicts of interest to disclose. | ☒ Yes<br>☐ No |
| If yes answered above, I disclose the following facts:<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | Technical Backstop — involved in application, DIP, TA, annual reports |

[signature]
12 Feb 2016

Steve Macheso, *Mwayi wa Moyo*, Project Manager, Save the Children, Malawi

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

| | |
|---|---|
| **Name** | STEVE MACHESO |
| **Title** | PROJECT MANAGER |
| **Organization** | SAVE THE CHILDREN |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number** *(Contract or other instrument)* | |
| **USAID Project(s) Evaluated** *(Include project name(s), implementer name(s) and award number(s), if applicable)* | MWAYI WA MOYO (CS 27), SAVE THE CHILDR[EN] AID-OAA-A-11-00058 |
| **I have real or potential conflicts of interest to disclose.** | ☑ Yes<br>☐ No |
| **If yes answered above, I disclose the following facts:** *Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | I AM THE CURRENT PROJECT MANAGER OF THE PROJECT. I AM RESPONSIBLE FOR PROVIDING LEADERSHIP IN THE IMPLEMENTATION OF THE PROJECT |

STEVE MACHESO

[signature]

25/02/2016

Misozi Kambanje, Operations Research, Monitoring & Evaluation Coordinator, *Mwayi wa Moyo*, Save the Children, Malawi

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

| | |
|---|---|
| **Name** | Misozi Kambanje |
| **Title** | Operations Research Monitoring and Evaluation Coordinator |
| **Organization** | Save the Children |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number** *(Contract or other instrument)* | |
| **USAID Project(s) Evaluated** *(Include project name(s), implementer name(s) and award number(s), if applicable)* | *Mwayi wa Moyo* (CS27), Save the Children<br>AID-OAA-A11-00058 |
| **I have real or potential conflicts of interest to disclose.** | ☑ Yes<br>☐ No |
| **If yes answered above, I disclose the following facts:** *Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | I have been working with the Project on M&E component and conducting regular visits to targeted facilities and communities hence there is potential of conflict |

MISOZI KAMBANJE

Davie Chimwaza, *Mwayi wa Moyo* Training Officer, Save the Children, Malawi

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

| | |
|---|---|
| **Name** | DAVIE CHIMWAZA |
| **Title** | TRAINING OFFICER |
| **Organization** | SCI |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number**<br>*(Contract or other instrument)* | |
| **USAID Project(s) Evaluated**<br>*(Include project name(s), implementer name(s) and award number(s), if applicable)* | MWAYI WA MOYO (CS 27)<br>SAVE THE CHILDREN<br>AID-OAAA-A-11-00058 |
| **I have real or potential conflicts of interest to disclose.** | ☑ Yes<br>☐ No |
| **If yes answered above, I disclose the following facts:**<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | CURRENTLY I AM THE TRAINING OFFICER RESPONSIBLE FOR CONDUCTING TRAININGS, SUPPORTIVE SUPERVISION AND MENTORING. |

DAVIE CHIMWAZA

[signature]

25/02/2016

Margret Kambalame, Health Specialist, Reducing Teen Pregnancy Project, Save the Children, Malawi

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

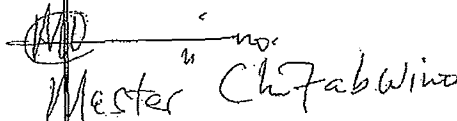
| **Name** | Maggie Kambalame |
|---|---|
| **Title** | Health Specialist |
| **Organization** | Save the Children |
| **Evaluation Position** | X Team Leader<br>Team Member |
| **Evaluation Award Number**<br>*(Contract or other instrument)* | |
| **USAID Project(s) Evaluated**<br>*(Include project name(s), implementer name(s) and award number(s), if applicable)* | |
| **I have real or potential conflicts of interest to disclose.** | ☐ Yes<br>No |
| **If yes answered above, I disclose the following facts:**<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | |

M Kambalame 7th March 2016

Master Chitabwino, *Mwayi wa Moyo* SBCC Officer, Save the Children, Malawi

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

| **Name** | Master Chitabwino |
|---|---|
| **Title** | SBCC Officer |
| **Organization** | Save the Children |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number** *(Contract or other instrument)* | |
| **USAID Project(s) Evaluated** *(Include project name(s), implementer name(s) and award number(s), if applicable)* | Child Survival (Mwayi wa Moyo, Save the Children<br>AID-OAA-A11-00058 |
| **I have real or potential conflicts of interest to disclose.** | ☑ Yes<br>☐ No |
| **If yes answered above, I disclose the following facts:**<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | I have been working in this project as Social and Behavior Change Communication Officer and had close interface with health facility staff and communities in the impact area hence the potential for conflict of interest. |



Master Chitabwino

Elvis Bande, *Mwayi wa Moyo* Community Facilitator, Save the Children, Malawi

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

| | |
|---|---|
| **Name** | Elvis Bande |
| **Title** | Community Mobilization Facilitator |
| **Organization** | SCI |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number** *(Contract or other instrument)* | |
| **USAID Project(s) Evaluated** *(Include project name(s), implementer name(s) and award number(s), if applicable)* | Mwayi wa Moyo (CS27) Save the Children<br>AID-OAA-A-11-00058 |
| **I have real or potential conflicts of interest to disclose.** | ☑ Yes<br>☐ No |
| **If yes answered above, I disclose the following facts:** *Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*(3.) Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | I work as a Community Mobilization Facilitator. My current role is working directly with Community members in the implementation of all activities. |

Elvis Bande

[signature] 25/02/2016

Rodgers Kuyokwa, IMCI Coordinator, Blantyre, DHO

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

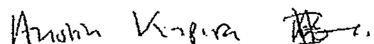
| | |
|---|---|
| **Name** | RODGERS KUYOKWA |
| **Title** | IMCI/CCM COORDINATOR |
| **Organization** | BT DHO |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number** *(Contract or other instrument)* | |
| **USAID Project(s) Evaluated** *(Include project name(s), implementer name(s) and award number(s), if applicable)* | MWAYI WA MOYO (CS27)<br>SAVE THE CHILDREN<br>AID-OAA-A-11-00058 |
| **I have real or potential conflicts of interest to disclose.** | ☐ Yes<br>☑ No |
| **If yes answered above, I disclose the following facts:**<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | |

Rodgers Kuyokwa [signature]

Austin Kapila, FP Coordinator, Blantyre DHO

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

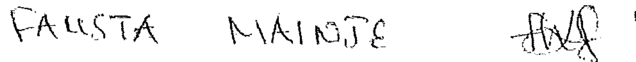
| | |
|---|---|
| **Name** | Austin Kapila |
| **Title** | SNO / FP Coordinator |
| **Organization** | Blantyre DHO |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number** *(Contract or other instrument)* | |
| **USAID Project(s) Evaluated** *(Include project name(s), implementer name(s) and award number(s), if applicable)* | Mwayi wa Moyo (CS27)<br>SAVE THE CHILDREN<br>AID-OAA-A-11-00058 |
| **I have real or potential conflicts of interest to disclose.** | ☐ Yes<br>☑ No |
| **If yes answered above, I disclose the following facts:**<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | |



Fausta Mainje, CBMNC Coordinator, Blantyre DHO

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

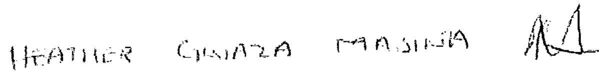
| | |
|---|---|
| **Name** | FAUSTA MAINJE |
| **Title** | CBMNC COORDINATOR |
| **Organization** | BT DHO |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number** *(Contract or other instrument)* | |
| **USAID Project(s) Evaluated** *(Include project name(s), implementer name(s) and award number(s), if applicable)* | MWAYI WA MOYO (CS 27)<br>SAVE THE CHILDREN<br>AID — OAA — A-11 — 00058 |
| **I have real or potential conflicts of interest to disclose.** | ☐ Yes<br>☑ No |
| **If yes answered above, I disclose the following facts:**<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | |



Heather Masina, HIV/TB Officer, Save the Children, Malawi

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

| Name | HEATHER GWAZA MASINA |
|---|---|
| Title | HIV / TB OFFICER |
| Organization | SAVE THE CHILDREN |
| Evaluation Position | ☐ Team Leader<br>☑ Team Member |
| Evaluation Award Number<br>*(Contract or other instrument)* | |
| USAID Project(s) Evaluated<br>*(Include project name(s), implementer name(s) and award number(s), if applicable)* | MWAYI WA MOYO PROJECT (CS27) SAVE THE CHILDREN<br>AID-OAA-A-11-00058 |
| I have real or potential conflicts of interest to disclose. | ☐ Yes<br>☑ No |
| If yes answered above, I disclose the following facts:<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | |

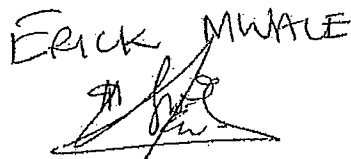


Erick Mwale, FP/Immunization Integration Project Coordinator, Save the Children, Malawi

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

| | |
|---|---|
| **Name** | ERICK MWALE |
| **Title** | PROJECT COORDINATOR FP/IMMUNIZATION |
| **Organization** | |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number** *(Contract or other instrument)* | |
| **USAID Project(s) Evaluated** *(Include project name(s), implementer name(s) and award number(s), if applicable)* | MWAYI WA MOYO (CS27) SAVE THE CHILDREN<br>AID-OAA-A-11-00054 |
| **I have real or potential conflicts of interest to disclose.** | ☑ Yes<br>☐ No |
| **If yes answered above, I disclose the following facts:**<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | CURRENTLY I'M THE PROJECT COORDINATOR (FP/IMMUNIZATION) AND HAS BEEN REGULARLY VISITING THE PROJECT SITES FOR SUPERVISION |

ERICK MWALE



25-02-16

Boniface Chilembwe, SAEAO Deputy IMCI Coordinator, Blantyre DHO

**ANNEX XI. DISCLOSURE OF ANY CONFLICTS OF INTEREST**

| | |
|---|---|
| **Name** | Boniface Chilembwe |
| **Title** | SAEAO Deputy IMCI Coordinator |
| **Organization** | BT-DHO |
| **Evaluation Position** | ☐ Team Leader<br>☑ Team Member |
| **Evaluation Award Number**<br>*(Contract or other instrument)* | |
| **USAID Project(s) Evaluated**<br>*(Include project name(s), implementer name(s) and award number(s), if applicable)* | MWAYI WA MOYO (CS27<br>SAVE THE CHILDREN<br>AID-OAA-A-11-00058 |
| **I have real or potential conflicts of interest to disclose.** | ☐ Yes<br>☑ No |
| **If yes answered above, I disclose the following facts:**<br>*Real or potential conflicts of interest may include, but are not limited to the following:*<br>*1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated*<br>*2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation*<br>*3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project* | |

[signature] BONIFACE CHILEMBWE

## Annex 12: Statement of Differences

Not Applicable

## Annex 13: Evaluation Team Members, Roles, and Titles

**Dr. John Murray, External Consultant**

- Reviewed project documents and resources to understand the project.
- Refined the evaluation objectives and key questions based on the CSHGP guidelines in coordination with Save the Children team and its partners.
- Developed the field evaluation schedule and assessment tools.
- Trained final evaluation team members on objective and process of the evaluation including evaluation tools.
- Led the team to complete the collection, analysis, and synthesis of supplemental information regarding the program performance.
- Interpreted both quantitative and qualitative results and draw conclusions, lessons learned, and recommendations regarding project outcome.
- Led an in-country debriefing meeting with key stakeholders in Blantyre and prepared a PowerPoint presentation deliverable.

**Karen Waltensperger, Senior Advisor, Child & Community Health, Save the Children**

- Identified candidate for consideration as Final Evaluation External Evaluator and sought approval from the donor.
- Worked with USAID to draft Terms of Reference for the final evaluation specifying evaluation objectives and key questions in line with CSHGP Final Evaluation guidelines.
- Assisted with providing context and background influencing the design of the *Mwayi wa Moyo* project as well as the progress made by the project from the start.
- Participated in conducting community and facility interviews.
- Participated in stakeholder debriefing in Blantyre and USAID Malawi mission debriefing in Lilongwe.

**Steve Macheso, *Mwayi wa Moyo* Project Manager, Save the Children, Malawi**

- Provided relevant documents about the *Mwayi wa Moyo* project (annual reports, OR protocol and report, KPC survey report, etc.) for the consultant's reference and use.
- Ensured involvement of relevant Ministry of Health staff and other stakeholders in the debriefing meeting and in the field interviews.
- Facilitated field visits by providing contacts, information and logistical support.
- Participated in conducting community and facility interviews.
- Organized and participated in the stakeholder debriefing meeting
- Participated in the debriefing of USAID Malawi mission.

**Misozi Kambanje, Operations Research, Monitoring & Evaluation Coordinator, *Mwayi wa Moyo*, Save the Children, Malawi**

- Assisted with providing and clarifying M&E data for the preparation and presentation during the debriefing report.

- Assisted in preparing a list of participants to be invited for the stakeholder debriefing meeting.
- Participated in conducting community and facility interviews.
- Participated in the stakeholder debriefing meeting.
- Made follow-up visits with the KPC survey consultant to ensure that questions and comments posed by the consultant in the survey report were addressed in a timely and satisfactory manner.

**Davie Chimwaza, *Mwayi wa Moyo* Training Officer, Save the Children, Malawi**

- Assisted with clarifications related to how training manuals were developed and how trainings were delivered by the project.
- Participated in conducting community and facility interviews.
- Participated in the stakeholder debriefing meeting.
- Provided an updated a compendium of trainings conducted by the project during its entire lifespan.

**Margret Kambalame, Health Specialist, Reducing Teen Pregnancy Project, Save the Children, Malawi**

- Provided technical clarifications related to FP interventions of the project and how this relates to the broader FP programing at the national level.
- Participated in conducting community and facility interviews.

**Master Chitabwino, *Mwayi wa Moyo* SBCC Officer, Save the Children, Malawi**

- Participated in conducting community and facility interviews.
- Participated in the stakeholder debriefing meeting.
- Assisted with providing clarifications related to the implementation of Community Mobilization and SBCC components delivered by the project.

**Elvis Bande, *Mwayi wa Moyo* Community Facilitator, Save the Children, Malawi**

- Participated in conducting community and facility interviews.
- Participated in the stakeholder debriefing meeting.
- Assisted with providing clarifications related to the implementation of Community Mobilization and SBCC components delivered by the project.

**Rodgers Kuyokwa, IMCI Coordinator, Blantyre DHO**

- Assisted with providing information on the implementation of the iCCM component of the project.
- Participated in conducting community and facility interviews.
- Participated in the stakeholder debriefing meeting.

**Austin Kapila, FP Coordinator, Blantyre DHO**

- Participated in conducting community and facility interviews.
- Participated in the stakeholder debriefing meeting.

- Assisted with providing information on the implementation of the Family Planning component of the project.

**Fausta Mainje, CBMNC Coordinator, Blantyre DHO**

- Assisted with providing information about implementation of the project's CBMNC component.
- Participated in conducting community and facility interviews.
- Participated in the stakeholder debriefing meeting.

**Heather Masina, HIV/TB Officer, Save the Children, Malawi**

- Assisted with providing information about implementation of the CBMNC component of the project.
- Participated in conducting community and facility interviews.
- Participated in the stakeholder debriefing meeting.

**Erick Mwale, FP/Immunization Integration Project Coordinator, Save the Children, Malawi**

- Participated in the stakeholder debriefing meeting.
- Assisted with providing information on the implementation of the Family Planning and Immunization integration component of the project.

**Boniface Chilembwe, SAEAO Deputy IMCI Coordinator, Blantyre DHO**

- Assisted with providing information on the implementation of the iCCM component of the project.
- Participated in conducting community and facility interviews.
- Participated in the stakeholder debriefing meeting.

# Annex 14: Operations Research Final Report

## The Effectiveness of an Integrated Community-Based Package For Maternal, Neonatal and Child Health and Family Planning Services in Blantyre District, Malawi

**Cooperative Agreement: AID-OAA-A-11-00058**
**Project Dates: 1 October 2011 - 31 March 2016**

**Category:** Innovation

**Submitted by:**
Save the Children Federation, Inc.
501 Kings Highway East, Suite 400, Fairfield, CT 06825
Telephone: (203) 221-4000 - Fax: (203) 221-4056

**Authors:**
Sarah White, Ajib Phiri, Chawanangwa Chirambo, Bernadette O'Hare:
Department of Paediatrics and the School of Public Health, College of Medicine, University of Malawi;
Steve Macheso, Save the Children, Malawi

**Contact Persons:**
Eric Swedberg, Director, Child Health
Carmen Weder, Associate Director, Department of Global Health

Submitted to USAID/GH/HIDN/CSHGP
July 12, 2016 (Revised)

*This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of Save the Children and do not necessarily reflect the views of USAID or the United States Government*

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## ABBEVIATIONS AND ACRONYMS

| | |
|---|---|
| AEHO | Assistant Environmental Health Officer |
| ARI | Acute Respiratory Infection |
| ARV | Antiretroviral |
| BCC | Behavior Change Communication |
| CBDAs | Community-Based Distribution Agents (for family planning products) |
| CBMNC | Community-Based Maternal and Newborn Care |
| CHAM | Churches Health Association of Malawi |
| CHW | Community Health Worker |
| C-IMCI | Community Integrated Management of Childhood Illness |
| CM | Community Mobilization |
| CSUI | Client Satisfaction and Understanding Interview |
| DHMT | District Health Management Team |
| DHO | District Health Office |
| ESARO | Eastern and Southern African Region; UNICEF |
| FGD | Focus Group Discussions |
| FP | Family Planning |
| HC | Health Center |
| HEW | Health Extension Worker |
| HF | Health Facility |
| HIV | Human Immunodeficiency Virus |
| HSA | Health Surveillance Assistant (A community health worker in Malawi) |
| iCCM | Integrated Community Case Management |
| IMCI | Integrated Management of Childhood Illness |
| ITNs | Insecticide Treated Nets |
| LAM | Lactational Amenorrhea Method |
| MDD | Minimum Difference to be Detected |
| MNCH | Maternal, Newborn and Child Health |
| MNH | Maternal and Newborn Health |
| MoH | Ministry of Health |
| MOI | Missed Opportunities Index |

| | |
|---|---|
| OR | Operations Research |
| PPFP | Postpartum Family Planning |
| SD | Standard Deviation |
| SHSA | Senior Health Surveillance Assistant |
| TBA | Traditional Birth Attendant |
| UNICEF | United Nations Children's Fund |
| USAID | United States Agency for International Development |
| VHC | Village Health Committee |
| WHO | World Health Organization |

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## EXECUTIVE SUMMARY

Save the Children commissioned the Malawi College of Medicine (COM), Department of Paediatrics & Child Health and Department of Community Medicine), to conduct an operational research (OR) study in hard-to-reach communities in Blantyre District, Malawi. The purpose of this OR was to evaluate the effectiveness of an integrated, community-based maternal, newborn and child health (MNCH), and family planning (FP) services program. The OR was embedded within *Mwayi wa Moyo* ("A Chance to Live") project conducted by Save the Children, Malawi, with funding from USAID, in partnership with the Blantyre District Health Office (DHO) and the Ministry of Health (MoH). The study had the following specific objectives:

- To determine if the integrated community-based package leads to improved coverage of key interventions as a result of fewer missed opportunities at each Health Surveillance Assistant (HSA) client interaction (this was studied using a tool developed to record missed opportunities by observing interactions between community health workers and their clients).
- To determine if the integrated community-based package leads to improved quality of care (this was studied using a standard tool designed for this purpose).
- To determine if the integrated community-based package leads to improved client satisfaction (this was studied using questionnaires and focus group discussions).

### Methodology

The research was conducted using a cluster randomized trial design and randomization was clustered by health facility (HF). All 93 HSAs serving hard-to-reach catchment areas under 17 HFs, were included in the study. Simple random sampling was used to select eight facilities to receive the intervention, and nine to continue with the standard care or the vertical approach. Data was collected at three stages in the study using qualitative and quantitative methods: pre-intervention (baseline) to establish baseline characteristics of the HSA catchment populations; at six and twelve months after delivery of training for both of the study arms.

### Major Findings

Coverage comparisons: At both six and twelve months after the completion of training, a statistically significant number of missed opportunities were observed among the vertical program group than compared with the integrated group. Within each category measured, the mean baseline values in the control group were usually better than the mean follow-up values. For the six-month follow-up period, the mean total Missed Opportunity Index (MOI) across all interactions was statistically, significantly better ($p<0.001$) in the intervention arm (73.2) than in the control arm (88.8). The mean (95% CI) difference between the arms in the MOI was 15.6 (10.1, 21.1) in favor of the intervention. Among infants and children aged 6-<24 months and 2-<5 years who were treated, there were statistically significant differences detected among a variety of categories ($p=0.01$ and $p<0.001$ respectively for differences favoring the intervention of 9.0 (2.4, 15.7) and 16.0 (8.5, 23.4) respectively). A similar difference (17.9) was estimated for infants aged 2-<6 months but the difference was not statistically significant. For women prior to conception, there was also a statistically significant improvement ($p<0.001$) in the intervention arm (to 81.0) compared with the control arm (98.8) the estimated mean difference (95%CI) was 17.7 (12.0, 23.4).

*Quality comparisons:* During the 12-month follow-up period, the quality of delivery of iCCM was assessed in 223 interactions. The quality was similar for both study arms; the mean iCCM was 70 in the intervention arm and 73 in the control arm. The mean difference between the study arms (3.05) was not statistically significant (p=0.34). During the baseline, assessment levels for the iCCM were usually higher (median 89 in both study arms), than during follow up.

*Client satisfaction:* In both study arms and for both data collection rounds, more than half (56% to 88%) of mothers with children <6 months old, reported having been counseled on postpartum family planning (PPFP) during her last HSA visit. In each category and for each time period, the odds of being counseled were higher in the intervention arm. There was a statistically significant difference for mothers of children 2-<5 years old at six months when it was 1.78 times more likely that they were counseled on PPFP (OR (95% CI): 1.78 (1.16 – 2.7); p=0.009.

*HSA questionnaire and focus group discussion*
All 93 HSAs posted in their communities, were interviewed at baseline and one year after the intervention. The majority (74%) of HSAs were male and one in three (37%) reported that they did not live within the catchment area of their clinic. Among the 34 (37%) who did not reside in their catchment areas, the main reasons given were that there was no suitable accommodation (24) and that their spouses lived elsewhere (six). The average population served is 1,600. Most HSAs were trained eight years ago, and at baseline were receiving around 6% of their scheduled supervisory visits.

From the perspective of the clients, the benefits of the new village clinics included ease of access, with no transport costs. One of the biggest challenges for many rural residents was the fact that their HSA did not reside in the village. When the HSA was not a resident of his or her assigned village, it was common for the clinic to operate only two or three days per week, with limited hours of operation (opening late and closing early). Other challenges included the limited scope of services, the narrow range of drugs supplied for iCCM, frequent stock outs, and the lack of appropriate HSA housing and permanent structures to house village clinics (in 11 of the 17 sampled catchment areas).

### Conclusions and recommendations

An integrated approach can reduce missed opportunities to promote the use of preventive measures and available curative health care in a community setting. However, the marginal effects of integration were found to be small in this study. Health system challenges such as inadequate supervision, shortage of drugs and supplies, and HSAs residing outside of their catchments areas may all have combined to undermine the possible benefits of integration. Efforts to integrate community-based programs must take into consideration such challenges and ensure that these are addressed for integrated service to have meaningful impact.

## INTRODUCTION AND BACKGROUND INFORMATION

Integrating FP and MNCH services typically means offering women a broad set of FP and maternal and child health services during the same appointment, at the same service delivery site, and from the same provider. Cost effectiveness studies show that a single, multipurpose FP-MNCH visit can save the health system money by reducing staff costs, and lowering overhead. A study in Bangladesh on the integration of FP and MNCH services indicated that integration resulted in an increase in the use of contraceptives and a slight decrease in the number of pregnancies 36 months postpartum (47% of women in the intervention area became pregnant compared to 56% in the control area), but there was no significant difference in the neonatal mortality rates (Shah, 2015). A Cochrane review that looked at vertical or fragmented versus integrated approaches, included five studies. The conclusion was that integration may not improve service delivery and overall no consistent pattern emerged. The authors commented that no study had compared exactly the same interventions that were delivered in an integrated way, and that no study had included the perception of the users of the service (Briggs & Garner, 2009). Equally, integration of MNCH and FP services with HIV services show mixed outcomes, possibly with a reduction in the number of pregnancies (Kennedy, Kennedy, & Lind, 2011). Therefore, the evidence base for integration is inconclusive and there has been no direct comparison of identical interventions delivered in an integrated fashion.

We conducted this OR study to determine if the integration of FP and MNCH services provided by HSAs at the community level can reduce missed opportunities. HSAs in Malawi provide frontline healthcare services and are the bridge between the formal health service and the community (Kadzandira & Chilowa, 2001). There are approximately 11,000 HSAs in post (Gilroy et al., 2012). Their role encompasses basic preventative health services, promoting community participation and providing surveillance services (MoH, 2009). Their activities include: immunization; growth monitoring; health talks; the formation and maintenance of, and collaboration with Village Health Committees (VHCs); disease surveillance; and FP (Kadzandira & Chilowa, 2001). HSAs assess and treat sick children using an algorithm adapted from Integrated Management of Childhood Illness (IMCI) and involves training and supporting HSAs to assess, classify and treat common childhood illness in children 2-59 months of age who present with fever, cough and diarrhea (Gilroy et al., 2012). They are also taught to identify sick children who need urgent referral to their nearest health center (HC). Assessments show that HSAs correctly treat fever in 79% of cases and correctly treat diarrhea in 69% of cases. They check for danger signs in children who need urgent referral in 37% of cases, and correctly refer those they have identified as having these signs in 55% of the cases (Gilroy et al., 2012).

The minimum education criterion for the HSA training program is a Malawian Certificate of Secondary School Education and the successful completion of the ten-week, basic training program. HSAs receive compensation from the MoH; which is approximately USD $75/month. HSAs are expected to reside in one of the villages within their catchment areas and to operate a village clinic which provides first-line health care services to a population of between 1,000 and 2,000 people. They are supervised by Assistant Environmental Health Officers (AEHO) at the district-level, however due to staff shortages, this supervisory role has been shifted to Senior Health Surveillance Assistants (SHSAs) at the HF level.

In Malawi, the community-based interventions for MNCH and FP, are currently implemented in a vertical and fragmented manner, causing gaps in the continuum of care, missed opportunities for integrated service delivery, duplication of resources for implementation and low quality of care.

MNCH interventions delivered by HSAs are coordinated by different departments and programs within the MoH. The various community-based packages (e.g.: Community-Based Maternal, Newborn Child Health (CBMNC), integrated Community Case Management (iCCM), Community Integrated Management of Childhood Illnesses (C-IMCI), and FP) were designed and implemented at different times and hence scaled up sporadically in various districts. This vertical and fragmented approach to program design, implementation and management, is transmitted down to the district and community levels where healthcare is delivered, and makes it difficult for HSAs to plan and prioritize their caseload. It has also contributed to poor integration of service delivery and numerous missed opportunities for delivering multiple services at every interaction between HSAs and the families in their catchment areas. This fragmented approach results in a number of difficulties.

HSAs are implementing several vertical packages, including iCCM, CBMNC and Community-based FP. Currently, HSAs do not provide services for sick newborns and young infants under two months old (0-1.9 months). The absence of skilled care at the community level is causing a delay in the identification of illness and the delayed initiation of treatment for these babies. FP services are rarely provided by the HSAs, even though they have several opportunities for doing so at the village clinics and during village/home visits. The absence of integration of these community packages has resulted in gaps in the continuum of care, especially during the neonatal and early infancy periods where the delivery of home- and community based services are weak.

Several community-based services are delivered by the HSAs in isolation, leading to missed opportunities. For example, the village clinics focus primarily on treating sick children, while the opportunity for counseling the mother/family on FP is often missed; village level activities for immunization or other environmental health activities, are not optimally used for antenatal or postnatal home visits, or for FP counseling.

Even though the SHSAs and AEHOs are primarily responsible for supervising the HSAs, most supervision is provided on vertical programmatic areas. For example, a supervision visit on iCCM focuses only on case management, with little attention to maternal and newborn health or FP services. Clinical mentorship is currently provided only for iCCM. Most supervision and mentorship tools are designed to focus on vertical program components. This approach has led to several missed opportunities for integrated supervision and mentorship. Vertical approach to supervision has also led to reinforcement of vertical service delivery approaches by the HSAs.

There is little coordination among the various community mobilization and communication components of the various vertical community-based interventions. Some of the components, such as the CBMNC, have special emphasis on CM and behavior change communication (BCC), others like iCCM, is primarily focused on service delivery. There are several opportunities for harmonizing and coordinating CM and BCC efforts within an integrated community-based package.

The current vertical approach to training, clinical mentoring and HSA supervision for the various community-based packages leads to a high cost of delivering these interventions, as well as the duplication of training and a longer duration of time that the HSAs are absent from their villages (24 days versus 18-20 days).

A 2011 Save the Children evaluation of the community-based maternal and newborn health program in three districts of Malawi showed less than optimal levels of coverage for the antenatal and postnatal home visits by HSAs. Coverage levels are especially low for postnatal and neonatal care indicators. Access to MNCH and FP interventions, especially at the community level and at the household level is poor, leading to the diminished use of even the services that are provided by the HSAs. The baseline survey for this project, conducted in hard-to-reach areas, showed that 63% of mothers reported fever in the previous two weeks, and only 24% of these sought advice from HSAs; the vast majority went to the HC and 15% went to the hospital.

There are several factors that contribute to poor access and availability of community-based interventions: 1) Many HSAs do not reside in their catchment areas. Save the Children found, in a recent study conducted in Malawi, where 110 HSAs were interviewed, that only 47% reside within their catchment areas; while 54% spent less than three days in their community in the last week and 27% spent more than three days in their HF (and therefore not in their community) in the previous week. (Pregnancy and postnatal visits were also extremely rare. In another study in the Mulanje District (Schneider, 2011), introduction of iCCM training and monthly supervision did shift care seeking to the HSAs (1.9% in the control arm versus 38% in the intervention arm), It was also noted that children received earlier and more prompt treatment if the HSAs were residents of their catchment area (George, 2012). If HSAs are not resident, and spend two days in the community they are available 16 hours out of a potential 168 hours or <10% of the time. Children can get sick at any time and this greatly limits the effectiveness of this service, a service which is particularly important in hard-to-reach areas; 2) HSAs are inadequately supervised. In the Mulanje study, only 16% of the HSAs had received supervision in the last month, while the recommended MoH frequency of supervision is monthly. In the absence of integrated and coordinated supervision, the quality of services provided by the HSAs is questionable. Some of the previous assessments conducted by the MoH and by Save the Children, indicate major gaps in the quality of iCCM services provided by the HSAs (Schneider); and 3) Other contributing factors to poor access to health care include gaps in the deployment of HSAs resulting in inadequate availability of personnel trained in the continuum of care, frequent stock-out of medicines, long distances to the village clinics and poor attitude of HSAs (Chibwana et al., 2009).

Save the Children, in partnership with Blantyre District Health Office and the MoH, implemented the *Mwayi wa Moyo* ("A Chance to Live") project with the goal of reducing under-five mortality through increased use of high-impact MNCH interventions. This project's goal was to transform the existing community packages into a single coherent package of high-impact MNCH and FP interventions that fills gaps in the continuum of care and delivers more interventions at better quality and less cost through a consultative process involving MoH and other stakeholders. The integrated community-based package was designed to reinforce integrated service delivery, as well as reduce the missed opportunities for delivering multiple interventions at each provider beneficiary interaction.

The integrated package was also expected to reduce the duration of training and minimize the duplication of content areas in the existing package.

## OBJECTIVES

To deal with the gaps in the continuum of care from pre-conception through five years of age and to improve quality and client satisfaction, we implemented an integrated strategy that minimized duplication in community packages; and streamlined training, monitoring, and supervision. The specific objectives of the study were:

- To determine if the integrated community-based package leads to improved coverage of key interventions as a result of fewer missed opportunities at each HSA client interaction.
- To determine if the integrated community-based package impacts the quality of care.
- To determine if the intergraded community-based package leads to improved client satisfaction.

## METHODS

Study setting

The study took place in Blantyre District, the commercial capital of Malawi in the southern region, located in the Shire Highlands. The population of Blantyre District is just over one million. There are 21 government HCs, a large government hospital, four private hospitals, three Christian Health Association of Malawi (CHAM) facilities, and over 100 private clinics. There are 623 HSAs, (an average of 30 HSAs are supervised at each HC), each responsible for between one and four villages, with their catchment population typically 1,000 to 2,000 people. At the time of the study, any population living more than 8km from a HC was defined as being hard-to-reach. Seventeen of the 21 HFs within Blantyre District were involved in the project. Each of these seventeen HFs has between three and ten HSAs who serve hard-to-reach areas and in total there are 93 HSA clinics which serve hard-to-reach areas within the catchment area of the projects target area.

Study design

The research was conducted using a cluster randomized trial design to compare two approaches to community-based MNCH and FP service provision in hard-to-reach communities within Blantyre District. Since HSAs often work out of and are supervised at the HC level, randomization was clustered according to HF. All 93 HSAs serving hard-to-reach catchment areas under thesse17 HFs were included in the study. Eight facilities were randomly assigned to receive the intervention and nine to continue with the standard care or the vertical approach. The eight integrated facilities were served by 44 HSAs and the nine control facilities were served by 49 HSAs.

Data collection lasted for 23 months from January 2013 to November 2014. Data were collected at three stages in the study: pre-intervention (baseline) to establish baseline characteristics of the HSA catchment populations; at six and at twelve months after delivery of training for both of the study arms; See Appendix 1.

Study populations

The population eligible for inclusion in the OR included the 93 HSAs serving hard-to-reach areas and the mothers and children under five years old who live within 329 catchment area

villages. The total population of these villages included approximately12,400 <1 year olds (5%), 41,200 <5 year olds (16.3%) and 55,600 women of reproductive age (21%).

The **intervention package** that was evaluated through this OR consisted of the following: (Table 1):

**Integrated Service Delivery Approaches**

For the purpose of this study, integration at the service provision level means the provision of all necessary services by one provider to the client, in one visit – whether at the village or during a home visit by the HSA. *Mwayi wa Moyo* developed guidelines and tools that facilitated integrated service delivery at the community level. These guidelines were designed to assist the HSAs as they assess the needs of their clients (children and their families) comprehensively at every client-provider interaction and deliver services and information appropriate for each client. These guidelines identified all possible opportunities for "bundling" the services to families both at village clinics as well as during home/village visits by the HSAs. Part of the integrated service delivery included HSAs (after integrated training) reminding pregnant women to inform their HSAs of their delivery upon discharge from the HF. The service delivery guidelines also facilitated the referral to the HFs for those services that are not delivered at the community level (e.g.: permanent methods for FP). HSAs used job aids and counseling tools to reinforce the messages on behaviors and practices expected at each stage of the life cycle.

**Integrated Training Package**

Health workers were trained in both MNCH and FP during one, integrated training session. The *Mwayi wa Moyo* project developed an integrated community-based CM, MNCH+FP package through a consultative process involving the MoH and other stakeholders. These modules integrated all existing community-based packages and therefore it was expected that integrated service delivery, and behaviors and practices would be reinforced at each stage of the life cycle continuum during each provider beneficiary interaction. The integrated training package was also expected to reduce the duration of training and minimize the duplication of content areas in the existing packages. The training was competency-based and in order to receive a certificate, each candidate was required to pass a test. The integrated training package also attempted to minimize the duration of formal classroom training, which requires that HSAs be away from their assigned communities.

**Integrated Supervision and Clinical Mentorship Tools**

Integrated supervision tools were developed to strengthen the supervisory teams' ability to ensure high quality integrated service delivery. The supervisors and clinical mentors of the HSAs were trained and supported to use integrated supervision and mentoring tools, and recording and reporting systems. These tools were expected to reinforce the 'integrated mindset" among supervisors. The existing supervision training packages and checklists were reviewed and adapted to develop the integrated tools and manuals. It is also recognized that the current supervisors and mentors may lack sufficient skills to provide supportive supervision in all areas of the integrated package.

**Integrated Community Mobilization and Communication Approaches and Tools**

A community mobilization and behavior change package was employed to engage community-level actors (grandparents, Traditional Birth Attendants (TBAs), Community-

Based Distribution Agents, VHC members and other traditional community leaders). This package was designed to enable them to maximize optimal care-seeking by overcoming social and cultural barriers, and to promote the use of key household behaviors and practices, and improve family and community support for MNCH and FP. In the integrated community mobilization package, the community was encouraged to use their HSAs. They were asked to discuss how they can improve the function of the HSAs, e.g. helping with accommodation, building a waiting shelter, and sending a representative to the monthly supervisory visits to give their feedback about the performance of their HSA.

**Table 1: Vertical and Integrated Approaches Summarized**

| | **Vertical Implementation Approach (Comparison Areas)** | **Integrated Community-based Package (Intervention Areas)** |
|---|---|---|
| **Training of HSAs** | Separate training sessions for each component with a total duration of training of more than 24 days: iCCM – 6 days; MNCH – 10 days; FP – 2 days; CM – 6 days | Modular training: 18-20 days, divided into four different sessions |
| | Training modules lack linkages across intervention areas | Each module reinforces the inter- links to the life cycle continuum |
| | Training imparted by different trainers for each training | All training modules facilitated by the same trainers who are trained in the integrated training package |
| **Supervision and Reporting** | Mostly conducted by SHSAs using supervision tools that are intervention-specific | Supervision conducted by SHSAs, AEHO and DHMT members using integrated supervision tools |
| | Separate records, registers and reporting tools for various program components | Integrated records, registers and reporting tools |
| **Clinical Mentorship** | Mostly limited to iCCM | Clinical mentorship to cover all intervention areas (MNH, iCCM, FP) |
| | Mentorship tools absent or not used | Integrated mentorship tools used |
| **Community Mobilization and Communication** | Community mobilization and communication efforts mostly limited to MNH interventions | All community mobilization and communication efforts integrated to cover all MNCH+FP interventions |
| | Limited engagement of traditional leaders and other opinion leaders | Active engagement of traditional leaders and other opinion leaders |
| | Messages are designed and delivered in vertical manner | Messages are designed and delivered in integrated and mutually reinforcing manner |
| | Counselling tools and job aids are intervention-specific | Counselling tools and job aids are integrated to encourage communication of appropriate messages at each contact |

### Dependent Variables and Measurement

**Table 2: Dependent Variable for Women Measured by the MOI**
(All measurements performed by observation of HSA-client interaction)

| Variable | Preconception | Pregnant |
|---|---|---|
| Family planning method | X | |
| HIV status established | X | X |
| Use of insecticide treated nets | X | X |
| Nutrition | X | X |
| TBA to escort to HC for delivery | | X |
| Birth plan | | X |

**Table 3: Dependent Variables for Infants Measured by the MOI**
(All measurements performed by observation of HSA-client interaction)

| | <1 month | 1-<2 months | 2-<6 months | 6-<24 months | 2- <5 years |
|---|---|---|---|---|---|
| Vaginal Discharge | X | | | | |
| LAM and PPFP | X | X | X | X | X |
| FP - spacing interval | X | X | X | X | X |
| HIV status established | X | X | X | X | X |
| ITNs–mother | X | X | X | X | X |
| ITNs–baby | | | X | X | X |
| Nutrition | X | X | X | X | X |
| Danger signs | | X | X | X | X |
| Breastfeeding well | X | X | X | X | |

**The missed opportunity index (MOI) – Definition:** MOI used only the items assessed (4 to 7/8) for all interactions in the category. i.e., 0 is equivalent to opportunity used and 1 opportunity missed. Items were equally weighted; expressed as percentage of opportunities missed (0% best; 100% worst). The MOI assessed HSAs on the package of HSA interventions that they were taught to deliver in HSA training, and that were assessed on in the integrated HSA register (i.e. the tasks they checked on the HSA register were the tasks they were assessed on).

The Missed Opportunity Index (MOI) was derived by observing HSA-client interactions with clients in seven pre-defined categories (pre-conception, pregnancy, newborns (0-28 days), infants in three distinct age ranges (29-59 days; 2-<6 months and 6-<24 months) and children (2-<5 years) using a checklist (Tables 2 and 3 detail the items used, Appendix 2 contains the tool used). When a client and her child matched with more than one of the categories, data was supposed to be collected for each category separately and converted to an MOI for each category. For each of the seven categories of interactions, this captured between 4 and 7/8 items from a list of 15 items available (detailed in Appendix 1). Sub-items of referral or counselling were assessed when the item itself was not performed but these were not used in derivation of the MOI. Some items observed were either not applicable (e.g. ARV treatment) or not able to be assessed for some mother/infant pairs in the category (e.g. if there were no danger signs). The MOI was derived using only the items which applied to all clients within the category and for which the issue had been covered in the training delivered in the intervention. Each item could have a score of either 0 or 1.

Each item included was weighted equally and converted to a percentage. Thus scores of 0% and 100% would indicate that no and all opportunities were missed for all of the items assessed, respectively. For each HSA-client visit an overall index was derived by taking the mean across all interactions considered, e.g. for both a pregnant mother and her 18-month old infant.

For quality of care, an index that assesses quality of iCCM for children under two years old was derived in a similar manner using a checklist (provided in Appendix 3). These two indices, MOI and iCCM were completed independently but usually simultaneously, at the same interaction by two enumerators.

For client satisfaction, a structured client satisfaction and understanding interview (CSUI) to assess satisfaction of the community and coverage of key interventions (MNCH and FP, see Appendix 4). These interviews were conducted either immediately after being attended by an HSA at a village clinic, or in the community with women who had recently visited the HSA. If relevant, the client's understanding of instructions about medication and referral, was also assessed.

Semi-structured interviews were conducted with each of the HSAs. Checklists concerning drug supplies held by HSAs were also completed. Focus group discussions (FGD) were conducted with mothers of children under five years old, who live in the catchment area of one HSA per HC, within the study. Structured interviews were conducted with CBDAs (Community-based Distribution Agents for FP products) and checklists were also completed. Table 4 below summarizes the circumstances whereby each of the study tools was used.

**Table 4: Study Timeline and Data Collection Tools**

| **Time Period** | **Activity** | **Data Collection Tools and Indices** | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | **Missed Opportunities Index** | **Quality of iCCM Care** | **Client Satisfaction Interview** | **HSA Interviews** | **Focus Group Discussions** | **Drug Supplies /CBDAs** | **Supervisors /Depo** |
| Jan 2013 – Mar 2013 | Pre-intervention data collection | Yes | Yes | Yes (C&E) | Yes | Yes | | |
| April 2013-Aug 2013 | Training delivery to all participating HSAs | | | | | | Yes | Yes |
| Oct 2013 – March 2014 | Six month follow-up data collection | Yes | | Yes (C&E) | | | | |
| June 2014 – Nov 2014 | Twelve month follow-up data collection | Yes | Yes | Yes (C&E) | Yes | | Yes | |

All study data were collected by four dedicated enumerators with relevant clinical qualifications; they were supervised by a Project Coordinator. Training in data collection was provided to the enumerators by the Project Statistician and the Project Coordinator, using the data collection tools.

For the baseline data collection, all data were collected using paper forms. For activities i-iv, the forms were designed using HP TeleForm software. Completed forms were scanned for entry into the study database, and reviewed by a Data Officer to rectify data reading errors. For the subsequent follow-up rounds of data collection, the database was designed using OpenDataKit software (https://opendatakit.org/) to facilitate direct electronic data capture for these four activities using electronic hand-held tablets.

**Sampling and sample size**

Prior to conducting the baseline survey, sample size calculations were performed to determine the numbers of respondents (HSAs, HSA-client interactions and mothers of children under 5) for each survey tool. After completion of the baseline survey, these calculations were revised, using estimates derived from the baseline survey. Details of sampling and sample size considerations are provided in Appendix 1.

**Statistical methods**

Data analysis compared the two arms using the following responses/indices: MOI; seven sub-groups of clients with whom interactions took place were considered: mothers pre-conception, pregnant mothers, infants <28 days, infants in three categories: 28-59 days, 2 to <6 month and 6 months to under 2 years, and children aged 2 to <5 years.

The proportion with no opportunity missed (MOI=0) was also analyzed. iCCM; Responses to the client satisfaction and understanding interviews, conducted with mothers of children under two years old; responses to the following for four sub-groups of clients were considered:

- Was the reported number of home visits from the HSA during the most recent pregnancy at least three?
- Was the reported number of home visits from the HSA after the most recent pregnancy at least four?
- If the child was born 2-6 months ago, did the child have any of seven danger signs (fever, cough, convulsions, dehydration, lethargy, diarrhea, or pneumonia) before 2 months of age?
- If so, was the child seen/assessed by the HSA?
- Was the child referred to the HC?
- Did the mother respond that the HSA discussed FP use with her?
- Did the mother respond that she was using any FP method?
- Did the mother say she felt welcomed by her HSA on her most recent visit?
- How did she rate the service of the HSA? (Excellent/good/needs improvement)

All analyses were performed using Stata version 12.1. The 5% significance level was used to determine statistical significance. To compare the two study arms and examine evidence of a benefit in adoption of an integrated approach, data were analyzed using multilevel models to account for clustering of respondents under HSAs and HSAs under HFs. Linear and logistic regression models for clustered data were used to analyze outcomes measured on continuous and binary scales, respectively. The study arm was the only independent variable used in these analyses.

## RESULTS

### Observations performed

Study design overestimated village clinic utilization, which was markedly lower than anticipated. Thus, although repeat visits and scheduled visits were undertaken, the total number of HSA/client interactions observed for derivation of an MOI during the baseline period was only 200 rather than the planned 1190 (170 per age category). The majority of interactions (101) were with mothers of infants aged 6 months to <24 months. A further 82 were with mothers of children aged 2 to <5 years. Appendix 6 summarizes the mean proportion of opportunities missed; this was 65-69%. The proportions were similar across all categories of interactions in both study arms.

The total number of interactions observed using the iCCM checklist was as planned. Overall 17/198 (8.6%) of children observed being assessed were correctly assessed with no item missed, see Appendix 9. The median iCCM index was 89%.

Client satisfaction and understanding interviews were conducted for a randomly selected HSA for each HF. A total of 1,470 women were interviewed, compared with the planned number of 1,700. The 2-<5 years old category was the only one in which the planned sample size was achieved. Among those interviewed 85 (5.8%) were interviewed as they left their village clinic visit; the rest were selected from within the community. Findings are summarized in Appendices 10-12.

### HSA characteristics by study group

As can be seen in Table 5, there were no important differences between HSAs in the intervention and control groups in terms of gender, residence in catchment area, availability, supervision and population served. At 12 months after the beginning of the study, 49% in the intervention arm were very satisfied with their supervision versus 32% in the control arm.

**Table 5: Summary of Characteristics of HSAs Interviewed at Baseline by Study Arm**

| Characteristic | Control (n=44) | Intervention (n=49) | Overall (n=93) |
|---|---|---|---|
| Supervised by HSHA | 44 (100%) | 48 (98%) | 92 (99%) |
| Gender: male | 31 (70%) | 38 (78%) | 69 (74%) |
| Does not live in catchment area | 16 (36%) | 18 (37%) | 34 (37%) |
| Lack of suitable accommodation | 11 (69%) | 13 (72%) | 24 (70%) |
| Spouse lives elsewhere | 4 (25%) | 2 (11%) | 6 (18%) |
| Available 1-2 days/week (non-resident) | 19 (12) | 24 (13) | 43 (25) |
| Available 7 days/week (non-resident) | 15 (2) | 17(1) | 32 (3) |
| Population served: median (IQR) | 1,800 (1,286 – 2,385) | 1,475 (990 – 2,060) | 1,600 (1,100 – 2,339) |
| Number of times supervised in last 6 months: median (IQR) | 3.5 (2 – 5) | 4 (2 – 6) | 4 (2 – 6) |
| Very satisfied with supervision | 14 (32%) | 24 (49%) | 38 (41%) |
| Satisfied with supervision | 26 (59%) | 21 (43%) | 47 (51%) |

| Characteristic | Control (n=44) | Intervention (n=49) | Overall (n=93) |
|---|---|---|---|
| Reasons not satisfied: irregular/not adequate/slow | 4 (10%) | 3 (5%) | 7 (8%) |
| Mentored | 43 (98%) | 47 (96%) | 90 (97%) |
| Very satisfied with mentoring | 23 (52%) | 27 (55%) | 50 (54%) |
| Satisfied with mentoring | 18 (41%) | 17 (35%) | 35 (38%) |
| Year when trained as HSA: median (IQR) | 2008 (2001-2009) | 2009 (2008-2010) | 2009 (2006-2010) |

**Mothers' characteristics by study group**

Tables 6 and 7 show no significant differences in the characteristics of women interviewed at baseline, between the control and the intervention arms, in terms of numbers who were pregnant and those who delivered within the previous two years.

**Table 6: Characteristics of Women Interviewed at Baseline in Client Satisfaction Interviews, by Study Arm**

| Characteristic | Control (n=796) | Intervention (n=673) | Overall (n=1,469) |
|---|---|---|---|
| Number (%) currently pregnant | 11 /717 (1.5%) | 15/577 (2.6%) | 26/1,294 (2.0%) |
| Number (%) of pregnant women primigravid | 2/11 (18%) | 1/15 (7%) | 3/26 (12%) |
| Number (%) non-pregnant women primiparous | 156/706 (22.1%) | 126/562 (22.4%) | 282/1,268 (22.2%) |

**Table 7: Number (%) Delivered Within Last Two Years**

| Characteristic | Control (n=796) | Intervention (n=673) | Overall (n=1,469) |
|---|---|---|---|
| Last 60 days | 45 (5.8%) | 42 (6.4%) | 87 (6.1%) |
| 2 to <6 months ago | 144 (18.7%) | 121 (18.3%) | 265 (18.5%) |
| 6 to <12 months ago | 221 (28.7%) | 192 (29.1%) | 413 (28.8%) |
| 12 to <24 months ago | 361 (46.8%) | 305 (46.2%) | 666 (46.5%) |
| Not recorded/ >2 years ago | 25 (3.1%) | 13 (1.9%) | 38 (2.6%) |

**Table 7a: Characteristics of Women Interviewed During Follow-up Rounds in Client Satisfaction Interviews, by Study Arm**

| Characteristic | Six-month Follow-up | | Twelve-month Follow-up | |
|---|---|---|---|---|
| | Control (n=560) | Intervention (n=436) | Control (n=340) | Intervention (n=280) |
| Number (%) currently pregnant | 44 (7.9%) | 27 (6.2%) | 18 (5.3%) | 17 (6.1%) |
| Number (%) of pregnant women who were primigravid | 0 (0.0%) | 2 (7.4%) | 1 (5.6%) | 0 (0.0%) |
| Number (%) non-pregnant women who were primiparous | 65 (12.6%) | 53 (13.0%) | 51 (15.9%) | 47 (17.9%) |
| Type of interview: Community (rather than exit) | n/a | | 179 (52.7%) | 165 (58.9%) |

Women for whom no response was recorded are excluded from denominators.

**Table 7b: Numbers (%) of Women Interviewed During Follow-up Rounds Who Delivered Within Previous Two Years, by Study Arm**

| Characteristic | Six-month follow-up | | Twelve-month follow-up | |
|---|---|---|---|---|
| | Control (n=560) | Intervention (n=436) | Control (n=340) | Intervention (n=280) |
| Last 60 days | 3 (0.5%) | 1 (0.2%) | 2 (0.6%) | 0 (0.0%) |
| 2 to <6 months ago | 19 (3.4%) | 18 (4.1%) | 8 (2.4%) | 3 (1.1%) |
| 6 to <12 months ago | 39 (7.0%) | 17 (3.9%) | 30 (8.8%) | 21 (7.5%) |
| 12 to <24 months ago | 60 (10.7%) | 67 (15.4%) | 42(12.4%) | 39 (13.9%) |
| Not recorded/>2 years ago | 434 (77.5%) | 329 (75.5%) | 256 (75.3%) | 216 (77.1%) |

### Differences in MOI

At both six and twelve months, statistically significantly more missed opportunities were observed among the vertical program group than the integrated group. Within each category considered, the mean baseline values in the control group were usually better than the mean follow-up values.

Similar to the baseline for both follow-up periods, the majority of the children brought to see the HSAs were in the 6-<24 month and 2-<5 year categories (See Table 8). For the 6 month follow-up period, the mean total MOI across all interactions was statistically significantly better ($p<0.001$) in the intervention arm (73.2) than in the control arm (88.8). The mean (95% CI) difference between the arms in the MOI was 15.6 (10.1, 21.1) in favor of the intervention. Among infants and children seen in the 6-<24 month and 2-<5 year categories, statistically significant differences were detected ($p=0.01$ and $p<0.001$, respectively for differences favoring the intervention of 9.0 (2.4, 15.7) and 16.0 (8.5, 23.4), respectively). A similar difference (17.9) was estimated for infants aged 2-<6 months but the difference was not statistically significant. For women pre-conception, there was also a statistically significant improvement ($p<0.001$) in the intervention arm (to 81.0) compared

with the control arm (98.8) the estimated mean difference (95%CI) was 17.7 (12.0, 23.4). See Table 8.

For the 12-month follow-up round there was again a statistically significant difference overall between the study arms, with MOI levels for the control group similar to those at six months; MOI levels in the intervention arm differed less from the control group than at six months (Table 8). The overall mean MOI was 87.7 in the control arm and 78.5 in the intervention arm. The mean (95% CI) difference between the arms in the MOI of 9.2 (5.6, 13.1) in favor of the intervention was statistically significant (p<0.001).

For each age category of child, the difference was not statistically significant. However, the difference in pre-conception women was again statistically significant with a mean improvement (95% CI) in the intervention arm of 13.4 (8.1, 18.8), see Table 8.

**Quality comparisons**
During the 12-month follow-up period, the quality of iCCM delivery was assessed in 223 interactions. The quality was similar for both study arms; the mean iCCM was 70 in the intervention arm and 73 in the control arm. The mean difference between the study arms (3.05) was not statistically significant (p=0.34). During the baseline assessment, levels for the iCCM were usually higher (median 89 in both study arms), than during follow-up (Table 9).

**Client satisfaction**
During follow-up data collection 996 women were interviewed at the six-month period and 620 at twelve months, see Table 7b for characteristics of women interviewed for client satisfaction. It had been planned that 1,700 women would be interviewed for each of the two follow-up data collection rounds. The 2-<5 years age category was the only one in which the planned sample size was achieved.

At six-months follow-up, nine mothers of infants aged 2 -<6 months reported that their child had had a danger sign prior to two months of age; only three of these were taken to see their HSA and of these three, none were referred to a HF (Table 10); at twelve months four mothers of infants in the same category reported that her child had had a danger sign, two were seen by their HSA and one referred to a HF (Table 11). There were too few reports of events for accurate estimation and comparison between study arms of HSAs handling of such cases.

In both study arms and for both data collection rounds, more than half (56% to 88%) of mothers who delivered a child more than six months previously, reported having been counseled on PPFP at their last HSA visit (Tables 10 and 11). In each category and for each time period, the odds of being counseled were higher in the intervention arm. There was a statistically significant difference for mothers of 2-<5 year olds at six months when it was 1.78 times more likely that they were counseled on PPFP (OR (95% CI): 1.78 (1.16 – 2.7); p=0.009, Table 10).

**Table 8: Summary of Missed Opportunities at 6 and 12 Month Follow-ups by Time since Last Delivery and Study Arm**

| Round | | Study arm | Pre-conception | Pregnancy | Newborns (0-28 days) | Infants (29-59 days) | Infants (2 – <6 months) | Infants (6 - <24 months) | Child (2 -<5 years) | Overall (all combined)* |
|---|---|---|---|---|---|---|---|---|---|---|
| Six months | Number of women | C | 227 | 19 | 0 | 2 | 14 | 107 | 112 | 246 |
| | | I | 153 | 6 | 0 | 0 | 16 | 63 | 72 | 159 |
| | MOI: | C | 98.7 (6.1) | 97.9 (6.3) | - | 57 (0) | 66.3 (9.0) | 70.8 (12.3) | 79.8 (12.1) | 87.4 (8.8) |
| | mean (sd) | I | 85.0 (22.1) | 73.3 (32.7) | - | - | 50 (20.9) | 59.6 (22.2) | 63.9 (21.8) | 73.4 (20.8) |
| | Difference | Mean | -13.7 | -24.6 | | | -16.3 | -11.1 | -16.0 | -14.1 |
| | (intervention vs. control) | (95% CI) | -19.5,-7.9 | -56.3,7.1 | | | -32.2,-0.5 | -18.2,-4.1 | -23.3,-8.6 | -19.7,-8.5 |
| | | P-value | <0.001 | 0.11 | | | 0.046 | 0.003 | <0.001 | <0.001 |
| Twelve months | Number of women | C | 206 | 8 | 1 | 1 | 15 | 101 | 99 | 214 |
| | | I | 147 | 10 | 0 | 0 | 5 | 74 | 84 | 157 |
| | MOI: | C | 96.0 (9.5) | 100(0) | 100 | 85.7 | 76.2 (10.3) | 74.5 (12.6) | 78.4 (14.0) | 86.3 (8.0) |
| | mean (sd) | I | 86.2 (23.1) | 78.0 (22.0) | - | - | 54 3(34.1) | 67.0 (16.7) | 75.2 (17.3) | 78.1 (18.2) |
| | Difference[a] | Mean | -9.8 | -22.0 | . | . | -21.9 | -7.6 | -3.2 | -8.2 |
| | (intervention vs control) | (95 CI) | (-15.4,-4,1) | (-49.8,5.8) | | (-48.3, 4.44) | | (-12.6, -2.6) | (-9.2, 2.8) | (-12.3,-4.2,) |
| | | P-value | 0.001 | 0.09 | | 0.08 | | 0.004 | 0.29 | <0.001 |

* If pre-conception is omitted (to be consistent with baseline) the statistics at 6 and 12 months are: 75.9 (13.5), 61.2 (22.4), -14.7 (20.8,-8.6) p<0.001 and 76.8 (13.3), 70.8 (18.2), -6.1 (-10.2,-2.1) p=0.004;

a This difference was estimated using a linear regression model for clustered data

## Table 9: Summary of Quality of Care at 12-Month Follow-up by Study Arm

| Area / number of items Control | Intervention | | Difference (intervention vs control) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | n | Median (IQR) | % completely correct | n | Median (IQR) | % completely correct | Mean (95% CI) | p-value |
| Information/11 | 133 | 9 (8-10) | 7% | 90 | 8.5 (7-10) | 4% | | |
| Signs/6 | 133 | 5 (4-6) | 27% | 90 | 4 (3-5) | 11% | | |
| Classification and decision making/3 | 133 | 3 (3-3) | 98% | 90 | 3 (3-3) | 97% | | |
| Pre-referral treatment no. /3 | 15 | 2 (0-2) | 20% | 10 | 1.5 (0-2) | 10% | | |
| Home treatment /5 | 99 | 4 (3-5) | 29% | 71 | 4 (3-4) | 8% | | |
| Advice for home care/1 | 4 | 0.5 (0-1) | 50% | 2 | 1 (1-1) | 100% | | |
| **iCCM Index: Median (IQR)** | 133 | 77(64-85) | 3.5% | 90 | 72 (63-81) | 15.7% | | |
| **Mean[a] (sd)** | | 73 (15) | | | 70 (12) | | -3.05 (-9.5,3.4) | 0.34 |

a The mean difference was estimated using a linear regression model for clustered data

In both study arms, the majority reported using FP in each category above six months of age (Tables 10 and 11). For each category above six months, the observed proportions of women in the intervention arm who reported using FP were higher, but the differences were not statistically significant for any category or follow-up period. Among those who were not using FP, more than 90% in each category in each arm and at each data collection round knew where to access FP. For the 12-month follow-up, the most commonly used FP method was Depo Provera (201 and 163 in the control and intervention arms, respectively); condoms and LAM/PPFP were each used by fewer than five women in each arm.

**Table 10: Summary of Measures of Coverage of Key Interventions, by Study Arm and Months since Last Delivery at 6-Month Follow-up**

| | Study Arm | Age of infant/child | | | | |
|---|---|---|---|---|---|---|
| | | **< 2m** | **2-<6m** | **6-<12m** | **12-<24m** | **2-<5y** |
| Numbers of respondents | C | 3 | 19 | 39 | 60 | 434 |
| | I | 1 | 18 | 17 | 67 | 329 |
| Proportion (number) of mothers who received at least three antenatal home visits | C | 33% (1) | 11% (2) | | | |
| | I | 0% (0) | 0% (0) | | | |
| Proportion (number) of mother/ newborn pairs who received at least the required number of postnatal home visits | C | | 5% (1) | | | |
| | I | | 0% (0) | | | |
| Number of newborns and young infants (<60 days) who had at least one danger sign | C | | 26% (5) | | | |
| | I | | 22% (4) | | | |
| Number reported seen by HSA | C | | 20% (1) | | | |
| | I | | 50% (2) | | | |
| Number referred by HSA to HF | C | | 0% (0) | | | |
| | I | | 0% (0) | | | |
| Proportion (number) of mothers counseled on PPFP at last visit | C | 67% (2) | 68% (13) | 56% (22) | 72% (43) | 70% (302) |
| | I | 100% (1) | 67% (12) | 88% (15) | 79% (53) | 80% (262) |
| | OR | | | 5.8 | 1.5 | 1.78 |
| | (95% CI) | | | (0.8,40) | (0.58,3.9) | (1.16,2.7) |
| | p-value | | | 0.07 | 0.87 | 0.009 |
| Proportion (number)of mothers using any family planning (FP) | C | 33% (1) | 58% (11) | 69% (27) | 70% (42) | 64% (276) |
| | I | 100% (1) | 72% (13) | 94% (16) | 69% (46) | 71% (234) |
| | OR | | | 7.1 | 0.94 | 1.41 |
| | (95% CI) | | | (0.3,152) | (0.39,2.2) | (0.95,2.1) |
| | p-value | | | 0.19 | 0.88 | 0.08 |
| Proportion of those not using FP who know where to access FP | C | 50% (1) | 100% (8) | 100% (12) | 94% (17) | 95% (150) |
| | I | | 100% (5) | 100% (1) | 100% (21) | 98% (93) |
| | OR | | | | | 3.72 |
| | (95% CI) | | | | | (0.41,34) |
| | p-value | | | | | 0.24 |

Estimates were derived using a logistic regression model for clustered data

**Table 11: Summary of Measures of Coverage of Key Interventions, by Study Arm and Months since Last Delivery at 12-Month Follow-up**

| | Study Arm | Age of infant/child | | | | |
|---|---|---|---|---|---|---|
| | | < 2m | 2-<6m | 6-<12m | 12-<24m | 2-<5y |
| Numbers of respondents | C | 2 | 8 | 30 | 42 | 256 |
| | I | 0 | 3 | 21 | 39 | 216 |
| Proportion (number) of mothers who received at least 3 antenatal home visits | C | 0% (0) | 0% (0) | 23% (7) | | |
| | I | . | 0% (0) | 5% (1) | | |
| Proportion (number) of mother /newborn pairs who received at least the required number of postnatal home visits | C | | 0% (0) | 3% (1) | | |
| | I | n/a | 0% (0) | 0% (0) | | |
| Number of newborns and young infants (<60 days) who had at least one danger sign | C | | 4 | | | |
| | I | | 0 | | | |
| Number reported seen by HSA | C | | 2 | | | |
| | I | | | | | |
| Number referred by HSA to HF | C | | 1 | | | |
| | I | | | | | |
| Proportion (number) of mothers counseled on PPFP at last visit | C | 0% (0) | 13% (1) | 57% (17) | 60% (25) | 74.2% (190) |
| | I | | 67% (2) | 77% (16) | 69% (27) | 78% (168) |
| | OR (95% CI) p-value | | | 2.4 (0.3,19) 0.37 | 1.5 (0.5,4.8) 0.45 | 1.2 (0.8,1.9) 0.41 |
| Proportion (number)of mothers using any family planning (FP) | C | 50% (1) | 38% (3) | 60% (18) | 86% (36) | 74% (189) |
| | I | . | 67% (2) | 81% (17) | 79% (31) | 72% (155) |
| | OR (95% CI) p-value | | | 2.8 (0.5,15) 0.21 | 0.65 (0.17,2.4) 0.49 | 0.98 (0.64,1.5) 0.92 |
| Proportion of those not using FP who know where to access FP | C | 100% (1/1) | 100% (5/5) | 92% (11/12) | 100% (6/6) | 99% (66/67) |
| | I | | 100% (1/1) | 100% (4/4) | 100% (8/8) | 100% (57/57) |

Estimates were derived using a logistic regression model for clustered data

b Comparisons for this variable are not well defined, as one of the proportions is 0.

In both rounds and for all categories assessed, the vast majority of women (97% or more) reported to have felt welcomed by the HSA on their last visit (Tables 13 and 14). In each category and in both arms, more than 90% of clients reported to have felt that her problem had been dealt with, with the exception of mothers of 2-<6 month olds in the intervention arm at six months (15/18=83%). In both study arms about 90% of women reported that the HSA's service was at least good. There was no evidence of a difference in the perceived quality of service (Tables 13 and 14).

**Table 12: Summary of Assessment of Client Satisfaction at Six Months, by Months since Last Delivery and Study Arm**

| | Study Arm | All Women | Age of Infant/Child | | | | |
|---|---|---|---|---|---|---|---|
| | | | < 2m | 2-<6m | 6-<12m | 12-<24m | 2-<5y |
| Numbers of respondents | C | 560 | 3 | 19 | 39 | 60 | 434 |
| | I | 436 | 1 | 18 | 17 | 67 | 329 |
| Felt welcomed by HSA on last visit | C | 554 (98.9%) | 100% (3) | 100%(19) | 100% (39) | 98% (59) | 99% (429) |
| | I | 434 (99.5%) | 100% (1) | 100% (18) | 100% (17) | 97% (65) | 100% (329) |
| Took a problem on last visit | C | 560 (100%) | 100% (3) | 100% (19) | 100% (39) | 100% (60) | 100% (434) |
| | I | 433 (99.3%) | 100% (1) | 100% (18) | 100% (17) | 99% (66) | 99.4% (327) |
| Felt their problem had been dealt with | C | 536 (95.7%) | 100% (3) | 95% (18) | 95% (37) | 98% (59) | 95.4% (414) |
| | I | 411 (94.9%) | 100% (1) | 83% (15) | 94% (16) | 91% (60) | 96.6% (316) |
| Rated the HSAs service to be excellent* | C | 350 (62.5%) | 100% (3) | 42% (8) | 49% (19) | 67% (40) | 63.8% (277) |
| | I | 217 (49.8%) | 0% (0) | 39% (7) | 53% (9) | 43.3% (29) | 51.4% (169) |
| Rated the HSAs service to be good* | C | 179 (32.0%) | 0% (0) | 53% (10) | 44% (17) | 23% (14) | 31.3% (136) |
| | I | 202 (46.3%) | 100% (1) | 0% (9) | 35% (6) | 49.2% (33) | 46.2% (152) |
| Rated the HSAs service to be excellent/ good* | C | 529 [illegible] | 100% [illegible] | 95% (18) | 92% (36) | 90% (54) | 95.4% [illegible] |
| | I | 419 (96.1%) | 100% (1) | 89% (16) | 88% (15) | 92.5% (62) | 97.6% (321) |
| | OR[a] | 0.69 | | 2.25 | 1.60 | 0.76 | 0.49 |
| | (95% CI) | (0.32,1.48) | | (0.06,78.8) | (0.15,17.5) | (0.19,2.81) | (0.18,1.35) |
| | p-value | 0.31 | | 0.62 | 0.68 | 0.63 | 0.16 |

* Respondents were asked "How do you rate the service of the HSA?" Options for recording responses were excellent, good, needs improvement or other

a Estimates were derived using a logistic regression model for clustered data

**Table 13: Summary of Assessment of Client Satisfaction at 12 Months, by Months since Last Delivery and Study Arm**

| | Study Arm | All Women | Age of Infant/Child | | | | |
|---|---|---|---|---|---|---|---|
| | | | < 2m | 2-<6m | 6-<12m | 12-<24m | 2-<5y |
| Numbers of respondents | C | 340 | 2 | 8 | 30 | 42 | 256 |
| | I | 280 | 0 | 3 | 21 | 39 | 216 |
| Felt welcomed by HSA on last visit | C | 100% (340) | 100% (2) | 100% (8) | 100% (30) | 100% (42) | 100% (256) |
| | I | 97.9% (274) | | 100% (3) | 100% (21) | 97% (38) | 97.7% (211) |
| Took a problem on last visit | C | 95.6% (325) | 100% (2) | 63% (5) | 97% (29) | 95% (40) | 96.5% (247) |
| | I | 97.5% (273) | | 100% (3) | 95% (20) | 97% (38) | 97.7% (211) |
| Felt their problem had been dealt with | C | 98.8% (321) | 100% (2) | 100% (5) | 100% (29) | 100% (40) | 98.4% (243) |
| | I | 98.5% (269) | | 100% (3) | 95% (19) | 97% (37) | 99.1% (209) |
| Rated the HSAs service to be excellent* | C | 65.3% (222) | 50% (1) | 38% (3) | 77% (23) | 67% (28) | 65.6% (165) |
| | I | 77.9% (218) | | 100% (3) | 67% (14) | 82% (32) | 77.8% (168) |
| Rated the HSAs service to be good* | C | 23.8% (81) | 0% (0) | 25% (2) | 20% (6) | 21% (9) | 25% (64) |
| | I | 11.4% (32) | | 0% (0) | 19% (4) | 5% (2) | 12.0% (26) |
| Rated the HSAs service to be excellent/good* | C | 89.1% (303) | 50% (1) | 63% (5) | 97% (29) | 88% (37) | 90.6% (229) |
| | I | 89.3% (25) | . | 100% (3) | 86% (18) | 87% (34) | 89.8% (196) |
| | OR[a] | 0.99 | . | | 4.8 | 1.1 | 0.97 |
| | (95% | (0.48,2.0) | | | (0.6,41) | (0.1,8.7) | (0.45,2.1) |
| | p-value | 0.97 | | | 0.14 | 0.93 | 0.93 |

*Respondents were asked "How do you rate the service of the HSA?" Options for recording responses were excellent, good, needs improvement or other
a Estimates were derived using a logistic regression model for clustered data

In both rounds and for all categories assessed, the vast majority of women (97% or more) reported to have felt welcomed by the HSA on their last visit (Tables 13 and 14). In each category and in both arms, more than 90% of clients reported feeling that her problem had been dealt with, with the exception of mothers of 2-<6 month olds in the intervention arm at six months (15/18=83%). In both study arms about 90% of women reported that the HSAs' service was at least good.

## DISCUSSION

The study showed that or results at six and 12 months, missed opportunities were significantly more in the control arm compared to the intervention arm. This implies that

the effects of integration were better in the intervention arm when compared with the control arm. However, the marginal effects of integration were smaller. Health system challenges such as inadequate supervision, shortage of drugs and supplies, and HSAs residing out of their catchments areas, may have undermined the possible benefits of integration. In addition, problems that could explain the high MOI in both arms, include overextension and under-deployment of community health workers (CHWs), which have been noted in many countries that are implementing iCCM (UNICEF, 2012). In regards to the former, most CHWs across the countries that perform iCCM have many other health promotion and curative service responsibilities, including providing vitamin A, de-worming, promoting breast feeding, distributing ITNs, etc. (Kristin Oliver et al.).

A few countries have also voiced concerns over the ability of CHWs to integrate their roles without becoming overstretched (UNICEF ESARO 2011; UNICEF 2010c). In regard to under deployment in some settings, providing uninterrupted service delivery has been a challenge. In Ethiopia, key informants noted that a significant number of health posts were closed while health extension workers (HEWs) were undertaking community visits in villages. Similarly, in Malawi, HSAs officially work two days a week on service provision (with the remaining three days devoted to health promotion activities), resulting in a gap in service provision (UNICEF Regional Office, ESARO).

Overall, the mean MOI at the 12-month follow up was 87.7% in the control and 78.5% in the intervention arm. There were marginal benefits for introducing the integrated services. Managing change in the way services are delivered may require a mix of political, technical and administrative action and support. It may require action at several levels, including sustained commitment from the top. It is useful to look for good entry points for enhancing integration and to consider incentives where necessary. Integration may also require a change of mindset or behaviors of health workers and their managers (WHO technical brief on integration, May 2008). Regular supervision and mentorship are therefore key as is the need to provide adequate human and material resources (fuel, transport etc.) and incentives for CHWs. Some VHCs in Malawi are taking a leading role in securing accommodations for CHWs as a way of motivating them and increasing their availability (UNICEF Malawi 2010).

Almost no infants <2 months and very few infants aged 2-6 months, were brought to the HSA at baseline or at follow up, in either arm. The existing iCCM program did not train or require HSAs to see young infants and newborns; this was introduced in the intervention arm as part of expanding the continuum of care within the context of integration. At the time of integrated package development, it was anticipated that a change of policy was imminent based on growing evidence in support of this and corresponding discussions at global and national levels. However, this policy allowing HSAs to provide treatment to sick young infants and newborns did not change during the course of the study. This meant that HSAs would only refer all newborns and young infants to the nearest HF. This consequently prompted most mothers to by-pass the village clinic and go directly to the nearest HF.

Limitations of the study

Very few interactions were observed in the pregnant women and young infant category. Significantly fewer than anticipated clients were being seen by HSAs on observed clinic days; in some cases, the clinics were conducted early (before 7:30 am) and late (after 5:00 pm) and were not observed by the enumerators who worked from 7:30 am -5:00 pm.

This study was conducted in one district and although HFs were randomized into different arms, the proximity of some facilities meant it was hard to sufficiently eliminate the possibility of contamination across arms. This is because HSAs and supervisors from different arms often interact regularly through district level meetings and other trainings; and could therefore not be fully blinded.

## CONCLUSIONS AND RECOMMENDATIONS

An integrated approach can reduce missed opportunities to promote the use of preventive measures and available curative health care in a community setting. However, efforts to integrate community-based programs must take into consideration health system challenges and ensure that these are addressed for integrated service to have meaningful impact. Several health system obstacles were evident across the study: few mothers brought the infants <6 mos. (and to a lesser extent 6-<24 mos.) to the village clinics, possibly because of the perception that HSAs do not care for young infants and the limited availability of the HSA at the village clinic due to HF duties and their non-resident status.

Task shifting from health care professionals to community health workers could be more successful if there was more health system support in terms of supervision and clinical mentorship. In order to task shift successfully, there needs to be adequate support for this cadre. The VHC could be allowed the opportunity to feed into the supervision process via a formal mechanism, such as a monthly report card that includes the residence status and availability of their HSA. Health systems support with an adequate supply of medications, communication mechanism, and transportation to deliver it to the HSAs, needs to be coordinated at the HF level with oversight from the DHMT.

HSAs have multiple roles including environmental health and the interventions from this OR study; as such, consideration should be given to relieving them of some of their responsibilities that are less directly related to health or to increasing client numbers. HSAs must be encouraged not to engage in additional activities, such as assisting non-governmental projects, unless permission is granted by line managers. Residence within the community needs to be enforced. This can only be achieved with regular supervision and feedback from the VHC. VHCs should be encouraged to take leading roles in assisting HSAs in securing accommodations within the catchment areas. In addition to improving the HSAs' availability in the communities, this will also improve HSA motivation and retention. Living in a remote area will always be a challenge and consideration of a hardship allowance and alternating periods in the village and in the HF should be considered. Spending part of each month or year in the HF will facilitate the HSAs' continued professional development and facilitate clinical mentorship. Consideration needs to be given to a career ladder for HSAs, for example a scholarship to study for a certificate for CHWs could be a reward for two years of service in the community. In the future, it might be helpful to conduct similar studies in different and geographically distant districts in order to avoid contamination.

Further research

Health systems challenges need to be better understood. Mothers of infants from hard-to-reach areas, rather than their HSAs, could be interviewed to identify and understand their reasons for not using HSAs.

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## Appendix 1: Tools, Sampling Strategy and Sample Size

| Tool | Sampling strategy | Sample size assumptions; minimum difference to be detected (MDD) | Sample size for 80% power to detect difference using 5% significance level |
|---|---|---|---|
| MOI checklist (baseline) | Clients visiting the HSA on date(s) observation | Indicator: MOI (valid range: 0 to 100)<br>MDD: 20 (60 versus 40);<br>sd: 20 | For each category of child (pregnant/…2-<5 years): 10/facility I k=0.25 |
| MOI checklist (6 and 12 month follow ups) | Three randomly selected HSAs per facility; all clients visiting the HSA on date(s) observation conducted, until required numbers completed | Indicator: MOI (valid range: 0 to 100)<br>MDD: 10 (60 versus 50);<br>s.d: 10 | For each category of client (pregnant / . . . 2-<5 years): 2-4/HSA (6 – 12/facility) if k=0.024 |
| Client Satisfaction and Understanding Interview (Baseline) | Planned: For each facility one HSA simple randomly samples; consecutive sample of exit interviews and random sample of 50 mothers of children born in the HSA catchment area between 2-6 months prior<br><br>Actual: all identified eligible mothers in the selected HSAs' catchment areas | Indicator: Proportion of mother/newborn pairs who received the recommended number of antenatal visits (3) and postnatal home visits (3 visits for standard of care on days 1, 3, and 8; 4 visits for the intervention on days 1, 3, 8 and any day between days 35-60)<br><br>MDD: 15% (<10% vs 25%) | 20 mother/child pairs per facility (91% power if k=0.16) |

| Tool | Sampling strategy | Sample size assumptions; minimum difference to be detected (MDD) | Sample size for 80% power to detect difference using 5% significance level |
|---|---|---|---|
| | Planned: For the same HSAs as above (home visits) systematic random sample of all mothers of children born in the HSAs' catchment area within previous 2 months or between 6 and 24 months previously.<br><br>Actual: All identified eligible mothers in the selected HSAs' catchment areas | Indicator: proportion of children brought promptly to the HSA for care when the child had fever, ARI or diarrhea<br>MDD: 16% (24% versus 40%) | 80 mother/child pairs per facility if k=0.16 |
| Client Satisfaction and Understanding Interview (6-month follow up) | Planned: For each facility, select three HSAs using simple random sampling; sample all traceable mothers of children <2 years who were taken to the HSA in the previous two months | Indicator: Proportion of mother/newborn pairs who received the recommended number of antenatal and postnatal home visits (as described at Baseline)<br>MDD: 15% (10% vs 25%) | 20 mother/child pairs (child 2-<6 months old) per facility (85% power if k=0.25) |
| | | Indicator: Proportion of children <2 months brought promptly to the HSA for care when the child had a danger sign<br>MDD: 29% (50% versus 79%) | 20 mother/child pairs (child 2-<6 months old) per facility if 38% of them had a sign and were taken to the health facility, and k=0.15 |
| | | Indicator: proportion of children brought promptly to the HSA for care when the child had fever, ARI or diarrhea MDD: 16% (24% versus 40%)<br>MDD; 16% (24% versus 40%) | 20 mother/child pairs in each age range category (6-<2 months, 2-<6 months, 6-<12 months, 12- <24 months, 2-<5 years) per facility if k=0.16 |

| Tool | Sampling strategy | Sample size assumptions; minimum difference to be detected (MDD) | Sample size for 80% power to detect difference using 5% significance level |
|---|---|---|---|
| | | Indicator: Proportion of mothers of children 0 -<24 months who were counseled on PPFP. MDD: 10% (48% versus 58%) | 100 mothers of < 2 year olds/ facility (>98% power |
| iCCM Checklist (Baseline) | All HSAs; consecutive quota sample of all clients with a child <5 years visiting the HSA on date(s) observation conducted | Quality of iCCM | All HSAs; 2 children/has |
| iCCM Checklist (6 and 12 month follow up) | All HSAs; consecutive quota sample of all clients with a child <5 years visiting the HSA on date(s) observation conducted | Quality of iCCM | All HSAs; 3 children/has |
| Interview of HSAs | None–all used | | All HSAs |
| FGD | Convenience sample to select members; stratified random sampling to select 1 HSA/facility | | 1 randomly selected HSA per HF |

K = coefficient of variation

## Appendix 2: HSA-Client Interaction Checklist

Draft

Observation of HSA / Client interaction

Health Facility: ☐☐ ☐☐☐☐☐☐☐☐☐☐☐ Village: ☐☐☐ ☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Date: ☐☐ ☐☐☐☐ ☐☐ (DD mmm yy)   CID ☐☐☐☐

1a Is the woman pregnant? **(if yes complete colum b)** ☐ Yes ☐ No

b Does the woman have any children under 5years of age? ☐ Yes ☐ No

if yes determine the age category and record the date(s) of birth of the child/children in the table below

Complete all relevant columns (among columns c), d), e), f) and g)

**Only if no other column is relevant complete column a)**

| **MOTHER** | **a) Pre-conception** | **b) Pregnant** | **c) Newborn (0-28days)** | **d) Young Infant (29-59days** | **e) Infact (2-5.9 months)** | **f) Infant (6-23.9 months)** | **g) Child (2-5yrs)** |
|---|---|---|---|---|---|---|---|
| FP method ☐ Refer CBDA ☐ Refer HF *(if no)* Counselling ☐ Yes ☐ No | ☐ Yes ☐ No | | | | | | |
| ANC *(if no)* Counselling ☐ Yes ☐ No | | | | | | | |
| Vaginal Discharge *(if no)* | | | | | | | |
| | | ☐ Yes ☐ No | | | | | |
| | | | ☐ Yes ☐ No | | | | |
| LAM and PPFP | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| FP, what spacing interval have chosen | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| HIV status established Use of ITNs | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| Nutrition | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| TTV | | ☐ Yes ☐ No | | | | | |
| STIs Rx and discuss prevention | ☐ Yes ☐ No | | | | | | |
| Birth plan | | ☐ Yes ☐ No | | | | | |
| SBA does this mean that TBA will accompany mom to HC for delivery? | | ☐ Yes ☐ No | | | | | |
| IPTp | | ☐ Yes ☐ No | | | | | |
| **BABY** | | | | | | | |
| Assessment of danger signs | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| Immediate referral if any concerns | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| Breastfeeding well | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | |
| Complementary feeds at 6 mo hygienically prepared | | | | | | ☐ Yes ☐ No | |
| Is mom happy with weight gain | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| Skin-to-skin and KC for LBW babies | | | ☐ Yes ☐ No | | | | |
| Use of ITN | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| Is Vaccination up to date | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| Vitamin A - check if given as scheduled | | | | | | ☐ Yes ☐ No | |
| **PMTCT if Mom+** | | | | | | | |
| NVP to 6 weeks | | | | ☐ Yes ☐ No | | | |
| DNA PCR at 6 weeks | | | | ☐ Yes ☐ No | | | |
| DNA PCR results available | | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| CPT at 6 weeks if exposed | | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |
| Is mom on ARV if BF | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | |
| Treatment following iCCM | | | | | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No |

**Enumerator id no.:** ☐☐   **Signature:** ____________

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Observation of HSA / Client interaction V01 24Dec2012

# Appendix 3: Community Case Management Observation Checklist

5303 COMMUNITY CASE MANAGEMENT OBSERVATION CHECKLIST

Health Facility: ☐☐ ☐☐☐☐☐☐☐☐☐☐☐ Village: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Date: ☐☐ ☐☐☐☐ ☐☐
dd mmm yy

| | *Mark appropriately* | | Child seen | | |
|---|---|---|---|---|---|
| **Section 1: Establishing rapport** | | | | | |
| | Greet care-giver | | ☐ Yes | ☐ No | |
| | Introduce himself | | ☐ Yes | ☐ No | |
| **Section 2: Child Identification** | | | | | |
| | Correctly filled | | ☐ Yes | ☐ No | |
| **Section 3: Problem Identification** | | | | | |
| #1 | **Did the HSA ask for** | | | | |
| A | Cough | | ☐ Yes | ☐ No | |
| B | Diarrhoea | | ☐ Yes | ☐ No | |
| C | Blood in stool | | ☐ Yes | ☐ No | |
| D | Fever | | ☐ Yes | ☐ No | |
| E | Convulsions | | ☐ Yes | ☐ No | |
| F | Difficulty in drinking or feeding | | ☐ Yes | ☐ No | |
| G | Vomiting | | ☐ Yes | ☐ No | |
| H | Vomiting everything | ☐ N/A | ☐ Yes | ☐ No | |
| I | Red eye | | ☐ Yes | ☐ No | |
| J | Difficult in seeing | | ☐ Yes | ☐ No | |
| K | Any other problem | | ☐ Yes | ☐ No | |
| #2 | **Did the HSA look for** | | | | |
| A | Chest in-drawing | | ☐ Yes | ☐ No | |
| B | Correctly counted RR in child with cough | ☐ N/A | ☐ Yes | ☐ No | |
| C | Very sleepy or unconscious | | ☐ Yes | ☐ No | |
| D | Palmor pallor | | ☐ Yes | ☐ No | |
| E | MUAC tape in child >6 months | ☐ N/A | ☐ Yes | ☐ No | |
| F | Swelling of both feet | | ☐ Yes | ☐ No | |
| #3 | **Section 4:Classification** | | | | |
| A | Able to identify severe disease correctly | | ☐ Yes | ☐ No | |
| B | Able to classify child's non-severe condition | | ☐ Yes | ☐ No | |
| #4 | **Section 5:Decision Making** | | | | |
| A | Correct decision made | | ☐ Yes | ☐ No | ☐ Refer<br>☐ Treatment at home<br>☐ no treatment |
| #5i | **Pre-referral treatment** | | | | |
| A | Correct pre-referral drug and dosage | | ☐ Yes | ☐ No | |
| B | Pre-referral advice | | ☐ Yes | ☐ No | |
| C | Check caregivers understanding | | ☐ Yes | ☐ No | |
| #5ii | **Home treatment** | | | | |
| A | Correct drug | | ☐ Yes | ☐ No | |
| B | Correct dosage | | ☐ Yes | ☐ No | |
| C | Correct duration | | ☐ Yes | ☐ No | |
| D | Give advice on home care | | ☐ Yes | ☐ No | |
| E | Check caregivers understanding | | ☐ Yes | ☐ No | |

Community Case management observation checklist V01 24Dec2012 Page 1 of 2

5303

COMMUNITY CASE MANAGEMENT OBSERVATION CHECKLIST

| #5iii | Advice for home care | | | |
|---|---|---|---|---|
| A | Provides no treatment and gives home care advice | ☐ Yes | ☐ No | |
| Vaccines | | | | |
| | Check immunisation status | ☐ Yes | ☐ No | |

Enumerator id no.: ☐☐ Signature: ____________

# Appendix 4: Client Satisfaction and Understanding Interview Tool

6197 Client Satisfaction and Understanding interview

| | |
|---|---|
| | Is this an exit interview or a community based interview? ☐ Exit ☐ Community |
| | Health Facility: ☐☐ ☐☐☐☐☐☐☐☐☐☐☐ Village: ☐☐☐ ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ |
| | Date: ☐☐ (DD) ☐☐☐ (m m m) ☐☐ (yy) CID: ☐☐☐☐ |
| | **HSA Supervisor** ☐ SHSA ☐ AEHO ☐ Community health ☐ Nurse ☐ Other (specify) ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ |
| | Is the woman pregnant? ☐ Yes ☐ No If yes, what is the expected delivery date? ☐☐ (DD) ☐☐☐ (m m m) ☐☐ (yy) |
| | If not known, what was the date of the last menstrual period? ☐☐ (DD) ☐☐☐ (m m m) ☐☐ (yy) |
| | Has the woman delivered a child in the last 5years? ☐ Yes ☐ No |
| | If yes, what was the date of birth? ☐☐ (DD) ☐☐☐ (m m m) ☐☐ (yy) |
| | Is the child alive? ☐ Yes ☐ No If yes calculate age ☐☐ Months |
| | If no when did s/he die? ☐☐ (DD) ☐☐☐ (m m m) ☐☐ (yy) |
| | **Parity** ☐☐ **Gravidity** ☐☐ |
| 1 | Have you met this HSA before? ☐ Yes ☐ No |
| 1a | If yes, when did you last meet the HSA? (check passport) ***If pregnant and has no previous pregnancy go to 2*** ☐☐ (DD) ☐☐☐ (m m m) ☐☐ (yy) |
| 1b | Did you receive any home visit from the HSA during your most recent pregnancy? ☐ Yes ☐ No<br>If yes how many? ☐☐ |
| 1c | Did you receive any home visit from the HSA after your most recent delivery? ☐ Yes ☐ No<br>If yes how many? ☐☐ |
| 1d | Did you visit the Health Centre after delivery? ☐ Yes ☐ No<br>If yes how many? ☐☐ |
| 2 | Did you feel welcomed by your HSA today/on your last visit? ☐ Yes ☐ No |
| 3 | Did you take a problem to the HSA today/during most recent visit? *(if no, go to 4)* ☐ Yes ☐ No |
| 3a | Do you feel the problem you came with/went to the HSA with has been dealt with? ☐ Yes ☐ No<br>**How do you rate the service of the HSA** ☐ Excellent ☐ Good ☐ need Improvement ☐ other |
| 4a | If child born2-6months ago; **did your child have any danger signs before 2 months of age?**<br>☐ fever ☐ Yes ☐ No<br>☐ cough ☐ Yes ☐ No<br>☐ convulsions ☐ Yes ☐ No<br>☐ dehydration ☐ Yes ☐ No<br>☐ lethargy ☐ Yes ☐ No<br>☐ diarrhea ☐ Yes ☐ No<br>☐ pneumonia ☐ Yes ☐ No |
| 4b | If so was the child seen/reviewed by the HSA? ☐ Yes ☐ No |
| 4c | Was the child referred to the Health Centre? ☐ Yes ☐ No |
| 4d | Where did u first seek assistance? ☐ Traditional Healer ☐ Drug store ☐ HSA/Village clinic ☐ Other |

Client Satisfaction and Understanding interview V01 24Dec2012 Page 1 of 2

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| | |
|---|---|
| 5 | Did the HSA refer your child to the Health Centre or hospital? *(if no go to 5f)* |
| 5a | Why were you referred? ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ |
| 5b | Where were you referred to? ☐ Health Centre ☐ QECH ☐ Other (specify) ☐☐☐☐☐☐☐☐☐☐☐☐ |
| 5c | Were you told to go urgently? ☐ Yes ☐ No |
| 5d | Do you plan to/Did you go as advised? (if yes go to 6) ☐ Yes ☐ No |
| 5e | If not, why not? (go to 6) ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ |
| 5f | If not referred do you plan to/did you take your child to the HC or hospital? ***if this is a community interview go to 9*** ☐ Yes ☐ No |
| 6 | Was medication given *(if no, go to 7)* ☐ Yes ☐ No |

| | | Paracetamol | Cotrim | ORS | Zinc | LA | Other | Fully correct |
|---|---|---|---|---|---|---|---|---|
| 6a | If yes what medicine was given? | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | Yes ☐ No ☐ |
| 6b | What is/was this medicine for? | | | | | | | Yes ☐ No ☐ |
| 6c | How many times/day are you/were you to administer this medicine? | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ as required | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ as required | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ as required | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ as required | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ as required | | Yes ☐ No ☐ |
| 6d | How much of this medicine are you/were you to use for each dose? (record no. of tablets, eg 1/4) | ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ 1 | ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ 1 | ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ 1 ☐ 2 | ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ 1 | ☐ 1 ☐ 2 | ☐ 1/4 ☐ 1/2 ☐ 1 ☐ 2 | Yes ☐ No ☐ |
| 6e | Did the HSA tell you that there any side effects with medince? if yes, ***what are they?*** | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | Yes ☐ No ☐ |
| 6f | For how long are you/were you to use this medicine? | ☐☐ days | ☐☐ days | ☐☐ days | ☐☐ days | ☐☐ days | ☐☐ days | Yes ☐ No ☐ |
| 6g | If you/your child does not recover were you told what to do? | ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ | | | | | | |

| | |
|---|---|
| | **Advice given to mother** |
| 7 | Did your HSA give you some advice? ☐ Yes ☐ No |
| 8 | Can you tell me what you understood of the advice you received? ☐ Fully understood, intends to take advice ☐ Partially understood ☐ Little understanding of advice given |
| 9 | Did your HSA discuss use of family planning with you? ☐ Yes ☐ No |
| 10 | Are you using any family planning method? ☐ Yes ☐ No<br>**if yes, what method are you using?** ☐ LAM/PPFP ☐ Depo ☐ Condom ☐ Other |
| 10b | If no Do you know where to access family planning? ☐ Yes ☐ No |
| 11 | Was the woman's health passport available to verify response? ☐ Yes ☐ No |
| | **Enumerator id no.:** ☐☐ **Signature:** ____________ |

## Appendix 5: Numbers of Respondents for Data Collection During Baseline

| Study | Health Facility (Code) | No. of HSAs | No. of CSUIs | HSA-Client Interactions Observed | | | | | | | | iCCMs Observed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pre-conception | Pregnant | <28 days | 29-59 days | 2-<6 mos. | 6-<24 mos. | 2-<5 yrs. | Number of clients | |
| | Planned nos. | All | 100/hc | | | | | | | | 70/HC | 3/HSA |
| Control | Lirangwe (1) | 3 | 56 | | | | 1 | 2 | 9 | 7 | 19 | 10 |
| | Chilomoni (2) | 3 | 88 | | | | | 1 | 4 | 4 | 9 | 9 |
| | Limbe (3) | 10 | 107 | | | | | | | 1 | 1 | 1 |
| | Mpemba (5) | 6 | 70 | | 1 | | | 1 | 9 | 8 | 18 | 10 |
| | Mdeka (9) | 5 | 82 | | | | | 1 | 10 | 2 | 13 | 13 |
| | Dziwe (10) | 6 | 103 | | | | | | 2 | 4 | 6 | 6 |
| | Namikoko (13) | 3 | 84 | | 1 | | | 1 | 11 | 5 | 17 | 17 |
| | Chabvala (14) | 4 | 105 | | | | | 1 | 7 | 5 | 13 | 13 |
| | Chimembe (16) | 4 | 101 | | | | | | 1 | 1 | 2 | 2 |
| | **Total** | **44** | **796** | **0** | **2** | **0** | **1** | **7** | **53** | **37** | **98** | **97** |
| Intervention | South Lunzu (4) | 10 | 63 | | | | | 1 | 6 | 9 | 16 | 16 |
| | Madziabango (6) | 4 | 104 | | | | | | 3 | 3 | 6 | 6 |
| | Chikowa (7) | 5 | 103 | | | | | 3 | 7 | 2 | 12 | 12 |
| | Chileka SDA (8) | 5 | 97 | | | | | | 1 | 2 | 3 | 3 |
| | Soche (11) | 5 | 57 | | | | | 1 | | 1 | 2 | 2 |
| | Makata (12) | 9 | 104 | | | | | 4 | 15 | 17 | 36 | 35 |
| | Lundu (15) | 7 | 54 | | | | | | 10 | 7 | 17 | 17 |
| | Mlambe (17) | 4 | 91 | | | | | | 6 | 4 | 10 | 10 |
| | **Total** | **49** | **673** | **0** | **0** | **0** | **0** | **9** | **48** | **45** | **102** | **101** |

**Appendix 6: Summary of Missed Opportunities at Baseline, by Time since Last Delivery and Study Arm**

| Study arm | Time since delivery | Overall | Pregnancy | Infants (29-59 days) | Infants (2 -<6 mos.) | Infants (6 - <24 mos.) | Child (2 - <5 yrs.) | (All Combined) |
|---|---|---|---|---|---|---|---|---|
| | Number of women | Control | 2 | 1 | 7 | 53 | 37 | 98 |
| | | Intervention | 0 | 0 | 9 | 48 | 45 | 102 |
| | | | (2) | (1) | (16) | (101) | (82) | (200) |
| | Proportion for whom no opportunity was Missed | Control | 0% | . | 0% | 0% | 0% | 0% |
| | | Intervention | . | 0% | 0% | 0% | 0% | 0% |
| | MOI: median (IQR) | Control | 100% | 75% | 71.4% (14%) | 57.1% (14%) | 71.4% (14%) | 71.4% (14%) |
| | | Intervention | . | . | 71.4% (14%) | 57.1% (14%) | 71.4% (0%) | 71.4% (14%) |
| | MOI: mean (s.d.) | Control | 100% (.) | 75% (.) | 69.4% (9.9%) | 63.9% (9.9%) | 72.2% (12.6%) | 67.6% (11.7%) |
| | | Intervention | . | . | 65.1 (12.6%) | 62.8% (12.8%) | 68.6%) (10.8%) | 65.5% (12.1%) |

No women were interviewed as pre-conception women and no mothers with newborns (0-28 days) attended the clinics on study observation days

## Appendix 7: Summary of Measures of Coverage of Key Interventions at Baseline, by Study Arm and Months since Last Delivery

| | Control | | | | Intervention | | | |
|---|---|---|---|---|---|---|---|---|
| | < 2m (n=45) | 2-<6m (n=144) | 6 -<12m (n=221) | 12-<24m (n=361) | < 2m (n=42) | 2-<6m (n=121) | 6 - <12m (n=192) | 12-<24m (n=305) |
| Proportion of mothers who received at least 3 antenatal home visits | 1 (2%) | 4 (2.8%) | 9 (4.1%) | 15 (4.2%) | 8 (19%) | 11 (9.1%) | 21 (10.9%) | 35 (11.5%) |
| Proportion of mother/newborn pairs who received at least 3 postnatal home Visits | Not applicable | 0 (0.0%) | 3 (1.4%) | 5 (1.4%) | Not applicable | 2 (1.7%) | 4 (2.1%) | 10 (3.3%) |
| Proportion of mother/newborn pair who received the recommended number of antenatal and postnatal home visits | | 0 (0.0%) | 0 (0.0%) | 3 (0.8%) | | 2 (1.7%) | 2 (1.0%) | 2 (07%) |
| Number of newborns and young infants (<60 days) who had at least one danger Sign | | 75 (52%) | | | | 56 (47%) | | |
| Number reported seen by HSA | | 21 (28%) | | | | 29 (52%) | | |
| Number referred by HSA to health Facility | | 10 (48%) | | | | 15 (52%) | | |
| Proportion of mothers counseled on post-partum family planning at last visit | 16 (36%) | 55 (38%) | 89 (40.3%) | 170 (47.1%) | 25 (60%) | 58 (48%) | 103 (53.7%) | 170 (55.7%) |
| Proportion of mothers using any family Planning | 23 (51%) | 80 (56%) | 148 (67.0%) | 230 (63.7%) | 18 (43%) | 77 (64%) | 129 (67.2%) | 210 (68.9%) |

**Appendix 8: Summary of Assessment of Client Satisfaction at Baseline, by Study Arm and Months since Last Delivery**

| | Control | | | | Intervention | | | |
|---|---|---|---|---|---|---|---|---|
| | < 2m (n=45) | 2-<6m (n=144) | 6 -<12m (n=221) | 12-<24m (n=361) | < 2m (n=42) | 2-<6m (n=121) | 6 - <12m (n=192) | 12-<24m (n=305) |
| Proportion who felt welcomed by HSA on last visit | 20 (44%) | 88 (61.1%) | 151 (68.3%) | 254 (70.4%) | 24 (57%) | 75 (62.0%) | 114 (59.4%) | 205 (67.2%) |
| Proportion who felt their problem had been dealt with | 20 (44%) | 81 (56.3%) | 145 (65.6%) | 248 (68.7%) | 21 (50%) | 72 (59.5%) | 124 (64.6%) | 192 (63.0%) |
| Proportion who rated the HSAs service to be excellent* | 13 (29%) | 34 (23.6%) | 72 (32.6%) | 128 (35.5%) | 12 (29%) | 34 (28.1%) | 62 (32.3%) | 119 (39.0%) |
| Proportion who rated the HSAs service to be excellent / good* | 25 (55%) | 79 (54.9%) | 147 (66.5%) | 262 (72.6%) | 24 (57%) | 64 (52.9%) | 121 (63.0%) | 208 (68.2%) |

* Respondents were asked "How do you rate the service of the HSA?" Options for recording responses were excellent, good, needs improvement or other

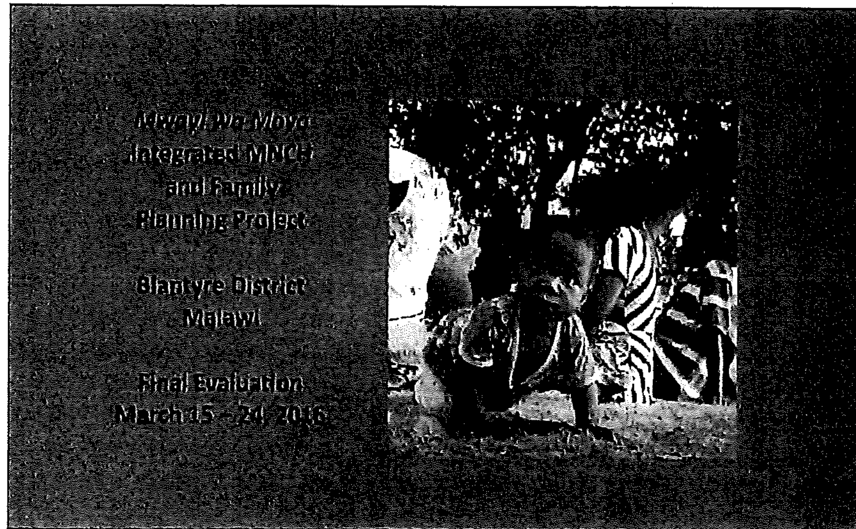
## Appendix 9: Numbers of Respondents for Data Collection During the Six-Month Follow-up Round

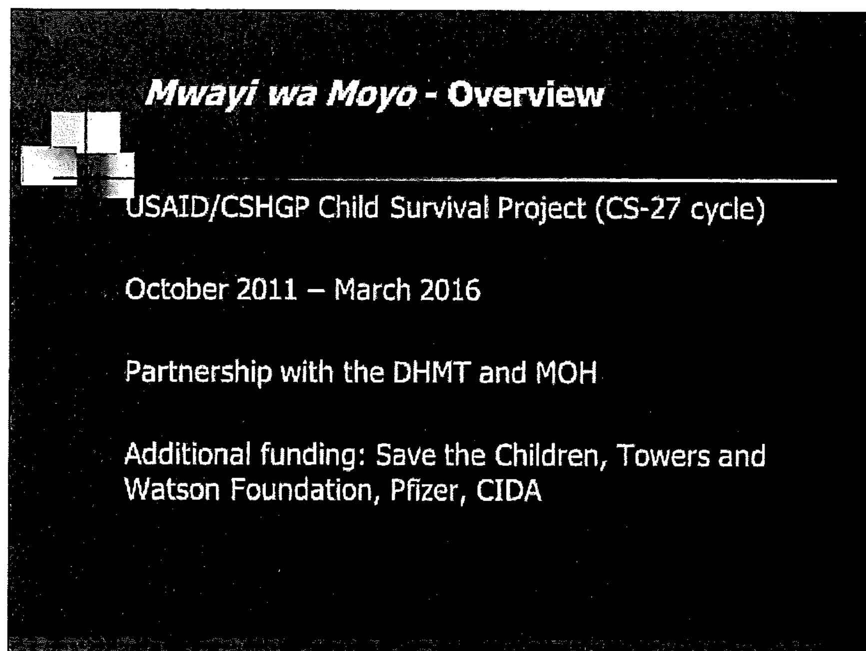
| Group | Health Facility | Number of HSAs | No. of CSUI Interviews (HSAs; days) | Pre-conception | Pregnant | <28 days | 29-59 days | 2-<6 mos. | 6-<24 mos. | 2-<5 yrs. | Number of Clients (HSAs; days) | Interactions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Planned numbers | all | 100 / HF | < - - - - - - - 6 to 12 / Health Facility for each category - - - - - - -> | | | | | >42 / HF | | | |
| Control | Lirangwe | 3 | 78 (3;5) | 25 | 2 | 0 | 0 | 2 | 10 | 12 | 24 (3;4) | 51 |
| | Chilomoni | 3 | 79 (3;6) | 27 | 5 | 0 | 0 | 2 | 13 | 12 | 27 (3;4) | 59 |
| | Limbe | 10 | 42 (3;4) | 19 | 3 | 0 | 0 | 2 | 11 | 9 | 21 (3;4) | 44 |
| | Mpemba | 6 | 88 (3;5) | 31 | 4 | 0 | 2 | 2 | 16 | 15 | 33 (3;5) | 70 |
| | Mdeka | 5 | 42 (3;4) | 20 | 0 | 0 | 0 | 0 | 8 | 11 | 19 (3;3) | 39 |
| | Dziwe | 6 | 56 (3;4) | 20 | 1 | 0 | 0 | 1 | 12 | 10 | 21 (3;3) | 44 |
| | Namikoko | 3 | 92 (3;5) | 34 | 0 | 0 | 0 | 2 | 15 | 17 | 32 (3;5) | 68 |
| | Chabvala | 4 | 52 (3;2) | 22 | 3 | 0 | 0 | 1 | 11 | 12 | 24 (3;2) | 49 |
| | Chimembe | 4 | 31 (3;3) | 29 | 1 | 0 | 0 | 2 | 11 | 14 | 27 (3;3) | 57 |
| **Total** | | | **560 (27;38)** | **227** | **19** | **0** | **2** | **14** | **107** | **112** | **228** | **481** |
| Intervention | South Lunzu | 10 | 65 (3;6) | 24 | 1 | 0 | 0 | 3 | 10 | 11 | 24 (3;6) | 49 |
| | Madziabango | 4 | 23 (2;4) | 12 | 0 | 0 | 0 | 1 | 7 | 2 | 10 (2;2) | 22 |
| | Chikowe | 5 | 34 (3;4) | 14 | 3 | 0 | 0 | 1 | 4 | 8 | 13 (2;3) | 30 |
| | Chileka SDA | 5 | 48 (3;3) | 10 | 0 | 0 | 0 | 1 | 2 | 6 | 9 (2;2) | 19 |
| | Soche | 5 | 35 (3;3) | 17 | 0 | 0 | 0 | 1 | 7 | 10 | 17 (2;2) | 35 |
| | Makata | 9 | 97 (4;6) | 17 | 0 | 0 | 0 | 0 | 11 | 6 | 17 (3;4) | 34 |
| | Lundu | 7 | 52 (5;5) | 24 | 0 | 0 | 0 | 2 | 11 | 12 | 24 (5;5) | 49 |
| | Mlambe | 4 | 82 (3;5) | 35 | 2 | 0 | 0 | 7 | 11 | 17 | 32 (3;4) | 72 |
| **Total** | | | **436 (26;36)** | **153** | **6** | **0** | **0** | **16** | **63** | **72** | **146** | **310** |

## Appendix 10: Numbers of Respondents for Data Collection During the Twelve-Month Follow-up Round

| Study | Name and Number of HSAs | | Interviews (HSAs; days) | Observed (HSAs; days) | Pre-conception | Pregnant | <28 days | 29-59 days | 2-<6 mos. | 6-<24 mos. | 2-<5 yrs. | Number of clients (HSAs; days) | Interactions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Planned numbers | All | | | <------- 6 to 12 / Health Facility for each category ---- --> | | | | | | | >42 / HF | |
| Control | Lirangwe | 4 | 53 (4;5) | 18 (2;2) | 30 | 1 | | | 4 | 13 | 15 | 31 (3) | 63 |
| Control | Chilomoni | 3 | 12 (1;1) | 6 (2;2) | 10 | | | | | 2 | 8 | 10 (3) | 20 |
| Control | Limbe | 10 | 35 (4;4) | 33 (3;3) | 48 | | | 1 | 1 | 31 | 15 | 48 (5) | 96 |
| Control | Mpemba | 6 | 51 (3;3) | 21 (3;3) | 37 | 1 | | | 2 | 22 | 14 | 38 (5) | 76 |
| Control | Mdeka | 7 | 45 (4;4) | 0 | 16 | 1 | | | | 6 | 11 | 17 (4) | 34 |
| Control | Dziwe | 6 | 46 (4;4) | 5 (3;3) | 15 | 3 | | | | 5 | 13 | 18 (5) | 36 |
| Control | Namikoko | 3 | 44 (2;3) | 11 (2;2) | 17 | 1 | | | | 8 | 10 | 18 (2) | 36 |
| Control | Chabvala | 4 | 28 (3;4) | 18 (4;5) | 16 | 1 | 1 | | 3 | 6 | 8 | 17 (3) | 35 |
| Control | Chimembe | 4 | 26 (2;2) | 21 (3;3) | 17 | | | | 5 | 8 | 5 | 17 (3) | 35 |
| Control | **Total** | **47** | **340(27;30)** | **133** | **206** | **8** | **1** | **1** | **15** | **101** | **99** | **214** | **431** |
| Intervention | South Lunzu | 10 | 37 (5;5) | 7 (4;4) | 15 | 2 | | | | 7 | 11 | 17 (6) | 35 |
| Intervention | Madziabango | 4 | 15 (2;2) | 2 (1;1) | 8 | | | | | 1 | 7 | 8 (3) | 16 |
| Intervention | Chikowe | 6 | 55 (5;5) | 4 (1;1) | 17 | 2 | | | 1 | 11 | 8 | 19 (3) | 38 |
| Intervention | Chileka SDA | 5 | 24 (5;6) | 11 (3;3) | 14 | | | | | 6 | 8 | 14 (3) | 28 |
| Intervention | Soche | 5 | 3 (1;1) | 4 (1;1) | 4 | | | | | 1 | 3 | 4 (1) | 8 |
| Intervention | Makata | 9 | 37 (4;4) | 5 (2;2) | 12 | | | | | 7 | 5 | 12 (2) | 24 |
| Intervention | Lundu | 7 | 66 (4;4) | 25 (3;3) | 39 | 5 | | | 3 | 20 | 21 | 44 (5) | 88 |
| Intervention | Mlambe | 4 | 43 (3;3) | 32 (3;3) | 38 | 1 | | | 1 | 21 | 21 | 39 (3) | 82 |
| Intervention | **Total** | **50** | **280 (29;30)** | **90** | **147** | **10** | **0** | **0** | **5** | **74** | **84** | **157** | **320** |

# Annex 15: Stakeholder Debrief PowerPoint Presentation



## *Mwayi wa Moyo* - Overview

Targeted "hard-to-reach" populations (>8km) in catchments of 17 health centers

**Arm 1 (integrated):** 8 HC hard to reach catchment areas (44 HSAs) - >8km

**Arm 2 (vertical/routine):** 9 HC hard to reach catchment areas (49 HSAs) - >8 km

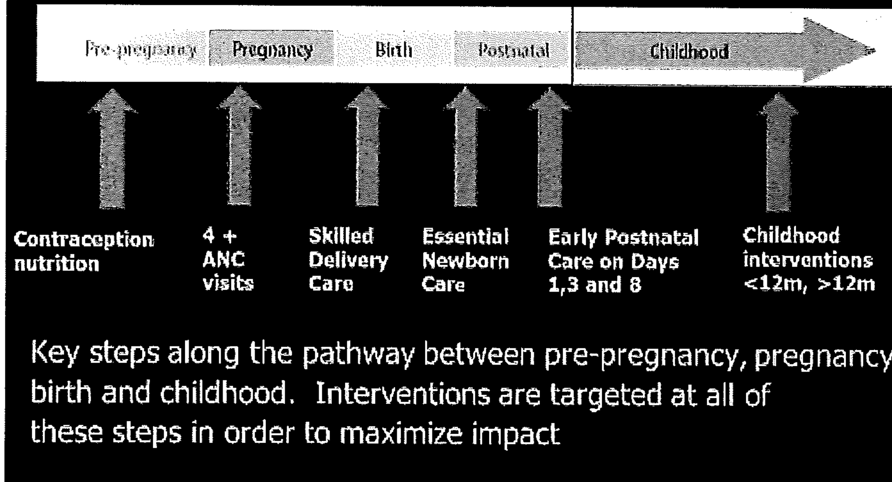
50 HSAs added when definition of HTR expanded to >5km

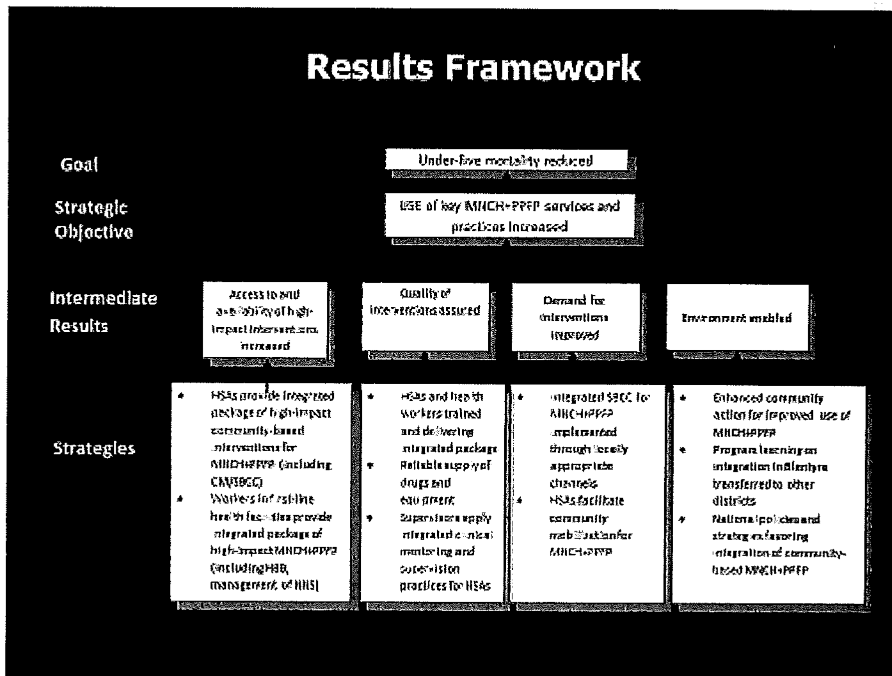
## Methods – Final Evaluation

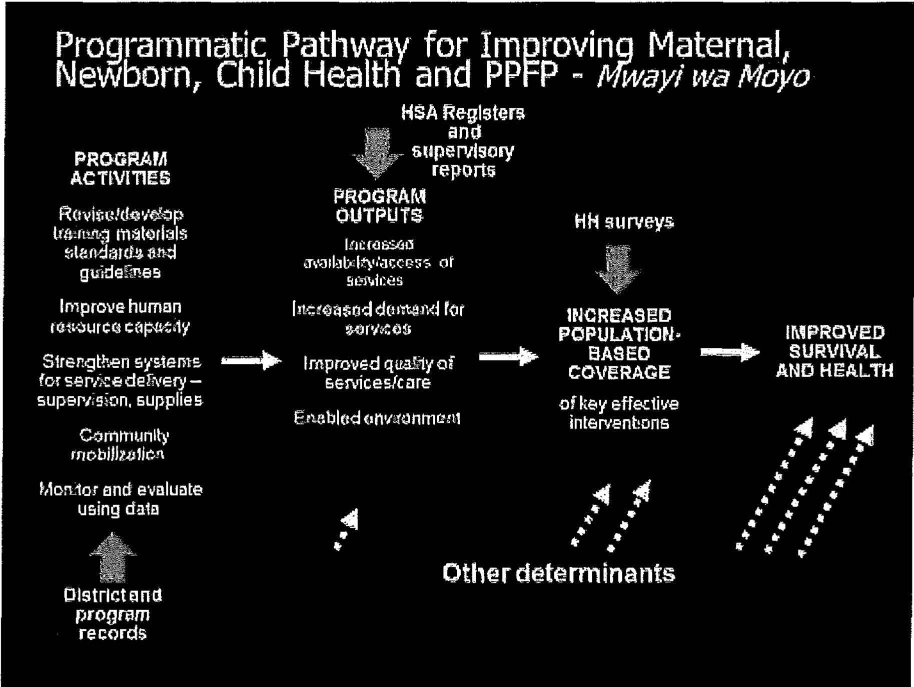
Document review – program reports, training and health education materials, monitoring data and before and after HH surveys

Central interviews and review meeting – DHO, DEHO, Coordinators, SHSAs, HSAs, members of community groups – catchments of 2 facilities

Field visits – catchments of 8 facilities- interviews with facility HWs, SHSAs, HSAs, traditional leaders, CAG and VHC members, women of young children


Project Focus: Continuum of Care – mother and child
Pre-pregnancy
Pregnancy
Birth
Postnatal
Childhood
Contraception nutrition
4 + ANC visits
Skilled Delivery Care
Essential Newborn Care
Early Postnatal Care on Days 1,3 and 8
Childhood interventions <12m, >12m
Key steps along the pathway between pre-pregnancy, pregnancy, birth and childhood. Interventions are targeted at all of these steps in order to maximize impact


Results Framework
Goal
Under-five mortality reduced
Strategic Objective
USE of key MNCH+PPFP services and practices increased
Intermediate Results
Demand for interventions improved
Environment enabled
Strategies




| Project Inputs | Activities |
| --- | --- |
| •Technical support<br>•Materials development<br>•Training<br>•HSAs medicines, equipment, bicycles<br>•Vehicles and fuel for supervision and site visits<br>•Support for quarterly meetings<br>• Data review and tracking | • Development and testing of integrated training materials ( 5 modules - iCCM MNCH/ENC, CM, PPFP, supervision)<br>• Development and testing of integrated HSA registers, forms and supervisory checklists<br>• Training of trainers, SHSAs, HSAs, supervisors,<br>• Quarterly supervision with district staff Monthly compilation and summary of register and supervision data<br>• Engagement with district planning |

## Access and availability – 2011-2016

HSAs at baseline = 98
HSAs at endline = 94

HSAs coverage intervention: 1:1687 baseline & End-line
HSAs coverage control: 1:1832 Baseline and 1:1998 End-line

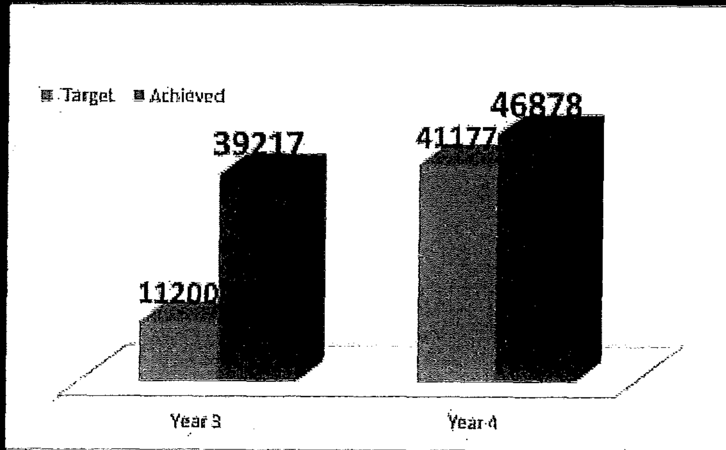
Proportion of HSAs who live in their catchment areas = 55% (52/94)

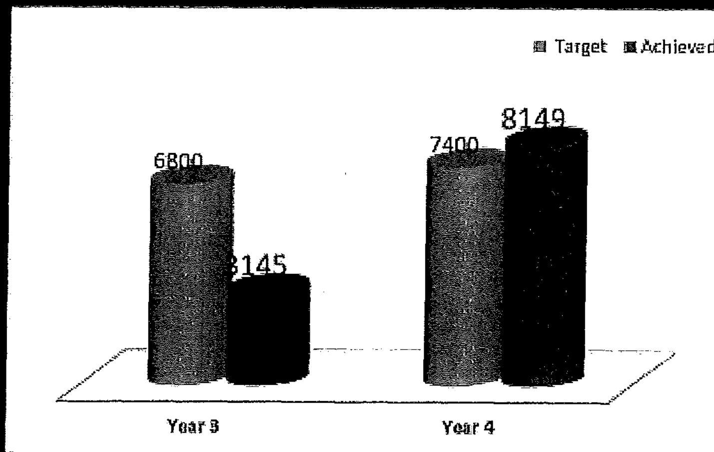
## Medicine Supply – HSAs

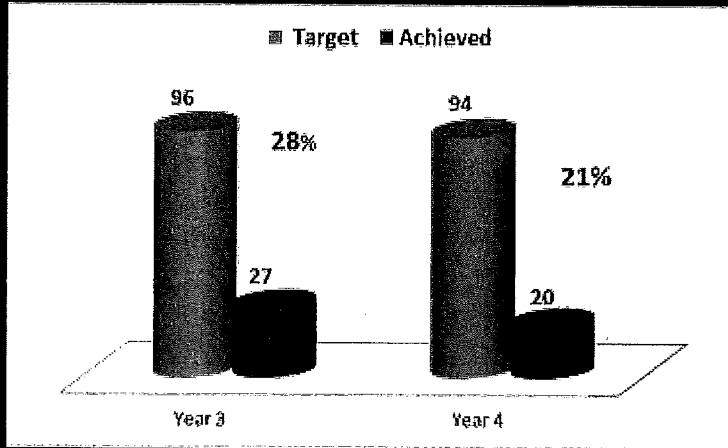
Percentage of HSAs with stock always available in the previous 12 months

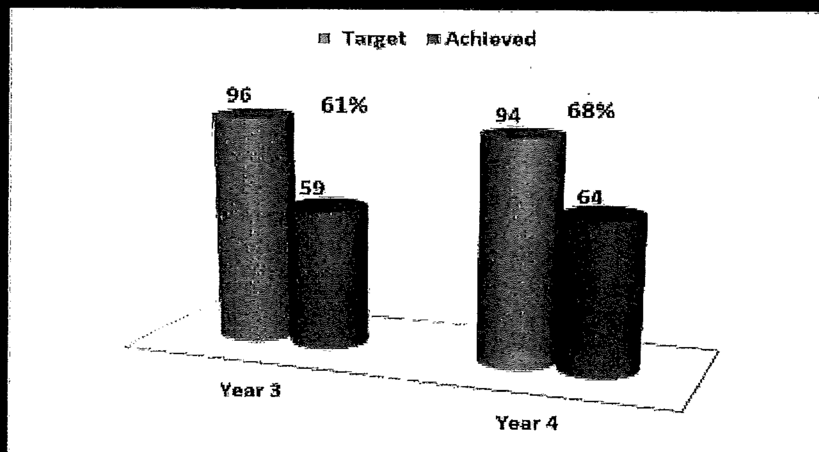
- LA 6x1: 77%
- LA 6x2 : 49%
- ORS : 35%
- ZINC : 54%
- Amoxyl: 54%

C-Stock: 64% of HSAs reporting at least 1 x/month; 36% do not report; 40% of their reports complete (October – December 2015)

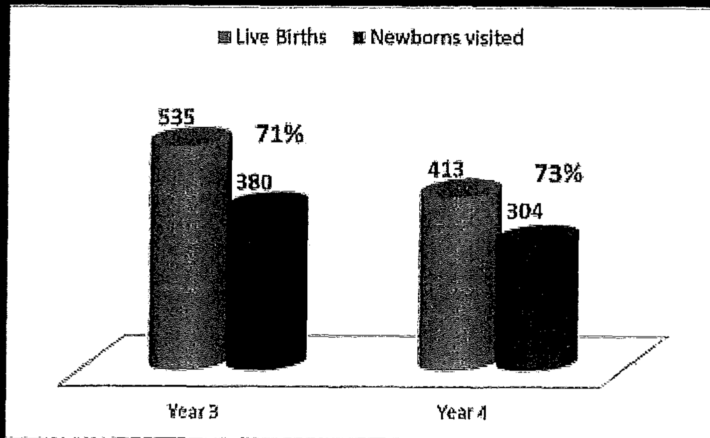

Couple Years of Protection, 2014 and 2015
Target
Achieved
11200
39217
41177
46878
Year 3
Year 4


New Acceptors to Modern Contraception, 2014 and 2015
Target
Achieved
6800
7400
8149
Year 3
Year 4

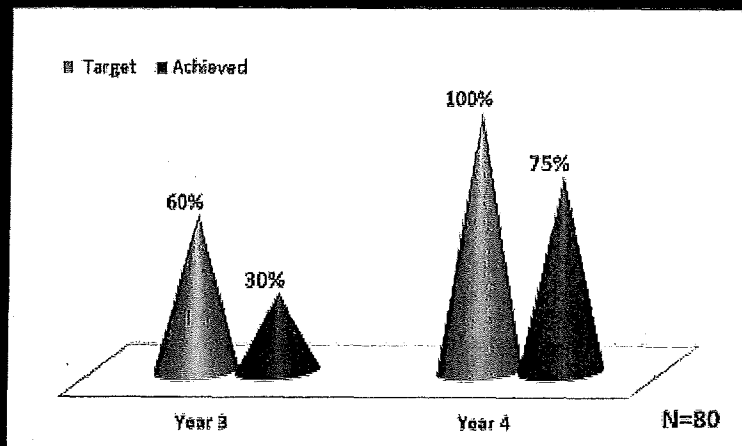

Average Number of HSAs Receiving Clinical Mentoring Quarterly, 2014 and 2015
Target
Achieved
96
28%
27
94
21%
20
Year 3
Year 4


Average Number of HSAs Supervised Each Quarter, 2014 and 2015
Target
Achieved
96
61%
59
94
68%
64
Year 3
Year 4

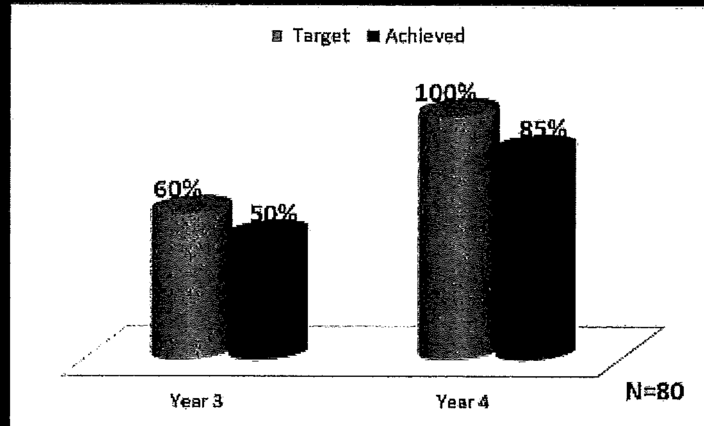
**Proportion of Newborns Receiving at Least 2 Home Visits From an HSA Within 8 Days of Delivery, 2014 and 2015**



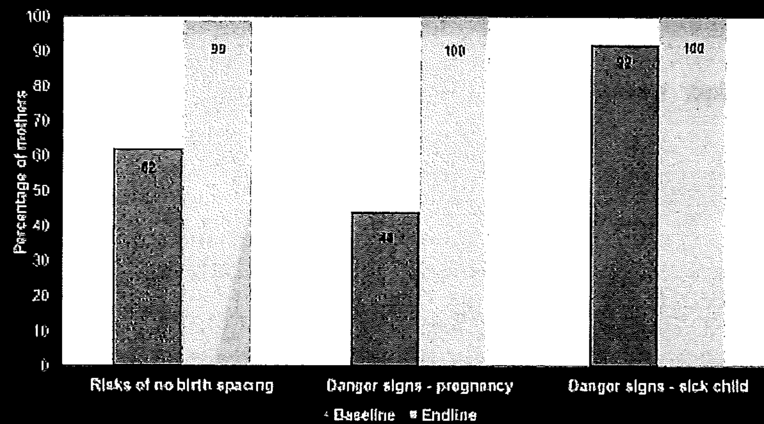

**Percentage of CAGs That Have Completed at Least One of Their Action Plan Results, 2014 and 2015**



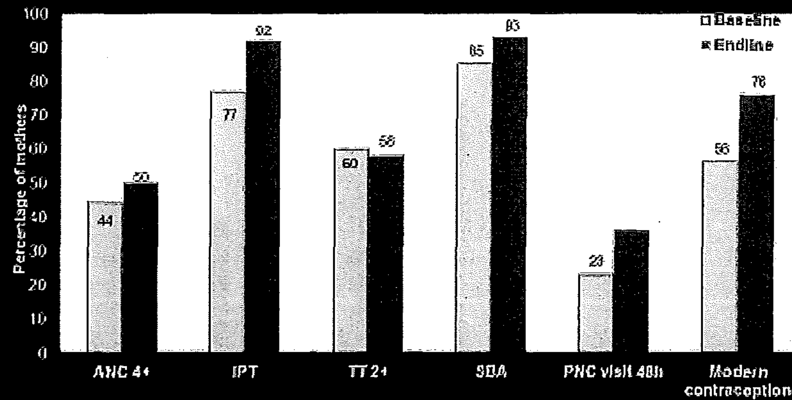
## Percentage of CAGs That Have Leveraged Resources to Support Their Action Plan, 2014 and 2015

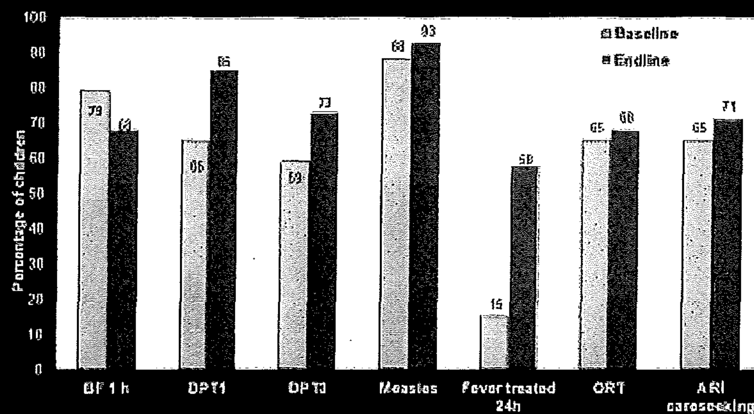



## Mothers Knowledge, Blantyre District, 2012 and 2015

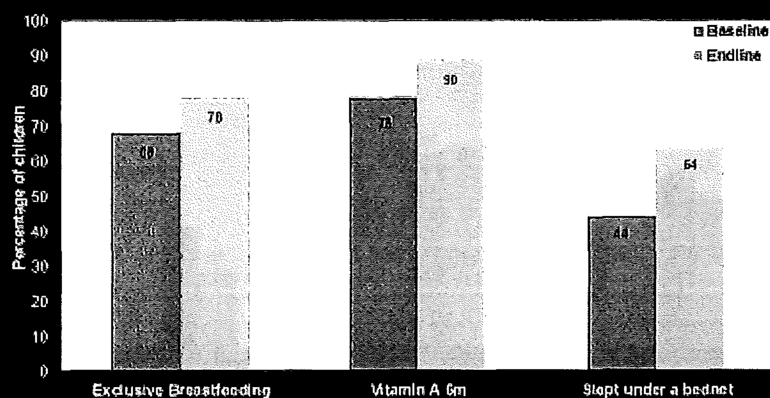



Source: KPC 2012, 2015 – cluster household surveys, hard to reach areas, *Mwayi wa Moyo* project areas


Pregnancy, Delivery and Postpartum Intervention Coverage, Blantyre District, 2012 and 2015
Baseline
Endline
Percentage of mothers
0
10
20
30
40
50
60
70
80
90
100
44
50
77
92
60
58
85
93
23
56
76
ANC 4+
IPT
TT 2+
SBA
PNC visit 48h
Modern contraception
Source: KPC 2012, 2015 - cluster household surveys, hard to reach areas, Mwayi wa Moyo project areas

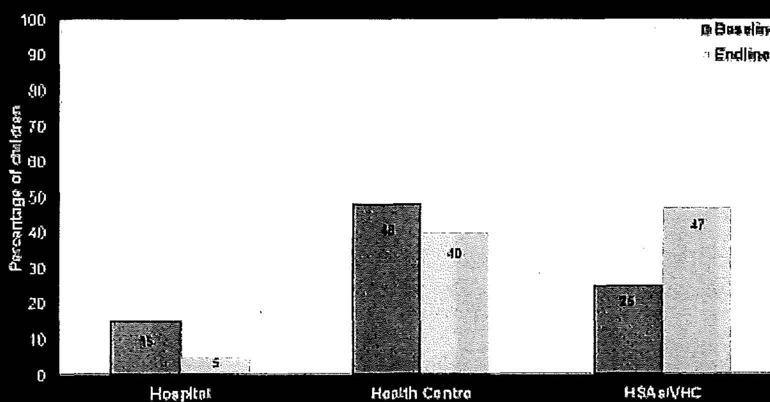

Newborn and Child Intervention Coverage, Blantyre District, 2012 and 2015
Baseline
Endline
Percentage of children
79
68
65
85
59
73
88
93
15
58
65
68
65
71
BF 1 h
DPT1
DPT3
Measles
Fever treated 24h
ORT
ARI careseeking
Source: KPC 2012, 2015 – cluster household surveys, hard to reach areas, Mwayi wa Moyo project areas

## Preventive Intervention Coverage, Blantyre District, 2012 and 2015




Source: KPC 2012, 2015 – cluster household surveys, hard to reach areas, *Mwayi wa Moyo* project areas

## Careseeking for Fever, Blantyre District, 2012 and 2015




Source: KPC 2012, 2015 – cluster household surveys, hard to reach areas, *Mwayi wa Moyo* project areas

## Conclusions (1)

Strategies to improve access, availability, quality and demand have generally improved intervention coverage in project areas

Strong acceptance of HSAs and good uptake of CM in communities – HSA centred approach appears to work better

Strong demand for family planning counseling and methods from communities and from HSAs – family planning services have driven community demand for all services

## Conclusions (2) – integrated approach

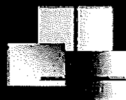
Increased availability of PPFP and uptake of methods

Cut 2 days off total training time (compared to vertical approach)

No data yet to support that integrated approach resulted in improved coverage or reduced coverage over non-intervention areas – however integration is likely to improve efficiency and reduce cost

Improved community acceptance and demand by incorporating family planning and methods

## Conclusions (3)

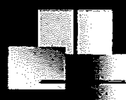


District engagement is essential to provide planning, support for supervision and to manage using data – implementation through the routine system strengthens capacity

Referral of sick women and children remains a problem and needs to be strengthened

Limited data on quality of delivery and newborn care or of management of sick children - need to ensure health centre staff are trained in IMNCI and are regularly supervised

## Conclusions (4)



Staff report that ongoing inputs are required to:

- ensure regular supervision
- support availability of medicines and supplies (provided by the project)
- provide registers, forms and maintain data quality
- support community groups to develop and implement action plans

## Limitations to Sustainability (1)

Stock-outs of essential medicines in many areas – medicines have been supplied by the project

Ongoing issues with stock availability at all levels will require continued support

## Limitations to Sustainability (2)

Coverage with HSA remains limited in many areas and many do not live in their target villages – most HSAs work 1-3 days a week at facilities

A number of issues that require attention – most communities want more say in selecting HSA candidates but some are prepared to provide them with housing and to build VHCs

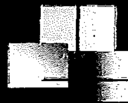
## Limitations to sustainability (3)

Regular supervision of SHSAs and facility staff by district staff – incorporating clinical observation with observation checklist

## Limits to sustainability (4)

Quality of first-level facility care

Increasingly important in areas implementing iCCM and CBMNC – since more sick newborns and children are referred (demand creation). In many areas HSAs provide facility services



## Next steps:

Continued support to the district to strengthen DHMT capacity for managing and overseeing iCCM, CBMNC and FP activities (medicine supply, regular supervision, monitoring HSA coverage and re-training, collection and use of data)

Complete re-analysis of OR research, identify impact of integration and disseminate findings

Use field experience needs to inform the national roll-out of iCCM and implementation of the CBMNC package – through national working groups

# Annex 16: Project Data Form

## Child Survival and Health Grants Program Project Summary

Jun-24-2016

### Save the Children
### (Malawi)

**General Project Information**

| | |
|---|---|
| Cooperative Agreement Number: | AID-OAA-A-11-00058 |
| SC Headquarters Technical Backstop: | Karen Waltensperger |
| SC Headquarters Technical Backstop Backup: | Michelle Prosser |
| Field Program Manager: | Steve Macheso |
| Midterm Evaluator: | |
| Final Evaluator: | |
| Headquarter Financial Contact: | Carmen Weder |
| Project Dates: | 10/1/2011 - 3/31/2016 (FY2011) |
| Project Type: | Innovation |
| USAID Mission Contact: | Ruth Madison |
| Project Web Site: | |

**Field Program Manager**

| | |
|---|---|
| Name: | Steve Macheso (Program Manager) |
| Address: | Save the Children<br>Private Bag 254, Limbe<br>Blantyre , Malawi 265 Malawi |
| Phone: | 265998136562 |
| Fax: | 265 01 847 826 |
| E-mail: | steve.macheso@savethechildren.org |
| Skype Name: | steve.macheso |

**Alternate Field Contact**

| | |
|---|---|
| Name: | David Melody (Director of Health Programs) |
| Address: | Box 30373<br>Off Mchinji Road<br>Lilongwe , Lilongwe 265 Malawi |
| Phone: | +265 993220539 |
| Fax: | |
| E-mail: | david.melody@savethechildren.org |
| Skype Name: | |

**Grant Funding Information**

USAID Funding: $2,000,000 PVO Match: $666,600

### General Project Description

Save the Children, a 2011 Innovation category grantee, is implementing the *Mwayi wa Moyo* "A Chance to Live" *Project* in Blantyre District, Malawi. The project goal is to reduce under-five mortality through increased use of high-impact maternal, newborn and child health (MNCH) interventions (services and practices)., including post-partum family planning (PPFP). Save the Children is supporting the Ministry of Health (MOH) to streamline and integrate the current community packages into a single coherent package that fills the gaps in the continuum of care and delivers more interventions at better quality and less cost.

*Mwayi wa Moyo* will incorporate family planning withobjective to increase use of key postpartum family planning (PPFP) services and practices among mothers with children under two and their partners. Save the Children will work with the MOH to strengthen the integrated package to include PPFP. A "no-missed" opportunity intervention will seek to amplify the number of mothers reached with information and services during the first two years postpartum. In addition, Save the Children and partners will identify effective approaches to reducing the high teenage pregnancy rate in Malawi.

### Project Location

| | |
|---|---|
| **Latitude:** -13.25 | **Longitude:** 38.30 |
| **Project Location Types:** | Peri-urban<br>Rural |
| **Levels of Intervention:** | Health Center<br>Health Post Level<br>Home<br>Community |
| **Province(s):** | Southern Region |
| **District(s):** | Blantyre District |
| **Sub-District(s):** | -- |

### Operations Research Information

| | |
|---|---|
| **OR Project Title:** | Vertical Vs Integrated: Assessing the effectiveness of an integrated community-based MNCH and FP package in reducing missed opportunities along the life cycle continuum |
| **Cost of OR Activities:** | $190,000 |
| **Research Partner(s):** | Department of Pediatrics and Child Health, College of Medicine, University of Malawi |
| **OR Project Description:** | The operations research (OR), which is being carried out in partnership with the Department of Pediatrics and Child Health of the College of Medicine (COM), will evaluate the effectiveness of the integrated community package delivered by HSAs that incorporates CCM, CBMNC, and PPFP to inform programs on achieving impact at scale. |

### Partners

| | |
|---|---|
| College of Medicine (Subgrantee) | $190,000 |
| Ministry of Health ( National level and DHMT) (Collaborating Partner) | $0 |
| USAID/SSDI-Services (bilateral project) (Collaborating Partner) | $0 |
| Mother2Mother (Collaborating Partner) | $0 |
| Development Aid from People to People (DAPP) (Collaborating Partner) | $0 |
| Banja la Mtsogolo (Collaborating Partner) | $0 |
| National Statistics Office (NSO) (Collaborating Partner) | $0 |
| World Vision (Collaborating Partner) | $0 |
| USAID/SSDI-Communication (bilateral project) (Collaborating Partner) | $0 |

**Strategies**

| | |
|---|---|
| Social and Behavioral Change Strategies: | Community Mobilization<br>Interpersonal Communication |
| Health Services Access Strategies: | Addressing social barriers (i.e. gender, socio-cultural, etc)<br>Implementation in a geographic area that the government has identified as poor and underserved |
| Health Systems Strengthening: | Quality Assurance<br>Supportive Supervision<br>Task Shifting<br>Developing/Helping to develop clinical protocols, procedures, case management guidelines<br>Developing/Helping to develop job aids<br>Monitoring health facility worker adherence with evidence-based guidelines<br>Providing feedback on health worker performance<br>Monitoring CHW adherence with evidence-based guidelines<br>Community role in supervision of CHWs<br>Review of clinical records (for quality assessment/feedback)<br>Coordinating existing HMIS with community level data<br>Community input on quality improvement |
| Strategies for Enabling Environment: | Advocacy for revisions to national guidelines/protocols<br>Stakeholder engagement and policy dialogue (local/state or national) |
| Tools/Methodologies: | Rapid Health Facility Assessment<br>Community-based Monitoring of Vital Events |

**Capacity Building**

| | |
|---|---|
| Local Partners: | National Ministry of Health (MOH)<br>Dist. Health System<br>Health Facility Staff<br>Health CBOs<br>Government sanctioned CHWs |

**Interventions & Components**

| | | |
|---|---|---|
| **Control of Diarrheal Diseases (18%)**<br>- Hand Washing<br>- ORS/Home Fluids<br>- Feeding/Breastfeeding<br>- Zinc<br>- Community Case Management with Zinc (Implementation)<br>- Community Case Management with ORS (Implementation) | IMCI Integration | CHW Training<br>HF Training |
| **Malaria (18%)**<br>- Adequate Supply of Malarial Drug<br>- Access to providers and drugs<br>- Care Seeking, Recog., Compliance<br>- Community Case Management of Malaria (Implementation)<br>- Policy Advocacy for CCM of Malaria | IMCI Integration | CHW Training<br>HF Training |
| **Maternal & Newborn Care (34%)**<br>- Neonatal Tetanus<br>- Recognition of Danger signs<br>- Newborn Care<br>- Post partum Care<br>- Child Spacing<br>- Integation. with Iron & Folic Acid<br>- Normal Delivery Care<br>- Birth Plans | IMCI Integration | CHW Training<br>HF Training |
| **Pneumonia Case Management (18%)**<br>- Case Management Counseling<br>- Access to Providers Antibiotics<br>- Recognition of Pneumonia Danger Signs<br>- Zinc | IMCI Integration | CHW Training<br>HF Training |

**Operational Plan Indicators**

| Number of People Trained in Maternal/Newborn Health | | | |
|---|---|---|---|
| Gender | Year | Target | Actual |
| Female | 2012 | 30 | |
| Female | 2012 | | 20 |
| Male | 2012 | | 16 |
| Male | 2012 | 60 | |
| Female | 2013 | 33 | |
| Female | 2013 | | 39 |
| Male | 2013 | | 60 |
| Male | 2013 | 65 | |
| Female | 2015 | | 0 |
| Female | 2015 | 25 | |
| Male | 2015 | | 0 |
| Male | 2015 | 25 | |
| **Number of People Trained in Child Health & Nutrition** | | | |
| Gender | Year | Target | Actual |
| Female | 2012 | 30 | |
| Female | 2012 | | 5 |
| Male | 2012 | | 11 |
| Male | 2012 | 60 | |
| Female | 2013 | 33 | |
| Female | 2013 | | 39 |
| Male | 2013 | | 60 |
| Male | 2013 | 65 | |
| Female | 2015 | | 20 |
| Female | 2015 | 25 | |
| Male | 2015 | | 31 |
| Male | 2015 | 25 | |
| **Number of People Trained in Malaria Treatment or Prevention** | | | |
| Gender | Year | Target | Actual |
| Female | 2012 | | 5 |
| Female | 2012 | 30 | |
| Male | 2012 | | 11 |
| Male | 2012 | 60 | |
| Female | 2013 | | 39 |
| Female | 2013 | 33 | |
| Male | 2013 | | 60 |
| Male | 2013 | 65 | |
| Female | 2015 | | 20 |
| Female | 2015 | 25 | |
| Male | 2015 | 25 | |
| Male | 2015 | | 31 |

**Locations & Sub-Areas**

**Total Population:** 538,413

**Target Beneficiaries**

| | Malawi - SC - FY2011 |
|---|---|
| Children 0-59 months | 91,530 |
| Women 15-49 years | 113,067 |
| Beneficiaries Total | 204,597 |

Rapid Catch Indicators: DIP Submission

Sample Type: 30 Cluster

| Indicator | Numerator | Denominator | Percentage | Confidence Interval |
|---|---|---|---|---|
| Percentage of mothers with children age 0-23 months who received at least two Tetanus toxoid vaccinations before the birth of their youngest child | 179 | 300 | 59.7% | 7.9 |
| Percentage of children age 0-23 months whose births were attended by skilled personnel | 254 | 300 | 84.7% | 5.8 |
| Percentage of children age 0-5 months who were exclusively breastfed during the last 24 hours | 54 | 80 | 67.5% | 14.5 |
| Percentage of children age 6-23 months who received a dose of Vitamin A in the last 6 months: card verified or mother's recall | 171 | 220 | 77.7% | 7.8 |
| Percentage of children age 12-23 months who received a measles vaccination | 114 | 130 | 87.7% | 8.0 |
| Percentage of children age 12-23 months who received DTP1 according to the vaccination card or mother's recall by the time of the survey | 85 | 130 | 65.4% | 11.6 |
| Percentage of children age 12-23 months who received DTP3 according to the vaccination card or mother's recall by the time of the survey | 77 | 130 | 59.2% | 11.9 |
| Percentage of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began | 29 | 152 | 19.1% | 8.8 |
| Percentage of children age 0-23 months with diarrhea in the last two weeks who received oral rehydration solution (ORS) and/or recommended home fluids | 80 | 124 | 64.5% | 11.9 |
| Percentage of children age 0-23 months with chest-related cough and fast and/or difficult breathing in the last two weeks who were taken to an appropriate health provider | 67 | 103 | 65.0% | 13.0 |
| Percentage of households of children age 0-23 months that treat water effectively | 240 | 300 | 80.0% | 6.4 |
| Percentage of mothers of children age 0-23 months who live in households with soap at the place for hand washing | 231 | 300 | 77.0% | 6.7 |
| Percentage of children age 0-23 months who slept under an insecticide-treated bednet (in malaria risk areas, where bednet use is effective) the previous night | 132 | 300 | 44.0% | 7.9 |
| Percentage of children 0-23 months who are underweight (-2 SD for the median weight for age, according to the WHO/NCHS reference population) | 56 | 300 | 18.7% | 6.2 |
| Percentage of infants and young children age 6-23 months fed according to a minimum of appropriate feeding practices | 121 | 220 | 55.0% | 9.3 |
| Percentage of mothers of children age 0-23 months who had four or more antenatal visits when they were pregnant with the youngest child | 133 | 300 | 44.3% | 8.0 |
| Percentage of mothers of children age 0-23 months who are using a modern contraceptive method | 168 | 300 | 56.0% | 7.9 |
| Percentage of children age 0-23 months who received a post-natal visit from an appropriately trained health worker within two days after birth | 69 | 300 | 23.0% | 6.7 |

**Rapid Catch Indicators: Final Evaluation**

| Sample Type: 30 Cluster | | | | |
|---|---|---|---|---|
| Indicator | Numerator | Denominator | Percentage | Confidence Interval |
| Percentage of mothers with children age 0-23 months who received at least two Tetanus toxoid vaccinations before the birth of their youngest child | 227 | 394 | 57.6% | 6.9 |
| Percentage of children age 0-23 months whose births were attended by skilled personnel | 368 | 394 | 93.4% | 3.5 |
| Percentage of children age 0-5 months who were exclusively breastfed during the last 24 hours | 73 | 94 | 77.7% | 11.9 |
| Percentage of children age 6-23 months who received a dose of Vitamin A in the last 6 months: card verified or mother's recall | 254 | 287 | 88.5% | 5.2 |
| Percentage of children age 12-23 months who received a measles vaccination | 182 | 195 | 93.3% | 5.0 |
| Percentage of children age 12-23 months who received DTP1 according to the vaccination card or mother's recall by the time of the survey | 166 | 195 | 85.1% | 7.1 |
| Percentage of children age 12-23 months who received DTP3 according to the vaccination card or mother's recall by the time of the survey | 142 | 195 | 72.8% | 8.8 |
| Percentage of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began | 87 | 149 | 58.4% | 11.2 |
| Percentage of children age 0-23 months with diarrhea in the last two weeks who received oral rehydration solution (ORS) and/or recommended home fluids | 81 | 120 | 67.5% | 11.9 |
| Percentage of children age 0-23 months with chest-related cough and fast and/or difficult breathing in the last two weeks who were taken to an appropriate health provider | 74 | 104 | 71.2% | 12.3 |
| Percentage of households of children age 0-23 months that treat water effectively | 268 | 394 | 68.0% | 6.5 |
| Percentage of mothers of children age 0-23 months who live in households with soap at the place for hand washing | 366 | 394 | 92.9% | 3.6 |
| Percentage of children age 0-23 months who slept under an insecticide-treated bednet (in malaria risk areas, where bednet use is effective) the previous night | 253 | 394 | 64.2% | 6.7 |
| Percentage of children 0-23 months who are underweight (-2 SD for the median weight for age, according to the WHO/NCHS reference population) | 38 | 392 | 9.7% | 4.1 |
| Percentage of infants and young children age 6-23 months fed according to a minimum of appropriate feeding practices | 179 | 300 | 59.7% | 7.9 |
| Percentage of mothers of children age 0-23 months who had four or more antenatal visits when they were pregnant with the youngest child | 195 | 394 | 49.5% | 7.0 |
| Percentage of mothers of children age 0-23 months who are using a modern contraceptive method | 299 | 394 | 75.9% | 6.0 |
| Percentage of children age 0-23 months who received a post-natal visit from an appropriately trained health worker within two days after birth | 143 | 394 | 36.3% | 6.7 |

**Rapid Catch Indicator Comments**

The Mwayi wa Moyo Baseline (KPC Survey) was conducted in February 2012. The report was reviewed and finalized for adoption. Endline KPC results were corrected and re-posted 24 June 2016.

## Annex 17: Presentation: *Mwayi wa Moyo:* Streamlining and Integrating the Community Package

Mwayi wa Moyo

*Streamlining and Integrating the Community Package*

*Blantyre, 25 February 2016*

Thanks to our donors

- USAID Child Survival & Health Grant Program (CSHGP), Washington, DC
- USAID Malawi
- Athene Good Gaming
- Towers Watson
- Pfizer Foundation
- CIDA/Save the Children Italy, Save the Children Canada

## Why Blantyre?

- Strong support from national and district level partners
- Large population
- Few other international partners working in district in 2010-11
- Programmatic platform (HSAs already trained in CCM)
- No overlap with SSDI districts
- Indicators not worst/not best (good context for a pilot)

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**Save the Children**

## Malawi context (2010-11)

- Integration approach - MOH 5-year Strategic Plan
- Malawi well-developed community-based strategy and HSA cadre
- HSAs compensated by MOH (not volunteers)
- Linked to formal health system/facilities
- HSAs provided range of MNCH interventions (CBMNC/CM, c-IMCI/ACSD, iCCM, FP, HTC), in addition to WASH, malaria control, campaigns, child health clinics, etc. (prior to "task shifting")

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## Project innovation

- Streamline and integrate three existing community packages (CCM, CBMNC, FP) into a single package of high-impact MNCH and FP interventions (esp. PPFP) to fill continuity of care gaps, deliver interventions more efficiently and at better quality

- Work closely with MOH at all levels and with USAID/SSDI-Services and SSDI-Communication

5

## *Mwayi wa Moyo*

- *Mwayi wa Moyo* innovation: A purposefully *integrated* community-based package delivered by Health Surveillance Assistants (HSAs) – CCM, CBMNC, FP (PPFP)

- Operations Research: "*Assessing the effectiveness of an integrated strategy on community-based MNCH and FP Services in Blantyre District, Malawi*"

6

## Service delivery approaches

**Vertical**

- HSAs sometimes deliver services vertically at VC
- Mothers often required to make repeat visits
- Some services (e.g.. Depo) not available at community level

**Integrated**

- HSAs offer full range of MNCH/FP services at every possible contact
- Mothers required to make fewer visits
- All key services delivered at each life cycle point

## HSA training

**Vertical**

- Separate trainings for iCCM, CBMNC, FP
- 28 days total
  - CCM – 6 days
  - CBMNC – 10 days
  - FP – 6 days
  - CM – 6 days
- No linkages across intervention areas
- No mentorship component
- Cross-cutting areas repeated in each training (e.g., IPC)
- Different trainers for each training

**Integrated**

- Modular training – 5 modules
- ~26 days total
- Followed by on-site mentorship
- Each module links and reinforces reinforces life cycle continuum
- Cross-cutting areas (e.g., IPC)
  - Unified into one module
  - Duplication eliminated
- Trainers trained in integrated package facilitate trainings
- Modules developed in national consultation with MOH & partners

## Integrated Module 1

***Cross cutting issues – 3 days***

- Interpersonal communication skills
- Nutrition/exclusive breastfeeding/complementary feeding
- Immunization
- Infection prevention
- Growth monitoring and development
- HIV and AIDS

## Integrated Module 2

***Community mobilization - using Community Action Cycle (CAC) – 6 days***

- Integrated CBMNC, CCM, FP
- PHASE I: Prepare to mobilize
- PHASE II: Organize the community for action
- PHASE III: Explore maternal, newborn and child health issues and set priorities

## Integrated Module 3

***CBMNC – 7 days***

- •Focused antenatal care (4 visits)
- •Delivery at health facility
- •Essential newborn care
- •Post-natal care
- •Neonatal danger signs

***Health Systems Strengthening Component***

- •Training of facility health workers in Integrated Maternal & Newborn Care (IMNC)

## Integrated Module 4

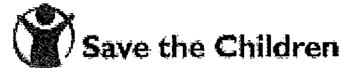
***Integrated Community Case Management (iCCM) – 6 days***

- •Assessment & treatment/referral of pneumonia, malaria, diarrhea

## Integrated Module 5

***Family planning – 5 days***

- Oral contraceptives
- Condoms
- Depo
- LAM



## Supervision & reporting

**Vertical**

- HSA supervision conducted by SHSAs, some lacking training/skills in all intervention areas
- Irregular and infrequent supervisory visits
- Intervention-specific supervisory tools or no tools
- Intervention-specific records, registers, reporting forms
- No tools used by supervisors of supervisors

**Integrated**

- HSA supervision conducted by SHSA
- SHSAs supervised by AEHO & district staff
- All supervisors trained in integrated supervision
- Planned & regular supervisory visits (at least 1x per month)
- Integrated supervisory tools
- Integrated registers, recording & reporting tools
- HSA logbook to document supervisory visits

## Clinical mentorship

**Vertical**

- Limited mostly to CCM
- By nurses & clinicians (trained only in CCM mentorship)
- Mentorship tools absent or not used
- Low frequency (1x per 3-6 months)

**Integrated**

- Covers all interventions areas (MNC, CCM, FP)
- By nurses & clinicians (trained in integrated mentorship)
- Integrated mentoring tools
- Regular, at least once per quarter, on a scheduled date

## Community mobilization & SBCC

**Vertical**

CM & SBCC efforts limited mostly to maternal & newborn interventions (came from CBMNC package)

- Limited engagement of
- traditional leaders and other opinion leaders
- Messages designed and
- delivered in vertical manner
- Intervention-specific counseling tools and job aids

**Integrated**

- CM & SBCC cover range of MNCH+FP interventions
- Active engagement of traditional leaders & other opinion leaders
- Encouraged to provide input into assessment of HSA performance
- Messages designed & delivered
- in integrated and mutually
- reinforcing manner
- Counseling tools & job aids encourage integrated messaging at each contact

## Annex 18: *Mwayi wa Moyo* Project Indicator M&E Table

| Objective/ Result | Indicators | Source/ Measurement Method | Baseline Value | Endline Value | DIP Target |
|---|---|---|---|---|---|
| SO: Use of high-impact services and practices increased | *% of children age 0-5 months old who were exclusively breastfed during the last 24 hours* | KPC Survey | 67.5% | 77.66% | 85% |
| | *% of mothers of children age 0-23 months who had four or more antenatal visits when they were pregnant with the youngest child* | KPC Survey | 44.3% | 49.74% | 65% |
| | *% of mothers of children 0-23 months old who are using a modern contraceptive method* | KPC Survey | 56% | 75.89% | 65% |
| | **Couple Years of Protection (CYP) (#)* | Service statistics (all SDPS) | 18801 | 46878 | 28200 |
| | **Acceptors new to modern contraception (#)* | Service statistics (HC, CBDA, HSA) | 5364 | 8149 | 8582 |
| | *% of children age 0-23 months who slept under an insecticide treated bed net the previous night* | KPC Survey | 44% | 64% | 65% |
| | *% of children with diarrhea in the last two weeks who received ORS or recommended home fluids* | KPC Survey | 64.5% | 67.50% | 80% |

| Objective/ Result | Indicators | Source/ Measurement Method | Baseline Value | Endline Value | DIP Target |
|---|---|---|---|---|---|
| | *% of mothers who wash their hands before food preparation, before infant/child feeding, after defecation, and after attending to a child who has defecated* | KPC Survey | 13% | 93.03% | 45% |
| IR-1: Availability & access to high-impact interventions increased | *% of all HSAs trained in PPFP* | District records, project reports | 0 | 66% (98/148) | 100% (148) |
| | *% of HtR-HSAs trained in iCCM* | District records, project reports | 98 | 100% (98/98) | 100% (98) |
| | *% of all HSAs trained in iCCM* | District records, project reports | 98 | 66% (98/148) | 100% (148) |
| | *% of all HSAs trained in CBMNC* | District records, project reports | 0 | 66% (98/148) | 100% (148) |
| | *% of all HSAs trained in Integrated Community Package* | District records, project reports | 0 | 51% (50/98) | 100%(98) |
| | *% of health center workers trained in IMNC (including HBB)* | District records, project reports | 0 | 100% (17/17) | 100% (17) |
| | *% of health center-based KMC units functioning in Blantyre District* | District records, project reports | 0 | N/A | 7 |
| | *% of mothers of children 0-23 months old who report discussing PPFP with a health worker or promoter during last pregnancy* | KPC Survey | 43% | 62.02% | 70% |

| Objective/ Result | Indicators | Source/ Measurement Method | Baseline Value | Endline Value | DIP Target |
|---|---|---|---|---|---|
| | *% of mothers of children 0-23 months old who received a postnatal home visit from an appropriate trained health worker within two days after birth* | KPC Survey | 23% | 36.3% | 50% |
| *IR-2: Quality of interventions assured* | *% of service delivery points reporting any stock outs of FP methods in past 3 months (by HC, HSA, CBDA)* | Supervision reports, project monitoring | 9 HC<br>0 HSAs<br>0 CBDA | 100% (17/17)<br>100% (94/94) | 15<br>98<br>90 |
| | *% of iCCM-trained HSAs with a continuous supply of key iCCM drugs* | HFA, district drug reporting form, district records | 98 | | 98 |
| | *% of iCCM-trained HSAs with a continuous supply of ACT (LA 6x1)* | | | 87%[1] (82/94) | |
| | *% of iCCM-trained HSAs with a continuous supply of ACT (LA 6x2)* | | | 86% (81/94) | |
| | *% of iCCM-trained HSAs with a continuous supply of ORS* | | | 96% (91/94) | |
| | *% of iCCM-trained HSAs with a continuous supply of zinc* | | | 79% (75/94) | |
| | *%of trained iCCM-trained HSAs with a continuous supply of amoxicillin* | | | 57% (54/94) | |
| | *% of HSAs who live in their catchment areas* | HFA, district records | 50 | 55% (52/94) | 98 |

[1] Data for Oct-Dec 2015

| Objective/ Result | Indicators | Source/ Measurement Method | Baseline Value | Endline Value | DIP Target |
|---|---|---|---|---|---|
| | *% of HSAs supervised in the last 3 months* | HFA, supervision records | 52 | 39%[2] (37/94) | 98 |
| | *% of HSAs supervised in last 3 months with reinforcement of clinical practice (mentored)* | HFA, supervision records | 52 | 36%[3] (34/94) | 98 |
| | *% of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after fever began* | KPC Survey | 15.3% | 58.4% | 60% |
| IR-3: Demand for interventions improved | *% of children 0-23 months old with chest-related cough or fast and/or difficult breathing in the last two weeks who were taken to an appropriate health provider* | KPC Survey | 65% | 71.2% | 80% |
| | *% of mothers of children 0-23 months old who know at least two risks of having a birth to pregnancy interval of less than 24 months* | KPC Survey | 62.3% | 99.5% | 80% |
| | *Percentage of mothers of children 0-23 months old who knew at least two danger signs for mothers during pregnancy* | KPC Survey | 40% | 98.5% | 75% |

[2] Data for Oct-Dec 2015
[3] Data for Oct-Dec 2015

| Objective/ Result | Indicators | Source/ Measurement Method | Baseline Value | Endline Value | DIP Target |
|---|---|---|---|---|---|
| IR-4: Environment enabled | *% of Community Action Groups that have completed at least two CACs* | Project/district records | 0 | 75% (60/80) | 45% |
| | *HSA job description redrafted to incorporate delivery of iCCM+CBMNC+PPFP or Integrated Package* | National minutes TWG, other | N | N | Y |
| | *Integrated community package endorsed by DHMT* | District reports | N | Y | Y |
| USAID COMPLIANCE MONITORING FOR FP | *USAID compliance monitoring completed quarterly* | Project records, compliance monitoring tools | N | Y | Y |

**=CYP and New Acceptors to be calculated based on women of reproductive age*
***=TBD to be completed at time of HFA*

# Annex 19: Community Mobilization Highlights

*Mwayi wa Moyo* ("A Chance to Live", a Child Survival and Health Grant Program project funded by the United States Agency for International Development (USAID) and implemented by Save the Children, has been working in Malawi in partnership with the Ministry of Health (MoH), the Blantyre District Health Office (DHO), other non-governmental organizations, local leaders and community members from September 2011-March 2016. The project goal was to reduce maternal and under-five mortality in hard-to-reach areas of Blantyre District. The project promoted the use of Community Based Maternal and Newborn Care, integrated Community Case Management, and Postpartum Family Planning offered by Health Surveillance Assistants working from village clinics.

*Mwayi wa Moyo* used community mobilization (CM) and social and behavior change communication (SBCC) to create community demand for the services. In recognition of the importance of community participation and ownership in any community project, Community Action Groups (CAGs) were formed to facilitate CM and SBCC activities. Each CAG was composed of 10-15 members who were well-respected in their communities and who agreed to work as volunteers. A total of 80 CAGs were trained in 2013 to prepare them for their tasks.

*Mwayi wa Moyo* recruited national and district-level CM trainers, to train the CAGs to use the Community Action Cycle (CAC), a recognized approach for identifying root causes, establishing priorities, and planning and carrying out actions to overcome local barriers to the use of high-impact services and practices. With the new knowledge and skill gained through CAC training and supervision, CAGs were able to confront health challenges in their communities. Once a CAG planned together with its stakeholders to develop and carry out an action plan, the group evaluated its success and identified lessons learned for the next cycle.

The CAGs have reported many successes. The following stories highlight some of the positive improvements CAGs have brought about in their communities.

## Exchange Visits

*Mwayi wa Moyo* and MoH partners conducted a number of exchange visits to facilitate the sharing of lessons learned among CAGs. A total of 36 CAGs participated in these visits. These opportunities enabled CAGs to communicate face-to-face about their progress addressing issues related to maternal, newborn and child health and family planning, as well as the daily functioning of CAGs. Both Health Surveillance Assistants (HSAs) and CAG members reported that these visits were very useful.

*Mtusa Clinic, Mtusa and Bota CAG members during exchange visit. (Photo* credit: Master Chitabwino)

## Chilaweni Community Action Group Keeps Girls in School

*Girls from Chilaweni Community under the South Lunzu Health Center who have returned to school and are doing very well in class.* (Photo credit: Master Chitabwino)

The Chilaweni CAG, under the South Lunzu Health Center, has been successful in re-enrolling girls who have dropped out of school, at both the primary and secondary school levels. The CAC training inspired the CAG to do something positive about the many teenage pregnancies and marriages in their community. CAG members acquired vital knowledge related to the dangers of teenage pregnancies and worked together to address this issue using their new skills in analysis and planning.

## Chilipa Community Action Group Promotes Early Antenatal Care

The Chilipa CAG, under the Makata Health Center, has been working closely with the District Health Management Team to advocate for and provide early antenatal care (ANC) for mothers in the first trimester of pregnancy. As a result of the CAG's advocacy, early ANC is now provided, and more women are using ANC and delivering their babies at the health facilities and not at home. Additionally, due to long distances, some women are traveling early to health facilities in order to make sure that they deliver at the health Center and avoid home births. Families increasingly understand the benefits of seeking care from trained health workers with adequate knowledge, skills and equipment to help pregnant women, before, during and after delivery.

*Mothers with healthy babies in Chilipa under the Makata Health Center.* (Photo credit: Steve Macheso)

## Jeweta Community Action Group Constructs Village Clinic

*Jeweta Clinic under the Chilomoni Health Center as John Murray looks on. (*Photo credit: Davie Chimwaza*)*

The Jeweta CAG, under the Chilomoni Health Center, is a well-organized CAG that has mobilized resources from various sources (e.g., ward councilors, members of parliament, other well-wishers) to construct a village clinic. The CAG, working together with its community, conducted fundraising activities such as soliciting household contributions, selling produce from their vegetable gardens, organizing fundraising walks and holding "fake" wedding celebrations popular with the community. The CAG members managed to make bricks, and collect iron sheets, cement and other roofing materials to complete construction of the village clinic where their HSA now delivers services for mothers and children.

## Ntonda Community Action Group Constructs Village Clinic and House for HSA

*Ntonda CAG under the Soche Health Center with iron sheets donated by a member of parliament* (Photo credit: Master Chitabwino)

The Ntonda CAG, under the Soche Health Center, is one of the CAGs that has planned to construct both a village clinic and a house for the community's HSA. The CAG mobilized resources such as iron sheets from their Member of Parliament, Nicholas Kachingwe, who promised to assist them. In addition, the CAG mobilized the community to help construct the road leading to the health Center to ensure that ambulances can reach the new village clinic easily.

## Manesi Kapeni Community Action Group Advocates Hospital for Bicycle Ambulance

*Manesi Kapeni CAG under Mlambe Hospital showing their bicycle ambulance provided by the Mlambe Hospital.* (Photo credit: Master Chitabwino)

Manesi Kapeni, a CAG under Mlambe Hospital, is doing its best to address maternal, newborn and child health, and family planning issues in its community. CAG members and the village headman sat down to discuss how best to address the long distance to the hospital and related transportation challenges. They agreed to write and deliver a letter to Mlambe Hospital officials, requesting a bicycle ambulance. Their determination and perseverance resulted in the provision of a bicycle ambulance from the hospital. They are now seeking support to purchase tires or the ambulance so they can begin to transport pregnant women to a health facility for childbirth.