Maternal and Child Survival Program: Zambia

July 2014 – June 2015

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Submitted by:
Jhpiego Zambia Country Office for MCSP Zambia

The Maternal and Child Survival Program (MCSP) is a global, United States Agency for International Development (USAID) Cooperative Agreement to introduce and support high-impact health interventions with a focus on 24 high-priority countries with the ultimate goal of ending preventable child and maternal deaths within a generation. The Program is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

This report is made possible by the generous support of the American people through USAID under the terms of the Cooperative Agreement AID-OAA-A-14-00028. The contents are the responsibility of MCSP and do not necessarily reflect the views of USAID or the United States Government.

Country Summary

Selected Health and Demographic Data for Zambia	
Total Population	13,046,508
Maternal Mortality Ratio (deaths/100,000 live births)	398
Antenatal care from a skilled provider	95.7%
Antenatal care, 4+ visits	55.5%
Delivery with a skilled birth attendant	64.2%
Receiving postnatal care within first two days of delivery	63.3%
Births less than 2.5 kg (low birth weight)	9%
Neonatal mortality rate (deaths/1,000 live births)	24
Total fertility rate	5.3
Modern contraceptive prevalence rate	49%
Unmet need for family planning	21.1%
Source: 2013-14 Zambia Demographic and Health Survey and Zambia 2010 Census of Population and Household: Preliminary Findings	

Major Activities by Program

- Assess health facilities in target districts for EmONC readiness
- Build capacity of skilled healthcare providers to provide quality EmONC and ENC services at rural and urban health facilities
- Support MOH/MCDMCH to sustain EmONC/ENC services
- Support community-level activities to increase uptake of facility-based labor/delivery and ENC services
- Develop standard training packages for scale-up of misoprostol for post-partum hemorrhage prevention to health facilities in Zambia
- Promote delivery of quality PPFP and LARC services at health facilities in Mansa/Chembe District

Program Dates	**1 July 2014 – 30 June 2015**		
Funding	**Total Mission Funding to Date**	**Total Core Funding to Date by Area**	
	REDACTED	**REDACTED**	
Geographic Coverage	**No. (%) of provinces**	**No. of districts**	**No. of facilities**
	4	**12**	**192**
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Abbreviations

AMTSL	Active Management of the Third Stage of Labor
ANC	Antenatal Care
BEmONC	Basic Emergency Obstetric and Newborn Care
CDC	Centers for Disease Control and Prevention
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
CIDRZ	Center for Infection Disease Research in Zambia
DCHO	District Community Health Office
DHS	Demographic and Health Survey
DOD	Department of Defense
EID	Early Infant Diagnosis for HIV
EmONC	Emergency Obstetric and Neonatal Care
EMTCT	Elimination of Mother-to-Child Transmission of HIV
FP	Family Planning
IUCD	Intrauterine Contraceptive Device
KMC	Kangaroo Mother Care
MCDMCH	Ministry of Community Development, Mother and Child Health
MCH	Maternal and Child Health
MCHIP	Maternal and Child Health Integrated Program
MCSP	Maternal and Child Survival Program
MNCH	Maternal, Neonatal and Child Health
MOH	Ministry of Health
NBH	Newborn Health
PMP	Performance Monitoring Plan
PMTCT	Prevention of Mother to Child Transmission
PPH	Postpartum Hemorrhage
PPFP	Postpartum Family Planning
PPIUCD	Postpartum Intrauterine Contraceptive Device
RH	Reproductive Health
SIDA	Swedish International Development Agency
SMAG	Safe Motherhood Action Group
USAID	United States Agency for International Development
USG	United States Government
ZISSP	Zambia Integrated Systems Strengthening Project
ZPCT II	Zambia Prevention, Care and Treatment II

Acknowledgments

This report was 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 the Maternal and Child Survival Program (MCSP) and do not necessarily reflect the views of USAID or the United States Government.

MCSP would like to acknowledge the close collaboration and contributions of the Zambia Ministry of Health (MOH), Zambia Ministry of Community Development, Mother and Child Health (MCDMCH) and the district community health offices in Chipata, Choma, Kalomo, Lundazi, and Nyimba districts. In particular, we would like to acknowledge the leadership of the Luapula Provincial Health Office, Mansa District Community Medical Office and the Samfya District Community Medical Office. We would also like to thank the USAID Zambia Health, Population and Nutrition Team and recognize the staff of the following offices and organizations, including the Saving Mothers, Giving Life implementing partners, who helped to realize this project:

- Center for Infectious Disease Research in Zambia
- Elizabeth Glaser Pediatric AIDS Foundation
- Zambia Center for Applied Health Research and Development
- Zambia Integrated Systems Strengthening Program
- Zambia National Blood Bank Services
- Zambia Prevention, Counseling and Treatment II

MCSP would also like to acknowledge the contribution of program staff in Zambia and Washington, D.C:

- Kwame Asiedu, Country Director, Jhpiego Zambia; Country Representative, MCSP Zambia
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- Gabrielle Conecker, Senior Program Officer
- Samantha Holcombe, Senior Program Coordinator

Executive Summary

Although significant achievements in maternal, newborn and child health (MNCH) have been realized in Zambia, there is still much room for improvement. The Zambia Demographic Health Survey (ZDHS) 2013-14 indicates improvements in maternal mortality from 729 to an estimated 398 per 100,000 live births and infant mortality from 107/1,000 in 1992 to 45/1,000 in between 2001 and 2014. [1] Despite these achievements, Zambia still fell short of meeting the Millennium Development Goal (MDG) targets of maternal mortality ratio of 162/100,000 and infant mortality ratio of 35/1,000 by 2015. Many of these death are preventable, as can be evidenced by the 35% reduction observed in maternal deaths achieved in Saving Mothers, Giving Life (SMGL) districts through implementation of MNCH activities targeted at reducing the 3 delays to reduce preventable deaths.

In an effort to achieve Zambia's MDG targets, the Zambia Ministry of Health (MOH) and Ministry of Community Development, Mother and Child Health (MCDMCH) strategized to increase access to skilled delivery services at health facilities. Through the U.S. Government (USG)-led *Saving Mothers, Giving Life* (SMGL) endeavor, Zambia was selected as a pilot country to examine the effects that concentrated investments in demand creation and health facility improvement can have on maternal survival in phase one of the implementation. Through its public-private partnership, SMGL set the aspirational goal of reducing maternal mortality by 50% in target districts in one year by increasing the availability and use of high-impact maternal health services, particularly in the labor/delivery and immediate postpartum periods. In Phase 2 of implementation, which included implementation of MNCH activities through the MCSP, activities were scaled-up to addition districts based on the achievements gained in the initial pilot.

In Phase 1 of SMGL, USAID's Maternal and Child Health Integrated Program (MCHIP) worked to improve the delivery of high-impact maternal and newborn health services in 62 target facilities as well as serving as the clinical implementing partner in Helping Babies Breathe (HBB) in 179 target facilities. MCHIP saw promising results with substantial increases seen in successful resuscitation of babies not breathing at birth and proportion of women receiving care according to national standard in post-partum hemorrhage (PPH), pre-eclampsia and eclampsia (PE/E) as well as reductions of case fatality rates for deliveries.

USAID's Maternal and Child Survival Program (MCSP) focused on building upon the successes of Phase 1 with the goal of scaling up evidence-based, high-impact maternal, newborn and child health (MNCH) interventions to contribute to significant reductions in maternal and child mortality and progress toward Millennium Development Goals 4 and 5. Under SMGL, MCSP was designated as the main clinical implementing partner for Mansa, Chembe, Lunga, Kabwe and Samfya districts, where MCSP worked to improve the delivery of high-impact maternal and newborn health services in 87 target facilities. MCSP was also designated as the *Helping Babies Breathe* (HBB) clinical implementing partner for Chipata, Choma, Pemba, Zimba, Kalomo, Lundazi, and Nyimba districts, where the project reached a total of 105 target facilities.

In order to reduce maternal mortality by 50% in target districts and to reduce neonatal mortality, particularly due to birth asphyxia, MCSP worked with the MOH, MCDMCH, SMGL and other partners in SMGL target districts to achieve the following objectives:

1. Improve the quality of labor/delivery, postpartum and newborn health services in MOH/MCDMCH facilities in 12 SMGL target districts
2. Expand the availability of quality post-partum family planning services in MOH/MCDMCH facilities in Mansa/Chembe District

[1] Central Statistical Office (CSO), Ministry of Health (MOH), Tropical Diseases Research Center (TDRC), University of Zambia, and Macro International Inc. 20014. *Zambia Demographic and Health Survey 2013-14*. Calverton, Maryland, USA: CSO and Macro International Inc.

MCSP's approach to reaching these goals and objectives was to work closely across national, district, and community levels to revise and standardize national training packages, implement activities to improve the quality of clinical care, and generate demand for maternal health services.

> "…as a DMO/Leader I have appreciated mentorship than the traditional way of supervision in that mentorship makes our subordinates at ease. They can easily open up & discuss their weaknesses. This has led to enhanced work performance & achieve better results.
> From the time we started Mentorship program with Jhpiego in Samfya/Lunga district, it has shown that in addressing the gaps in terms of knowledge, skills & attitude, the mentorship approach is more effective than the traditional supervision.
>
> Transfer of knowledge & skills is easy with mentorship in that as a mentor you are actively involved, it's hands on kind of approach resulting in reduced knowledge/skills gap between mentor & mentee.
>
> *District Medical Officer*

Key interventions included:

- Maintaining and scaling up of E*mergency Obstetric and Neonatal Care* (EmONC), *Essential Care for Every Baby* (ECEB), and *Helping Babies Breathe* (HBB) services at all MOH and MCDMCH facilities that provide labor and delivery services in 5 target districts.
- Scaling up the HBB newborn resuscitation approach in 7 districts focusing on newborn resuscitation
- Maintaining and scaling up maternal death review and surveillance capacity in 5 target districts
- Strengthening long-acting reversible contraception (LARC) and postpartum family planning (PPFP)
- Maintaining and scaling up district-based clinical mentorship programs that provide on-site clinical support to build and sustain skills of providers in labor and delivery services

Over the course of a year, MCSP expanded its geographical coverage to include Kabwe district in Central Province. Capacity was built through training an additional 128 national EmONC trainers in three key ENC approaches (ECEB, HBB and KMC) and providing mentorship support to 429 providers across target SMGL districts. In addition to mentorship, MCSP supported clinical update meetings for mentors, recognition meetings for high-performing districts, and maternal death surveillance meetings for Luapula Province while gradually transferring ownership of this intervention process to the DCMO/PMO. Gains met need for EmONC, care according to national standards, and propervuse of partograph during delivery for clinical decision making.

In addition supporting capacity building and quality improvement initiatives at the facility level, MCSP supported demand generation and community-level support to increase uptake of facility-based labor/delivery and ENC services through training of 260 community-based Safe Motherhood Action Groups (SMAGs) members. This resulted in 100% of facilities in Mansa/Chembe and 83.9% of facilities in Samfya/Lunga (an increase from 35.5% at baseline) having active SMAGS within their communities who meet at least quarterly. In Mansa and Samfya, sustained increases in proportion of deliveries taking place in facilities has occurred, from 54.5% at baseline to 82.2% at endline in Mansa and 55.5% at baseline to 65.8% at endline in Samfya.

Under SMGL, MCSP and partners were tasked with an ambitious goal of reducing maternal mortality by 50% in target districts. Many lessons learned during the four years of SMGL implementation through MCHIP and then MCSP, resulting in recommendations for future program. The mentorship approach developed was found to be a low-cost intervention that could build upon and sustain the benefits of higher cost interventions in training and site strengthening while fostering a sense of community among providers. Key to the success of this program was intensive investment in a targeted geographic area that enabled pooled resources and local government engagement in coordinating and leading the process of implementation, resulting in quick results and local ownership of process.

Introduction

BACKGROUND

Although Zambia has made progress in reducing its maternal mortality ratio (from 729 to an estimated 398 per 100,000 live births) between 2001 and 2014[2]; much remains to be done to achieve Zambia's Millennium Development Goal (MDG) target of 162/100,000 by 2015 and any new sustainable development goals in the future. Infant mortality has also decreased from 107/1,000 in 1992 to 45/1,000 in 2014, making the MDG target of 35/1,000 within reach with continued work. The Zambia Ministry of Health (MOH) and Ministry of Community Development, Mother and Child Health (MCDMCH) have identified increasing access to skilled delivery services at health facilities as a key strategy in decreasing maternal and neonatal mortality. Facility births are on the rise in Zambia, with 67% of all pregnant women and 56% of pregnant women living in rural areas delivering at a health facility. However, delivery at a facility does not always guarantee access to a skilled provider. Similar to other countries in the region, Zambia faces severe human resource shortages in the health sector. A 2011 study of human resource shortage and distribution in Zambia found staff vacancy rates of 15% to 63% in rural health centers and 30% to 70% for level two referral hospitals.[3]

In an effort to achieve Zambia's Millennium Development Goal (MDG) targets, the Zambia Ministry of Health (MOH) and Ministry of Community Development, Mother and Child Health (MCDMCH) strategized to increase access to skilled delivery services at health facilities. To help facilitate this strategy, USAID/Zambia requested the support of the Maternal and Child Survival Program (MCSP) to assist MOH in achievement of these goals. MCSP is a global, USAID Cooperative Agreement to introduce and support high-impact health interventions with the ultimate goal of ending preventable maternal and child deaths within a generation. The program is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

MCSP in Zambia is a follow-on project to the Maternal and Child Health Integrated Program (MCHIP) which supported maternal and neonatal health (MNH) programming in Zambia from October 2011 to June 2014. MCHIP in Zambia began with the introduction of the U.S. Government (USG)-led *Saving Mothers, Giving Life* (SMGL) endeavor, a collaboration of the U.S. Agency for International Development (USAID), the U.S. Centers for Disease Control and Prevention (CDC), U.S. Department of Defense (DOD) and U.S. Peace Corps, as well as multiple implementing partners. Through SMGL, Zambia was selected as a pilot country to examine the effects that concentrated investments in demand creation and health facility improvement can have on maternal survival. Through its public-private partnership, SMGL set the aspirational goal of reducing maternal mortality by 50% in select target districts – beginning in four districts in 2011 and increasing to eight[4] in 2013 – by increasing the availability and use of high impact maternal health services, particularly in the labor/delivery and immediate postpartum periods. In July 2014, SMGL entered Phase II of implementation, expanding to a total of 16 districts, 12 of which will be supported by USG implementing partners.

In Phase I of SMGL, MCHIP was designated as the primary emergency obstetric and neonatal care (EmONC) clinical implementing partner for Mansa/Chembe and Samfya/Lunga districts and the *Helping*

[2] Central Statistical Office (CSO), Ministry of Health (MOH), Tropical Diseases Research Center (TDRC), University of Zambia, and Macro International Inc. 20014. *Zambia Demographic and Health Survey 2013-14*. Calverton, Maryland, USA: CSO and Macro International Inc.
[3] Ferrinho P, Siziya S, Goma F, and Dussault G. 2011. The human resource for health situation in Zambia: Deficit and maldistribution. *Human Resources for Health*. 2011; 9(1): 30. Published online December 19.
[4] In 2013, Mansa and Kalomo districts were divided into two additional districts: Mansa into Mansa and Chembe, and Kalomo into Kalomo and Zimba. Samfya/Chembe were also added to the SMGL target districts. As of July 2014, the new districts were still administered jointly with the districts from which they split and thus were absorbed into the SMGL program.

Babies Breathe (HBB) implementing partner for all SMGL districts. MCHIP's scope of work in Mansa/Chembe districts also included family planning (focusing on long-acting reversible contraception and postpartum methods) and postpartum hemorrhage (PPH) prevention through increasing uterotonic coverage in facilities (with active management of the third stage of labor) and in the community (with misoprostol).

In July 2014, USAID obligated one year of funding to MCSP in Zambia in order to continue the SMGL programs supported by MCHIP, with expansion to one Kabwe as an additional EmONC focus district. In Y1 of the global award, MCSP was designated as the primary EmONC and essential newborn care (ENC) clinical implementing partner for three districts – Mansa/Chembe, Samfya/Lunga and Kabwe – and the ENC clinical implementing partner for all USG-supported SMGL target districts, including Chipata, Choma/Pemba, Kalomo/Zimba, Lundazi and Nyimba. MCSP will also provide technical assistance in ENC to four SMGL districts supported by the Swedish International Development Agency (SIDA) – Petauke, Sinda, Mambwe and Vumbwi.

GOALS AND OBJECTIVES

In order to reduce maternal mortality by 50% in target districts and to reduce neonatal mortality, particularly due to birth asphyxia, MCSP worked with the MOH, MCDMCH, SMGL and other partners in SMGL target districts to achieve the following objectives:

1. Improve the quality of labor/delivery, postpartum and newborn health services in MOH/MCDMCH facilities in 12 SMGL target districts
2. Expand the availability of quality post-partum family planning services in MOH/MCDMCH facilities in Mansa/Chembe District

KEY INTERVENTIONS

In order to achieve the above goals and objectives, MCSP built upon accomplishments under MCHIP to continue and expand SMGL interventions through working at the national, district, and community levels to revise and standardize national training packages, implement activities to improve the quality of clinical care, and generate demand for maternal health services. Key interventions included:

Scale-up of EmONC/ENC services. MCSP focused the majority of its efforts in Mansa/Chembe, Samfya/Lunga, Kabwe, Choma/Pemba, Kalomo/Zimba, Lundazi, Chipata, and Nyimba districts. Working alongside the DCMOs, MCSP supported the scale-up of EmONC/ ENC services in 192 facilities in 12 districts. In Mansa, Chembe, Samfya, Lunga and Kabwe districts, MCSP supported the scale-up of EmONC/ENC services in all health facilities providing MNCH services while in Choma/Pemba, Kalomo/Zimba, Lundazi, Chipata, and Nyimba districts, focus was on the scale-up of ENC services. This was achieved through training of 44 healthcare providers in EmONC/ENC and 228 healthcare providers in ENC, including 57 national EmONC trainers.

Table 1. Training Breakdown, By District, By Sex

Training Details	*Samfya/ Lunga*		*Kabwe*		*Mansa/ Chembe*	
	Female	*Male*	*Female*	*Male*	*Female*	*Male*
MDSR	10	11	10	10		
EMNOC/HBB/ECEB	13	10	16	5		
ECEB (only)	17	20			13	10

In Eastern and Southern Province, MCSP trained 40 mentors who in turn mentored a total of 429 healthcare providers in ENC in 7 districts in HBB/ECEB.

Promotion of PPFP/LARC services. MCSP continued to support long-acting reversible contraception (LARC) and postpartum family planning (PPFP) services at seven high-volume health facilities in Mansa/Chembe District through monthly on-site mentorship to ensure that providers had the skills and confidence to deliver a variety of contraceptive methods to clients.

Routine on-site mentorship by trained district clinical mentorship teams. MCSP built upon previous success under MCHIP in Mansa/Chembe and Samfya/Lunga while also expanding into Kabwe by providing routine on-site mentorship to health facility providers through teams of district mentors to ensure sustained knowledge and application of skills acquired during in-service training. In Mansa/Chembe and Samfya/Lunga all 63 facilities that provide labor and delivery services were receiving mentorship support on at least a quarterly basis. In Kabwe district, 25 mentors were trained and began conducting mentorship support visits in May. With continued support in mentorship in Mansa and Samfya districts, improvements were recorded in other areas with successful resuscitation of babies not breathing at birth as well as increases in treatment according to national standards. Figure 2 below shows the proportion of women with postpartum haemorrhage receiving care according to national standards in Mansa.

In Southern and Eastern province, MCSP supported the mentorship in total of 105 facilities in HBB/ECEB. This support included rolling out the mentorship model used in Mansa and Chembe district under the MCHIP to support the improvement in the quality of service delivery in the target facilities.

RESULTS FRAMEWORK

Objective 1: Improve the quality of labor/delivery and postpartum/postnatal care services in MOH/MCDMCH facilities in 12 SMGL target districts

- **Result 1:** Improved performance in EmONC signal functions by healthcare providers in Kabwe, Mansa/Chembe and Samfya/Lunga districts
- **Result 2:** Improved performance in neonatal resuscitation and ENC by healthcare providers in 12 SMGL target districts

Objective 2: Expand the availability of quality post-partum family planning services in MCDMCH facilities in Mansa/Chembe District

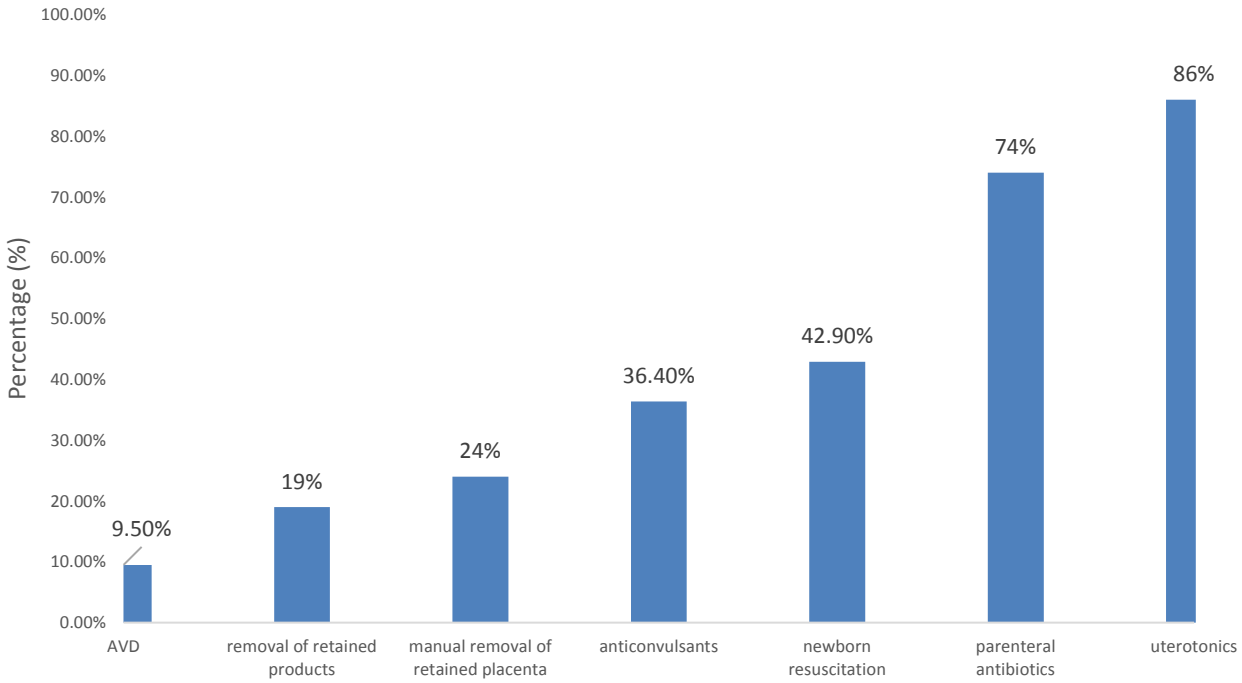
- **Result 1:** Increase the number of women with facility deliveries initiating post-partum family planning methods

Major Accomplishments

Objective 1: Improve the quality of labor/delivery and postpartum/postnatal care services in MOH/MCDMCH facilities in 12 SMGL target districts

Assessed target district health facilities for EmONC readiness
MCSP expanded its geographical coverage to include Kabwe District in Central Province. To determine and adequately address needed support from MCSP and the SMGL partnership, a health facility assessment of 28 health facilities was conducted to assess public health facilities for the availability of EmONC/ENC services, human resources, infrastructure and supplies. Simultaneously, knowledge assessments were conducted for a proportion of skilled labor/delivery service providers in the facilities to determine a baseline level of known of obstetric care practices prior to EmONC training and mentorship. The assessment focused on the period of January 2014 to December 2014. Results from the assessment indicated that Kabwe required interventions in improving health facility with regards to performance of EmONC signal functions. Findings showed that only 1 of 28 facilities provided 7 basic EmONC functions. Below Figure 3 shows the performance of EmONC functions across the 28 facilities.

Figure 1: Baseline Results on Reported Performance of EmONC signal functions in Kabwe, January -December 2014



Further, Kabwe district does not have a CEmONC facility and relies on the provincial referral hospital to provide the comprehensive EmONC functions. Baseline results also indicated that partograph use for clinical decision making was at 51% with only 14.7% correctly filled out. Treatming of women presenting pre-eclampsia/eclampsia with magnesium sulfate was at 24% (65/264 women treated with magnesium sulfate). The HFA baseline also indicated that during the period of review, 77% (66/85) women received care according to national standards for postpartum hemorrhage.

Built capacity of skilled healthcare providers to provide quality EmONC and ENC services
MCSP expanded the skillset of national trainers and trained additional healthcare providers. MCSP trained 128 national EmONC and ENC trainers in three key ENC approaches – ECEB, HBB and KMC – to facilitate integration of these approaches into all EmONC trainings in Zambia. MCSP provided training and mentorship in EmONC/ENC to 43 healthcare providers in five SMGL target districts (Kabwe, Mansa/Chembe, and Samfya/Lunga) and additional trainings and mentorship in ENC were provided to Choma/Pemba, Kalomo/Zimba, Nyimba, Chipata and Lundazi resulting in 40 providers trained and 429 providers receiving mentorship. Trainings utilized the national EmONC training package with integrated newborn resuscitation component using the HBB approach. For ENC training, an integrated newborn resuscitation HBB/ENC/ECEB training package was utilized.

Experience in Zambia demonstrates that in-service training alone is insufficient to improve service delivery. Building upon successes under MCHIP, MCSP worked alongside DCHOs to provide continued support for clinical mentorship programs in EmONC and ENC in Mansa/Chembe and Samfya/Lunga, with 100% of MCSP target facilities in these districts receiving at least quarterly supervision and mentorship visits in EmONC, as well as supporting development of clinical mentorship in Kabwe. MCSP also supported mentorship programs focused on ENC in Choma/Pemba, Kalomo/Zaimba and Nyima. The increase in quality of care has been especially evident in Mansa/Chembe and Samfya/Lunga, with increases since baseline in women giving birth receiving uterotonic within one minute of birth (91% to 94.7% in Mansa/Chembe and 66.3% to 97.3% in Samfya/Lunga), deliveries being managed using the partograph (0% to 69.3% in Mansa/Chembe and 25% to 48.5% in Samfya/Lunga). Additionally, the proportion of women with PPH receiving care according to national standards in Mansa/Chembe and Samfya/Lunga is currently 96.5% and 100% respectively.

Figure 1 below shows the results on uterotonic use in Samfya district during the implementation of MCSP indicating an increase over 1 year of implementation. Figure 2 below shows the proportion of women with postpartum haemorrhage receiving care according to national standards in Mansa.

Figure 2. Provision of a uterotonic immediately after birth to prevent PPH in Samfya District

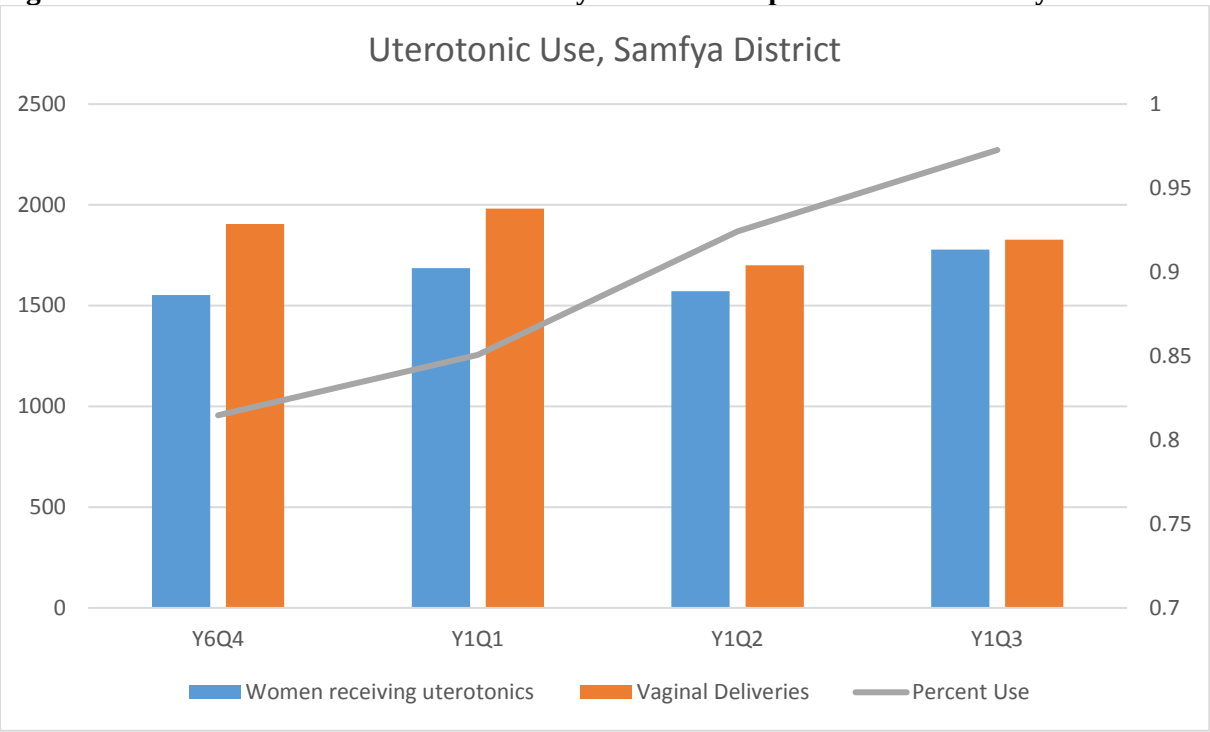
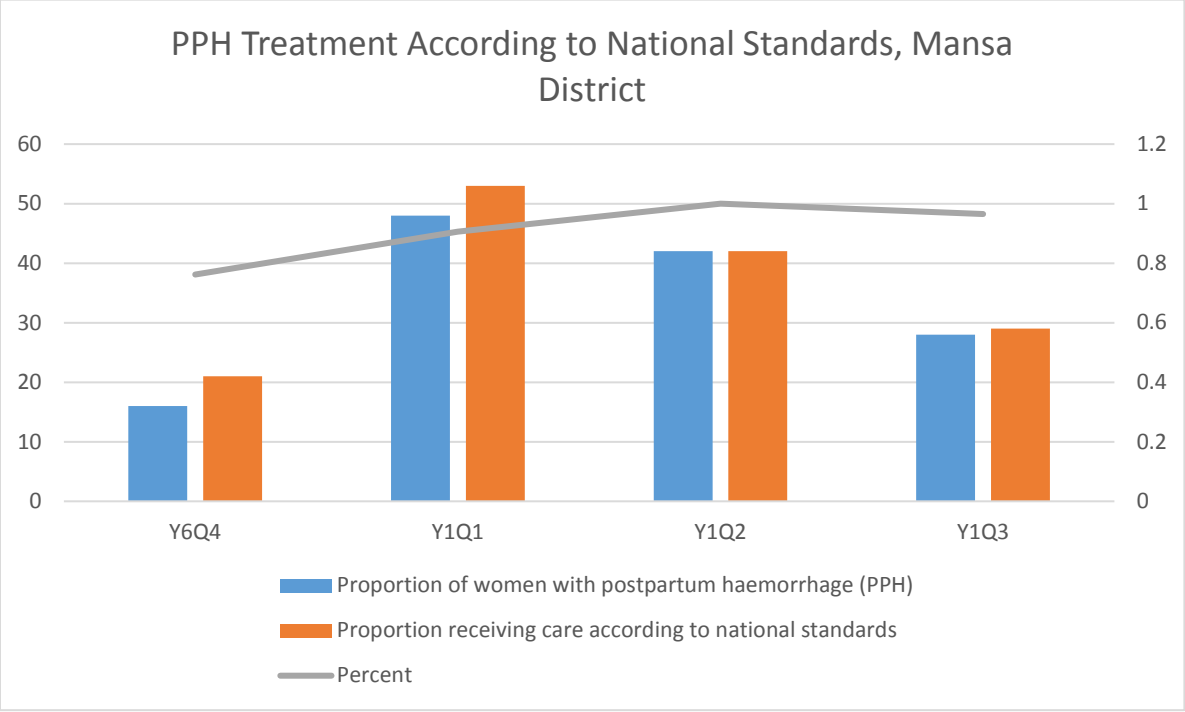


Figure 3. PPH cases treated according to national standards, Mansa District



Mentorship was also utilized to ensure integrated of EMTCT and EmONC. During mentorship visits, MCSP technical officers worked with ANC and labor/delivery providers to ensure that HIV testing at ANC visits and dry blood spot testing after delivery were routinely and correctly performed and that ARVs were administered according to National Option B+ guidelines.

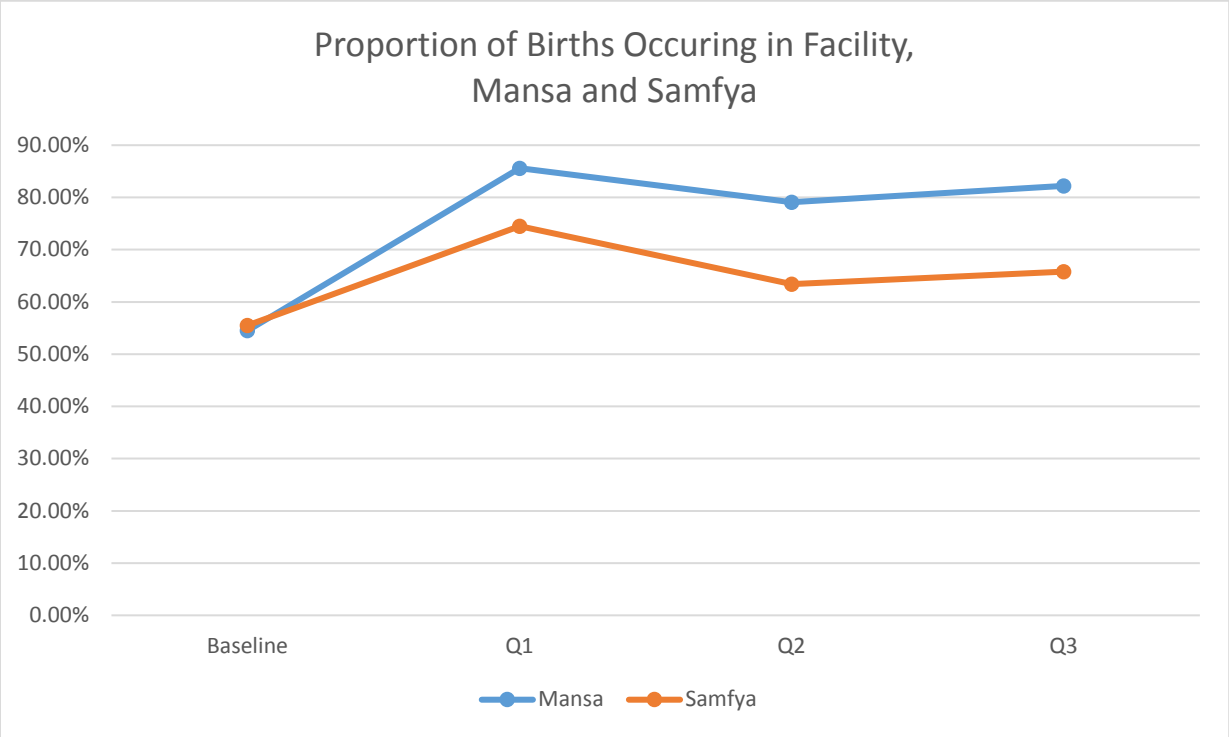
Improving facility capacity to support delivery of EmONC and ENC services
To improve facility capacity to support delivery of EmONC and ENC services, MCSP continued to second six retired midwives to Mansa/Chembe District health facilities to address critical human resource challenges. Additionally, MCSP provided basic models and other EmONC supplies and materials to include NeoNatalies, penguin suckers, various infection prevention and control supplies. For equipment and material support, MCSP provided materials and support for health facilities in 5 districts in Zambia as per Table 2 below. Supplies distributed ensure that providers at targeted facilities not only had the materials to for successful service delivery of EmONC and ENC services but also the materials needed for regular simulation-based practice to sustain capacity building efforts.

Table 2. Supplies and Materials Procured and Distributed

Item	Total Procured
MamaNatalie	18
NeoNatalie	135
Penguin Suctions	200
Breastfeeding Model w/Preemie	21
Advanced Birth Simulator	4
Madam Zoe	6
HBB Faciliator Packs	100
HBB Learner Guides (pack of 20)	26
ECEB Facilitator Pack	100
ECEB Learner Guides (pack of 20)	34
HMS Facilitator Packs	80
HMS Learner Guides (pack of 20)	32
Mama-U	2
Laerdal Headlamp	251
ECEB (HBS) Wall Posters (pack of 5)	68
Bag and mask	60
HMS Action Plans	105
HBB Action Plans	200
Mag Sulfate Job Aid	75

Community-level support to increase uptake of facility-based labor/delivery and ENC services
MCSP trained 260 community-based Safe Motherhood Action Groups (SMAGs) members, who are well-respected within their communities, to deliver key messaging and promote delivery at health facilities, access to family planning, and ANC and postnatal services. This resulted in 100% of facilities in Mansa/Chembe and 83.9% of facilities in Samfya/Lunga (up from 35.5% at baseline) having active SMAGS who meet at least quarterly. SMAG members were provided with supplies and promotional materials (such as umbrellas and gum boots for rainy season) to support their work, received continuous mentorship over the course of the project to build knowledge and capacity in promotion activities. The SMAGs provided support towards increasing the utilization of facility based services while also providing an opportunity for continued care for women and neonates while in the community. SMAG's also further strengthened the community to facility referral pathway to support increased uptake of MNCH services by the communities. Figure 4 below depicts the increases in proportion of all births that occurred in facilities from baseline to endline.

Figure 4. Proportion of all births that occur in facilities, Mansa and Samfya Districts

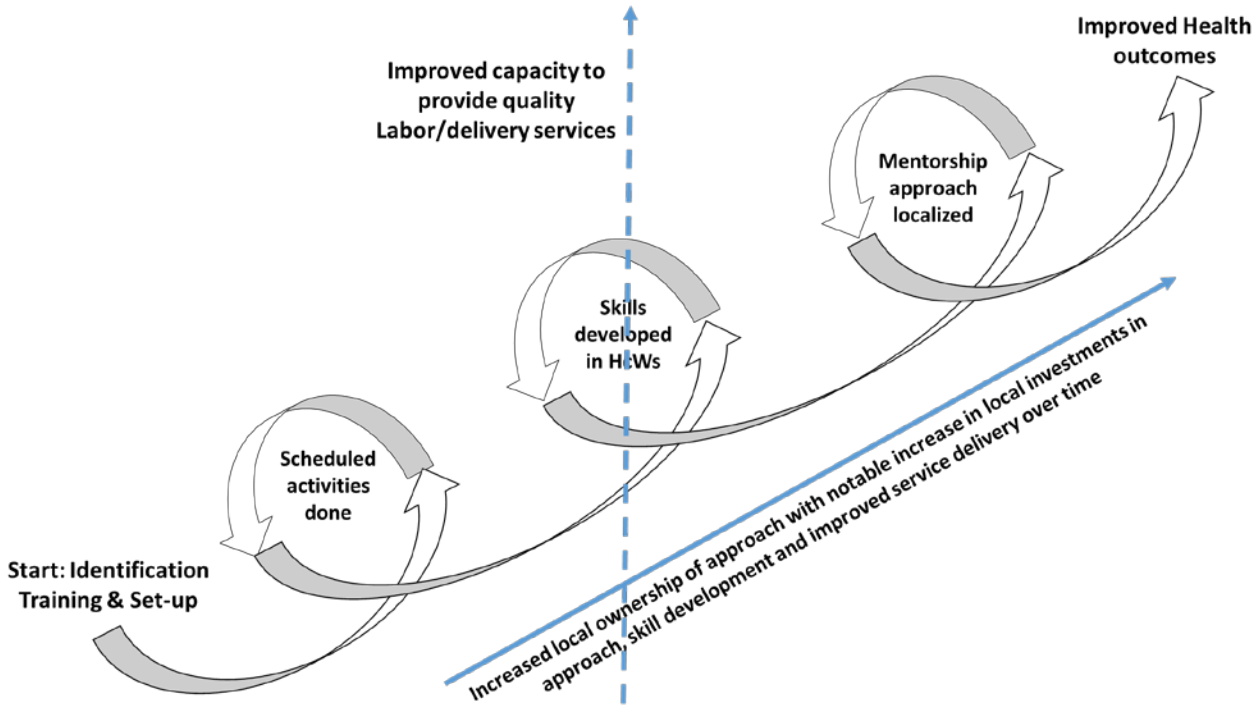


Sustained capacity to support GRZ in delivery of EmONC and ENC services

To sustain and support the MCDMCH/MOH to maintain capacity to deliver quality EmONC and ENC services, MCSP continued to support the implementation of mentorship, clinical update meetings, recognition meetings, and maternal death surveillance meetings for Luapula province. Support of these activities enabled the DCMO/PMO to continue in the delivery of quality labor and delivery services while building capacity and gradually owning the process for sustainability in the future.

Through the implementation of various low-cost high impact MNCH interventions, MCSP in collaboration with MOH/MCDMCH developed a sense of community among the providers and mentors in Luapula province. This led to the development of peer-to-peer mentorship activities and hybrid localized online mentorship approaches through the expanded use of the mobile *"Whats App"* application to increase mentorship support to providers in various health facilities. These activities occurred outside the scheduled mentorship schedule of MCSP and were an initiative of the government mentors trained under MCHIP/MCSP and the healthcare providers within the facilities in Luapula. Figure 4 visualizes the mentorship process in Luapula.

Figure 5. Mentorship cycle in Luapula



Objective 2: Expand the availability of quality post-partum family planning services in MCDMCH facilities in Mansa/Chembe District

With an unmet need for family planning of 27%, LARC and PPFP methods providing long-term protection have the ability to significantly, impact Zambian's ability to plan, space and limit their pregnancy, ultimately improving the health of women and families. A training of trainers in LARC and PPFP in Mansa/Chembe under MCHIP resulted in successful uptake of the Jadelle implant (from 0 to 552 women at eight facilities), however uptake of IUCD and PPIUCD remained low. Under the MCSP, support continued for uptake of family planning services and the project reached a total of 727 women with LARC methods, including Jadelle and PPIUD (115 PPIUD).

MCSP continued focused support at these seven facilities, providing monthly, on-site mentorship to ensure that service providers' competence and confidence in insertion and removal of IUCD and PPIUCD was maintained so it could continue to be offered as part of the contraceptive method mix for eligible clients. As a result, couple years of protection (CYP) for PPIUCD in MCSP FP target facilities in Mansa/Chembe has increased from 0 at baseline to 82.8 during Q3. Under the MCSP, realized a total of 3,010.4 CYPs cumulatively by Q3 of the MCSP project year.

Recommendations and Way Forward

Under SMGL, MCSP and partners were tasked with an ambitious goal of reducing maternal mortality by 50% in target districts. At the end of Phase 1, CDC-led maternal mortality audit showed that SMGL had achieved remarkable results indicating a 35% reduction in maternal mortality in the 4 primary target districts. The following are lessons learned during SMGL implementation and recommendations for future programming.

- **Mentorship is a low-cost, high-impact intervention that can effectively build upon and sustain the benefits of higher cost interventions in training and site strengthening**
  The clinical mentorship program in Mansa, Chembe, Lunga, and Samfya districts was key to the success of MCHIP and now MCSP in Zambia. With strong leadership from the PMO/DCMOs, mentorship has the potential to be the most cost-effective intervention to scale up and sustain quality clinical EmONC and FP services. At a cost of less than three thousand dollars a month, MCSP and the PMO/DCMOs were able to provide on-site clinical support to every health facility in the districts on a monthly basis. This is a significantly lower cost than the seventy thousand dollars needed to train 20 healthcare providers in a three-week, off-site EmONC training. Through mentorship, the program not only ensured that high-quality EmONC services were delivered consistently, but also altered the relationship between health care providers and supervisors/mentors. Within a few months of the program's start, providers began to welcome mentors into their health facilities and were able to voice and request assistance in filling gaps rather than feel that they had to hide their shortcomings. The positive shift in morale from the DCMO down to health facilities was an important result of the program and will be essential to continued service delivery improvements over time.

- **The low-dose, high-frequency mentorship model led to the development of more sustainable approaches and a sense of community among providers.**
  The clinical mentorship program in Luapula and Kabwe aspired to build a sense of community through the low-dose, high-frequency approach. In Luapula, the structured mentorship, over the period of implementation, created a community within the providers in which providers communicated informally leading to the development of a "***WhatsApp***" platform and strong peer-to-peer support and relationships outside of structured and scheduled mentorship visits. This led to the establishment of a more effective and sustainable approach as the provider identified with the approach as one which was indigenous, localized and responsive to their needs as a community of providers in Luapula. Similar trends are likely to be observed in other areas where such a mentorship model will be implemented.

- **Investments in government to coordinate and lead the process of implementation leads to cost-effective, successful and sustainable programs**
  Through strong collaborations with MCDMCH/MOH in Luapula province, MCSP built capacity in government to lead and support the process of implementing activities. In Luapula, MOH scaled up the process of mentorship by introducing the approach in other districts that were not targeted using its own funding. Mentors from the provincial and district health offices were used as lead in the roll-out of this services to other districts. Though not as intensive as implementation in the target districts due to constraints in funding being experienced by government, the approach proved to be cost-effective, scalable, and sustainable. Further, the Luapula GRZ mentor team also served as a resource in the scale-up process for Kabwe, making it easier to set-up the MCSP implementation approach in Kabwe as Kabwe DCMO/ PMO viewed the approach as applicable from a peer-to-peer view point.

- **Intensive investment in limited geographic/administrative areas can produce quick and potentially sustainable results**
  In an effort to bring programs to scale, many large, donor-funded programs spread interventions over many districts or provinces, demonstrating little overall impact in each. By contrast, SMGL

concentrates significant human and financial resources into a small number of districts and toward a single goal. In doing so, partners are better able to meet the holistic set of needs that support improved access to maternal and newborn health (MNH) services—not only training, but also hiring additional midwives; not only purchasing equipment, but also providing lighting and radio communication; not only supplying bicycle ambulances, but also vehicle ambulances. With each of these components supporting the others, greater impact is achieved from their sum. Furthermore, when DCMOs receive such comprehensive support, they are more apt to form a true partnership with donors and partners, assume a leadership role, and invest their own resources to ensure program success.

- **Collaboration among implementing partners is best achieved when partners share common, key priorities**
  Although there were some differences in implementation strategies between SMGL districts, in general, the common priority of improving access to EmONC in order to reduce maternal mortality facilitated cooperation and leveraging of expertise among the various SMGL partners. In Southern and Eastern Provinces, MCSP further supported the implementation of ENC services in the scale-up of HBB/ ECEB in seven districts vis-à-vis Chipata, Pemba, Zimba, Choma, Kalomo, Lundazi, and Nyimba. Despite this successful roll-out, a need for a comprehensive approach integrating mentorship for the mother and the newborn provides a stronger and more effective response and increases the opportunity for integration of other services.

Appendix A: Indicator Matrix

PERFORMANCE MONITORING PLAN (PMP) –District Baselines to Endline

Indicators marked with a "" are SMGL Core and EmONC Monitoring Indicators.*
Baseline dates vary by district due to differences in implementation dates in each district. Baseline data for Mansa/Chembe and Samfya/Lunga were collected during implementation of USAID-funded MCHIP, of which MCSP was a follow on to. Baseline dates are as follows: Mansa/Chembe: October 2011-December 2011; Samfya/Lunga: October 2013-December 2013; Kabwe: October 2014-December 2014.

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)	
	Input Indicators						
1	Proportion of facilities with functional communication systems for emergency referral*	Numerator = facilities with functional communication systems (high-frequency radio and/or facility-owned telephone) for emergency referral Denominator = all facilities offering antenatal, delivery, and postnatal services	Facility assessment	Quarterly	**Baseline: 10% (3/30)** **Y1 Q3: 71.9% (23/32)**	**Baseline: 64.5% (20/31)** **Y1 Q3: 71% (22/31)**	However all facilities staff own personal phones which they use for communication in facilities with no facility radio/landline
2	Proportion of facilities with functional transportation systems for emergency referral*	Numerator = facilities with functional transportation systems for emergency referral Denominator = all facilities offering antenatal, delivery, and postnatal services	Facility assessment	Quarterly	**Baseline: 46%** **Y1 Q3: 93.7% (30/32)**	**Baseline: 54.8% (17/31)** **Y1 Q3: 77.4% (24/31)**	For Samfya transport rarely arrives within 1hour due to long distances and the poor state of roads. This also includes the 6facilities on the waters as well.
3	Proportion of facilities with active SMAGs*	Numerator = number of facilities where SMAGS meet at least quarterly Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Facility assessment, Monthly SMAG meeting minutes	Quarterly	**Baseline: 96.7% (29/30)** **Y1 Q3: 100% (31/31)**	**Baseline: 35.5% (11/31)** **Y1 Q3: 83.9% (26/31)**	
4	Proportion of facilities with parenteral antibiotics in stock in the last three months*	Numerator = facilities with parenteral antibiotics in stock in the last three months Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline: 3.2% (1/31)** **Y1 Q3: 3.1% (1/32)**	**Baseline: 12.9% (4/31)** **Y1 Q3: 41.9% (13/31)**	Facilities rarely stock all the 3 essential antibiotics. Metronidazole and Ampicillin Injection

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	**Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)**	
							are rarely used and hence rarely stocked for fear of expiring. These drugs are also said to be expensive and hence only designated facilities are allowed to order. It is only Gentamicin Injection which is usually in stock in most facilities
5	Proportion of facilities with uterotonic drugs (or oxytocics) in stock in the last three months*	Numerator = facilities with uterotonic drugs (or oxytocics) in stock in the last three months Denominator = all target facilities	Bin stock-control cards	Quarterly	**Baseline: 93.6% (29/31)** **Y1 Q3: 100% (32/32)**	**Baseline: 96.8% (30/31)** **Y1 Q3: 100% (31/31)**	
6	Proportion of facilities with anticonvulsants in stock in the last three months*	Numerator = facilities with anticonvulsants in stock in the last three months Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline : 93.6% (29/31)** **Y1 Q3: 93.7% (30/32)**	**Baseline: 100% (31/31)** **Y1 Q3: 93.5% (29/31)**	
7	Proportion of facilities with MgSO4 in stock	Numerator = facilities with MgSO4 in stock Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline : 74.2% (23/31)** **Y1 Q3: 9.4% (3/32)**	**Baseline: 12.9% (4/31)** **Y1 Q3: 38.7% (12/31)**	Central-level stock-out of MgSO4
8	Proportion of facilities in which at least one short-term family planning method is always available*	Numerator = number of facilities in which at least one short term family planning method is always available Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline : 100% (31/31)** **Y1 Q3: 100% (32/32)**	**Baseline: 93.6% (29/31)** **Y1 Q3: 93.6% (29/31)**	Lubwe and Kasaba Mission Hospitals do not provide family planning services
9	Proportion of facilities in which at least one long-term family planning method is always available*	Numerator = number of facilities in which at least one long-term family planning method is always available Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline(Jan-Mar13): 48.4% (15/31)** **Y1 Q3: 68.7% (22/32)**	**Baseline: 71% (22/31)** **Y1 Q3: 67.7% (21/31)**	
10	Proportion of facilities with functional mother's shelter	Numerator = number of facilities with functional mother's shelter Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Facility assessment	Quarterly	**Baseline: 3.2% (1/31)** **Y1 Q3: 31.2% (10/32)**	**Baseline: 19.4% (6/31)** **Y1 Q3: 19.4% (6/31)**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)	
11	Number of healthcare providers who complete EmONC in-service training, disaggregated by gender	# of male and female healthcare providers from MCSP-supported facilities who receive 3-week in-service training in key EmONC functions	MCSP Training Reports, TIMS	Quarterly	**Baseline: 16** **Y1 Q3: 127 (F=76, M=51)**	**Baseline: 15** **Y1 Q3: 61 (F=28, M=33)**	
12	Number of provincial and district MCDMCH staff trained as trainers in ENC using the HBB approaches, disaggregated by gender	# of male and female provincial staff who complete and attain competency in ENC training of trainers using the HBB approaches	MCSP Training Reports, TIMS	Quarterly	**Baseline: 0** **Y1 Q3: 13 (F=9, M=4)**	**Baseline: 0** **Y1 Q3: 0**	
12a	Number of provincial and district MCDMCH staff trained as trainers in ENC using the HBB and ECEB approaches, disaggregated by gender	# of male and female provincial staff who complete and attain competency in ENC training of trainers using the HBB and ECEB approaches	MCSP Training Reports, TIMS	Quarterly	**Baseline: 0** **Y1 Q3: 0**	**Baseline: 0** **Y1 Q3: 0**	
13	Number of healthcare providers trained in ENC using the HBB approaches, disaggregated by gender	# of male and female healthcare providers who complete and attain competency in ENC using the HBB approaches	MCSP Training Reports, TIMS	Quarterly	**Baseline : 0** **Y1 Q3: 192 (F=113, M=79)**	**Baseline: 0** **Y1 Q3: 54 (F=24, M=30)**	
13a	Number of healthcare providers trained in ENC using the HBB and ECEB approaches, disaggregated by gender	# of male and female healthcare providers who complete and attain competency in ENC using the HBB and ECEB approaches	MCSP Training Reports, TIMS	Quarterly	**Baseline : 0** **Y1 Q3: 23 (F=13, M=10)**	**Baseline: 0** **Y1 Q3: 37 (F=17, M=20)**	
14	Number of provincial and district MOH staff trained in mentorship, disaggregated by gender	Number of male and female MOH provincial staff trained in mentorship and thereby qualified to participate in mentorship teams	MCHIP Training Reports, TIMS	Quarterly	**Baseline: 3** **Y1 Q3: 24 (F=13, M=11)**	**Baseline: 0** **Y1 Q3: 21 (F=8, M=13)**	
15	Proportion of target facilities receiving quarterly supervision and mentorship visits in EmONC	Numerator = Facilities that receive quarterly mentorship visits in EmONC by MCSP supported mentorship teams Denominator = All MCSP target facilities	Mentorship Visit Reports	Quarterly	**Baseline: 0** **Y1 Q3: 100% (32/32)**	**Baseline: 0** **Y1 Q3: 100% (31/31)**	
16	Proportion of FP target facilities receiving quarterly supervision and mentorship visits in LARC and PPFP	Numerator = FP target facilities that receive quarterly mentorship visits in LARC and PPFP by MCSP supported mentorship teams Denominator = All FP target facilities	Mentorship Visit Reports	Quarterly	**Baseline: No data** **Y1 Q3: 100% (8/8)**	N/A	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)	
	Output Indicators						
17	Met need for EmONC services*	Numerator = women with obstetric complications treated in EmONC facilities[5] Denominator = expected number of obstetric complications[6] (estimated as 15% of expected births)	Delivery register	Quarterly	**Baseline: 22.7% (98/432)** **Y1 Q3: 24.8% (117/471)**	**Baseline: 19.9% (82/412)** **Y1 Q3: 25.8% (110/427)**	Only includes: MGH, Chembe RHC and Senama UHC; Lubwe RHC, Kasaba RHC and Samfya DH
17a	Met need for EmONC services* at facilities performing all key EmONC functions excepting assisted vaginal delivery (AVD)	Numerator = women with obstetric complications treated in facilities performing all EmONC functions minus AVD, Denominator = expected number of obstetric complications[2] (estimated as 15% of expected births)	Delivery register	Quarterly	**Baseline: 31.9% (138/432)** **Y1 Q3: 34.2% (161/471)**	**Baseline: 23.3% (96/412) All facilities** **Y1 Q3: 31.4% (134/427)**	All facilities
18	Number of designated basic and comprehensive EmONC facilities performing all of their respective EmONC signal functions*	Number of designated basic EmONC facilities that are performing all 7 of the basic EmONC signal functions; number of designated comprehensive EmONC facilities that are performing all 9 of the comprehensive EmONC signal functions	Facility assessment	Quarterly	**Baseline: 3.3% (1/30)** **Y1 Q3: 3.1% (1/32) performed all 9functions; 3.1% (1/32) facilities performed at least 6/7 BEmONC functions**	**Baseline: 3.2 % (1/31) performed all 9functions; 6.5% (2/31) facilities performed at least 7 BEmONC functions** **Y1 Q3: 0 % (0/31) performed all 9functions.** **3.2 % (1/31) facilities performed at least 7 BEmONC functions**	Many low volume facilities see low rates of complications and so performance of all EmONC functions each quarter is not necessary

[5] "EmONC facility" defined as only those facilities that performed all 7 BEmONC or all 9 CEmONC functions during the quarter.

[6] Direct obstetric complications occur during pregnancy or within 42 days of the end of pregnancy and include the following:

- Hemorrhage
- Prolonged/obstructed labor
- Postpartum sepsis
- Complications of abortion
- Severe pre-eclampsia/eclampsia
- Ectopic pregnancy
- Ruptured uterus

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	**Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)**	
19	Proportion of all births that occur in facilities*	Numerator = number of births that occur in health facilities in a specified period Denominator = expected number of births in the same period	Delivery register	Quarterly	**Baseline: 54.5% (1572/2882)** **Y1 Q3: 82.2% (2581/3138)**	**Baseline: 55.5% (1523/2744** **Y1 Q3: 65.8% (1871/2844)**	
19a	Proportion of all births that occur in designated BEmONC and CEmONC facilities[7]*	Numerator = number of births in designated BEmONC and CEmONC facilities that occur in a specified period, Denominator = expected number of births in the same period	Delivery register	Quarterly	**Baseline: 54.5% (1572/2882)** **Y1 Q3: 82.2% (2581/3138)**	**Baseline: 55.5% (1523/2744** **Y1 Q3: 65.8% (1871/2844)**	
20	Proportion of facility births attended by a skilled health care worker[8]*	Numerator = births attended by a skilled health care worker Denominator = all births in facilities offering delivery services	Delivery register	Quarterly	**Baseline(Jan-Mar13): 84.8% (1888/2227)** **Y1 Q3: 86.2% (2224/2581)**	**Baseline: 63.2% (963/1523)** **Y1 Q3: 67.5% (1263/1871)**	
23	Cesarean sections as a percentage of all births*	Numerator = births by cesarean section in EmONC facilities Denominator= expected number of births	Delivery register, operating theatre register	Quarterly	**Baseline: 2.9% (87/3011)** **Y1 Q3: 4.2% (132/3138)**	**Baseline: 1.6% (45/2744)** **Y1 Q3: 1.4% (40/2844)**	
24	Proportion of women giving birth in target facilities receiving a uterotonic within one minute of birth	Numerator = number of women giving birth in target facilities receiving a uterotonic immediately following birth Denominator = all vaginal deliveries in target facilities	Delivery register	Quarterly	**Baseline: 91% (1351/1485)** **Y1 Q3: 94.7% (2318/2448)**	**Baseline: 66.3% (966/1457)** **Y1 Q3: 97.3% (1778/1828)**	

[7] "Designated EmONC facility" defined as facility trained and mentored in EmONC

[8] A skilled health care worker is defined as "an accredited health professional—such as a midwife, doctor, clinical officer or nurse—who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postpartum period, and in the identification, management, and referral of complications in women and newborns" (WHO, 2008). Traditional birth attendants are excluded from this category.

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)	
25	Proportion of deliveries with partographs	Numerator = client files with Partographs Denominator = total number of deliveries	Client files	Quarterly	**Baseline: 0% (1/1572)** **Y1 Q3: 69.3% (1790/2581)**	**Baseline: 25%(381/1523)** **Y1 Q3: 48.5% (907/1871)**	
26	Proportion of Partographs correctly filled out and used for appropriate clinical decision making	Numerator = Partographs correctly filled out Denominator = all Partographs filled out	Client files	Quarterly	**Baseline : 0% (0/1572)** **Y1 Q3: 89.7% (1606/1790)**	**Baseline: 72.7% (277/381)** **Y1 Q3: 85.1% (772/907)**	
27	Proportion of women with severe Pre-eclampsia or Eclampsia treated with magnesium sulfate injection	Numerator = No. of women with severe Pre-eclampsia or Eclampsia treated with magnesium sulfate injection, Denominator = Total no. of women with severe Pre-eclampsia or Eclampsia	Client files	Quarterly	**Baseline: No data** **Y1 Q3: 86.7% (13/15)**	**Baseline: No data** **Y1 Q3: 100% (4/4)**	
28	Proportion of women with postpartum haemorrhage (PPH) receiving care according to national standards	Numerator = clients with indications of PPH receiving documented care and/or appropriate referral according to national standards Denominator = all clients with indications of PPH	Client files	Quarterly (at Mansa/Chembe General Hospital only)	**Baseline(Jan-Mar13): 76.2% (16/21)** **Y1 Q3: 96.5% (28/29)**	**Baseline: 100% (15/15)** **Y1 Q3: 100% (30/30)**	
29	Proportion of women delivering in MCSP FP target facilities receiving an IUCD insertion prior to discharge	Numerator= # of women delivering in MCSP FP target facilities receiving an IUCD insertion prior to discharge; Denominator = number of women delivering in all MCSP FP target facilities	Delivery Register, FP register	Quarterly	**Baseline(Jan-Mar13): 0% (0/1572)** **Y1 Q3: 1.1% (18/1645)**	**N/A**	Only for MGH,Buntingwa,Chembe,Kalaba,Kalyongo,Mabumba,Ndoba and Senama
29a	CYP for PPIUCD in MCSP FP target facilities	Conversion factor for Copper-T380-A IUD = 4.6 CYP per IUD inserted	Delivery Register, FP register	Quarterly	**Baseline(Jan-Mar13): 0 CYP (4.6*0)** **Y1 Q3: 82.8 CYP (4.6*18)**	**N/A**	
30	Number of women receiving an insertion of the Jadelle contraceptive implant in MCSP FP target facilities	Number of women receiving an insertion of the Jadelle contraceptive implant in MCSP FP target facilities	FP Register	Quarterly	**Baseline(Jan-Mar13): 117** **Y1 Q3: 170**	**N/A**	Only for MGH,Buntingwa,Chembe,Kalaba,Kalyongo,Mabumba,Ndoba and Senama
30a	CYP for Jadelle contraceptive implant in MCSP FP target facilities	Conversion factor for the 5-year Jadelle contraceptive implant = 3.8 CYP per implant	FP Register	Quarterly	**Baseline: 444.6 CYP (3.8*117)** **Y1 Q3: 646 CYP (3.8*170)**	**N/A**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	**Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)**	
31	Proportion of new-borns who received all four elements of essential new-born care (ENC)[6]	Numerator = live births in target facility receiving ENC[9], Denominator = all live births in target facility	Client files, Delivery register	Quarterly	**Baseline : 98% (1501/1517)** **Y1 Q3: 92.8% (2336/2517)**	**Baseline:100% (1486/1486)** **Y1 Q3: 96.1% (1764/1835)**	Babies born through caesarian section are rarely breast fed within 1hr
32	Proportion of babies not breathing at birth that were successfully resuscitated	Numerator = newborns not breathing at birth that are successfully resuscitated at target facilities Denominator = all newborns not breathing at birth at target facilities	Client files, Delivery register	Quarterly	**Baseline(Jan-Mar13): 60.8% (101/166)** **Y1 Q3: 98.4% (183/186)**	**Baseline: 96.8% (61/63)** **Y1 Q3: 80.4% (45/56)**	
33	Number of women who have had at least 1 ANC visit during first trimester	Number of pregnant women who attended at least one antenatal care visit with care provided by *skilled health personnel* at during their first trimester of pregnancy	Safe Motherhood register	Quarterly	Baseline: No data Y1 Q3: 230	Baseline(Jan-Jun13): No data Y1 Q3: 289	Documentation of gestation of pregnancy is still a challenge. Mentorship on this is ongoing.
34	Proportion of women who attend at least four times for antenatal care during pregnancy	Numerator = Number of women ages 15 to 49 with live births who attended ANC four or more times during most recent pregnancy Denominator = Total number of women with live births within the reference period	Safe Motherhood register	Quarterly	**Baseline: No data** **Y1 Q3: 6.6% (166/2517)**	**Baseline: No data** **Y1 Q3: 13.1% (240/1835)**	Documentation of ANC revisits is still a challenge. Mentorship on this is ongoing.
35	Number of women who stayed in a mother's shelter prior to delivery in a facility	Number of pregnant women who stay in a mother's shelter prior to delivery.	Mothers' Shelter register	Quarterly	**Baseline: No data** **Y1 Q3: 14**	**Baseline: No data** **Y1 Q3: 136**	Mother's shelters being shunned because of luck of food supplies
36	Proportion of infants breast fed within 1 hour of birth among facility-based live births	Numerator = Number of newborns put to the breast within 1 hour of delivery Denominator = Total number of live births	Delivery register	Quarterly	**Baseline: No data** **Y1 Q3: 93.5% (2353/2517)**	**Baseline: No data** **Y1 Q3: 96.1% (1764/1835)**	Babies born through caesarian section are rarely breast fed within 1hr
37	Proportion of pregnant women with known HIV status (includes women who were tested for HIV and received their results)	Numerator = The number of women with known (positive) HIV infection attending ANC for a new pregnancy over the last reporting period including number of women attending ANC, L&D who were tested for HIV and received results Denominator = all women attending ANC for a new pregnancy in the reporting period	HMIS reports PMTCT Register	Quarterly	**Baseline: No data** **Y1 Q3: 87.4% (2811/3217)**	**Baseline: No data** **Y1 Q3: 90.8% (2825/3111)**	

[9] ENC is defined as: A package of basic care including: 1) immediate and thorough drying; 2) immediate skin-to-skin contact; 3) delayed cord clamping; 4) initiation of breastfeeding in the first hour.

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)	
38	Proportion of HIV-positive pregnant women who receive ARVs or ART to reduce mother-to-child-transmission during pregnancy and delivery	Numerator = Number of HIV-positive pregnant women who received antiretroviral for prophylaxis or treatment during pregnancy or during labor and delivery (L&D) Denominator = Number of HIV-positive pregnant women identified in the reporting period (including known HIV-positive at entry)	HMIS reports PMTCT Register MTCT labor ward register	Quarterly	**Baseline: No data** **Y1 Q3: 68.2% (195/286)**	**Baseline: No data** **Y1 Q3: 91.2% (114/125)**	Some women are still resisting being commenced on option B+
39	Proportion of infants born to HIV-positive women who received an HIV test within 2 months of birth	Numerator = Number of infants who received an HIV test within 2 months in the reporting period Denominator = Number of HIV-positive pregnant women identified in the reporting period (include known HIV-positive at entry).	HMIS reports PMTCT Register Baby-mother follow-up register	Quarterly	**Baseline: No data** **Y1 Q3: 46.8% (134/286)**	**Baseline: No data** **Y1 Q3: 28% (35/125)**	
40	Proportion of infants born to HIV-positive pregnant women who are started on CTX prophylaxis within two months of birth	Numerator = Number of infants born to HIV-infected women that are started on Cotrimoxazole prophylaxis within two months of birth at USG supported sites within the reporting period Denominator = Number of HIV- positive pregnant women identified in the reporting period (include known HIV- positive at entry).	HMIS reports PMTCT Register Baby-mother follow-up register	Quarterly	**Baseline: No data** **Y1 Q3: 24.1% (69/286)**	**Baseline: No data** **Y1 Q3: 38.4% (48/125)**	Facilities reported stock outs of CTX prophylaxis in Mansa district in the reporting period
	Impact Indicators						
41	Overall Case fatality rate (deliveries)*	Numerator = number of maternal deaths due to direct obstetric complications in designated EmONC facilities Denominator = number of direct obstetric complications in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline: 2.2% (3/138)** **Y1 Q3: 2.5% (4/161)**	**Baseline: 4.2% (4/96)** **Y1 Q3: 2.2% (3/134)**	
41a	Case fatality rate due to hemorrhage*	Numerator = number of maternal deaths due to hemorrhage in designated EmONC Facilities Denominator = number of cases of maternal hemorrhage in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death	Quarterly	**Baseline: 3.4% (1/29)** **Y1 Q3: 7.8% (4/51)**	**Baseline: 13.3% (2/15)** **Y1 Q3: 2.7% (2/74)**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)	
			register, and/or Maternal mortality audit				
41 b	Case fatality rate due to sepsis/infection*	Numerator = number of maternal deaths due to sepsis/infection in designated EmONC facilities Denominator = number of cases of maternal sepsis/infection in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline : 0% (0/2)** **Y1 Q3: 0% (0/12)**	**Baseline: 0% (0/2)** **Y1 Q3: 0% (0/4)**	
41c	Case fatality rate due to hypertensive disorders, preeclampsia, and/or eclampsia*	Numerator = number of maternal deaths due to hypertensive disorders, pre-eclampsia, and/or eclampsia in designated EmONC facilities Denominator = number of cases of maternal hypertensive disorders, pre-eclampsia, and/or eclampsia in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline: : 0% (0/7)** **Y1 Q3: 0% (0/15)**	**Baseline: 0% (0/7)** **Y1 Q3: 0% (0/4)**	
41 d	Case fatality rate due to prolonged or obstructed labor*	Numerator = number of maternal deaths due to prolonged or obstructed labor in designated EmONC facilities Denominator = number of cases of prolonged or obstructed labor in designated EmONC facilities	Delivery register, Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline: 0% (0/75)** **Y1 Q3: 0% (0/45)**	**Baseline: 0% (0/44)** **Y1 Q3: 0% (0/28)**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS		COMMENTS
					MANSA & CHEMBE DISTRICT	SAMFYA & LUNGA DISTRICT	
					Baseline (Oct11-Dec11) Y1 Q3 (Jan15-Mar15)	Baseline (Oct 13-Dec13) Y1 Q3(Jan15-Mar15)	
41e	Case fatality rate due to other direct obstetric causes not included in 37a -37d*	Numerator = number of maternal deaths due to other direct obstetric causes not included in 37a-37d in designated EmONC facilities Denominator = number of cases of other direct obstetric causes not included in 37a-37d in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline: 9% (2/23)** **Y1 Q3: 0% (0/38)**	**Baseline: 7.1% (2/28)** **Y1 Q3: 4.2% (1/24)**	Other causes include APH, Raptured uterus, Ectopic pregnancy and abortion complications
42	Proportion of facility births that result in stillbirth*	Numerator = stillbirths in designated EmONC facilities, Denominator = all births in designated EmONC facilities	Delivery register	Quarterly	**Baseline : 3.5% (55/1572)** **Y1 Q3: 2.5% (65/2581)**	**Baseline: 2.4% (37/1523)** **Y1 Q3: 1.9% (35/1871)**	
43	Proportion of facility births that result in intrapartum stillbirth	Numerator = stillbirths occurring during labor and delivery in designated EmONC facilities Denominator = all births in designated EmONC facilities	Delivery register, Client Files	Quarterly	**Baseline(Jan-Mar13): 2.5% (40/1572)** **Y1 Q3: 1.7% (43/2581)**	**Baseline: 1.5% (23/1523)** **Y1 Q3: 0.9% (17/1871)**	
44	Proportion of facility births that result in very early neonatal deaths due to any cause*	Numerator = newborn deaths within the first 24 hours of life in designated EmONC facilities Denominator= all live births in designated EmONC facilities	Delivery register	Quarterly	**Baseline: 0.4% (7/1501)** **Y1 Q3: 0.2% (6/2517)**	**Baseline: 1.2% (18/1486)** **Y1 Q3: 0.9% (16/1835)**	
45	Proportion of facility births that result in very early neonatal deaths due to birth asphyxia*	Numerator = newborn deaths within the first 24 hours of life due to birth asphyxia in designated EmONC facilities Denominator= all live births in designated EmONC facilities	Delivery register	Quarterly	**Baseline(Jan-Mar13) : 0.1% (1/1501)** **Y1 Q3: 0.2% (5/2517)**	**Baseline: 0.4% (6/1486)** **Y1 Q3: 0.9% (16/1835)**	
46	Proportion of facility births that result in early neonatal death*	Numerator = deaths within the first 7 days of life, Denominator = all live births in designated EmONC facilities	Delivery register	Quarterly	**Baseline: 0.4% (7/1501)** **Y1 Q3: 1.3% (32/2517)**	**Baseline: 1.3% (20/1486)** **Y1 Q3: 0.9% (16/1835)**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
1	Proportion of facilities with functional communication systems for emergency referral*	Numerator = facilities with functional communication systems (high-frequency radio and/or facility-owned telephone) for emergency referral Denominator = all facilities offering antenatal, delivery, and postnatal services	Facility assessment	Quarterly	**Baseline: 92.9 (26/28)** **Y1 Q3: 92.9% (26/28)**	However all facilities staff own personal phones which they use for communication in facilities with no facility radio/landline
2	Proportion of facilities with functional transportation systems for emergency referral*	Numerator = facilities with functional transportation systems for emergency referral Denominator = all facilities offering antenatal, delivery, and postnatal services	Facility assessment	Quarterly	**Baseline: 92.9% (26/28)** **Y1 Q3: 100% (28/28)**	Some far parts of Kabwe facilities like Munga, Mpima Dairy and Kalwelwe transport rarely arrives within 1hour due to long distances and the poor state of roads.
3	Proportion of facilities with active SMAGs*	Numerator = number of facilities where SMAGS meet at least quarterly Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Facility assessment, Monthly SMAG meeting minutes	Quarterly	**Baseline: 0% (0/28)** **Y1 Q3: 0% (00/00)**	
4	Proportion of facilities with parenteral antibiotics in stock in the last three months*	Numerator = facilities with parenteral antibiotics in stock in the last three months Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline: 96.4% (27/28)** **Y1 Q3: 96.4% (27/28)**	Facilities rarely stock all the 3 essential antibiotics. Metronidazole and Ampicillin Injection are rarely used and hence rarely stocked for fear of expiring. These drugs are also said to be expensive and hence only designated facilities are allowed to order. It is only Gentamicin Injection which is usually in stock in most facilities
5	Proportion of facilities with uterotonic drugs (or oxytocics) in stock in the last three months*	Numerator = facilities with uterotonic drugs (or oxytocics) in stock in the last three months Denominator = all target facilities	Bin stock-control cards	Quarterly	**Baseline: 100% (28/28)** **Y1 Q3: 100% (28/28)**	All facilities stocked oxytocin's including those that did not conduct deliveries except for Chreso in January

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
6	Proportion of facilities with anticonvulsants in stock in the last three months*	Numerator = facilities with anticonvulsants in stock in the last three months Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline : 100% (28/28)** **Y1 Q3: 100% (28/28)**	There was a 100% availability of diazepam only as the only anticonvulsants in place
7	Proportion of facilities with MgSO4 in stock	Numerator = facilities with MgSO4 in stock Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline : 0% (0/28)** **Y1 Q3: 7.14% (2/28)**	Central-level stock-out of MgSO4
8	Proportion of facilities in which at least one short-term family planning method is always available*	Numerator = number of facilities in which at least one short term family planning method is always available Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline : 100% (28/28)** **Y1 Q3: 100% (28/28)**	All facilities have at least one short term planning (male condoms are predominant)
9	Proportion of facilities in which at least one long-term family planning method is always available*	Numerator = number of facilities in which at least one long-term family planning method is always available Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Bin stock-control cards	Quarterly	**Baseline(Jan-Mar13): 35.7% (18/28)** **Y1 Q3: 92.9% (26/28)**	Medium prison and Mukobeko township did have not have any long term FP methods for the reporting period
10	Proportion of facilities with functional mother's shelter	Numerator = number of facilities with functional mother's shelter Denominator = all facilities offering antenatal, delivery, and/or postnatal services	Facility assessment	Quarterly	**Baseline: 0% (0/28)** **Y1 Q3: 0% (0/28)**	No facility in Kabwe has a functional mother's shelter
11	Number of healthcare providers who complete EmONC in-service training, disaggregated by gender	# of male and female healthcare providers from MCSP-supported facilities who receive 3-week in-service training in key EmONC functions	MCSP Training Reports, TIMS	Quarterly	**Baseline: 15 (F=14, M=1)** **Y1 Q3: 20 (F=14, M=6)**	
12	Number of provincial and district MCDMCH staff trained as trainers in ENC using the HBB approaches, disaggregated by gender	# of male and female provincial staff who complete and attain competency in ENC training of trainers using the HBB approaches	MCSP Training Reports, TIMS	Quarterly	**Baseline: Missing data** **Y1 Q3: 2 (F=1, M=1)**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
12 a	Number of provincial and district MCDMCH staff trained as trainers in ENC using the HBB and ECEB approaches, disaggregated by gender	# of male and female provincial staff who complete and attain competency in ENC training of trainers using the HBB and ECEB approaches	MCSP Training Reports, TIMS	Quarterly	**Baseline: Data missing** **Y1 Q3: 0**	
13	Number of healthcare providers trained in ENC using the HBB approaches, disaggregated by gender	# of male and female healthcare providers who complete and attain competency in ENC using the HBB approaches	MCSP Training Reports, TIMS	Quarterly	**Baseline : 20 (F=14, M=6)** **Y1 Q3: 20 (F=14, M=6)**	
13 a	Number of healthcare providers trained in ENC using the HBB and ECEB approaches, disaggregated by gender	# of male and female healthcare providers who complete and attain competency in ENC using the HBB and ECEB approaches	MCSP Training Reports, TIMS	Quarterly	**Baseline : 23 (F=13, M=10)** **Y1 Q3: 23 (F=13, M=10)**	
14	Number of provincial and district MOH staff trained in mentorship, disaggregated by gender	Number of male and female MOH provincial staff trained in mentorship and thereby qualified to participate in mentorship teams	MCHIP Training Reports, TIMS	Quarterly	**Baseline: Missing** **Y1 Q3: 0 (F=0, M=0)**	
15	Proportion of target facilities receiving quarterly supervision and mentorship visits in EmONC	Numerator = Facilities that receive quarterly mentorship visits in EmONC by MCSP supported mentorship teams Denominator = All MCSP target facilities	Mentorship Visit Reports	Quarterly	**Baseline: Missing** **Y1 Q3: 0% (0/28)**	Mentorship was not conducted during the reporting period as it is planned for April/May.
16	Proportion of FP target facilities receiving quarterly supervision and mentorship visits in LARC and PPFP	Numerator = FP target facilities that receive quarterly mentorship visits in LARC and PPFP by MCSP supported mentorship teams Denominator = All FP target facilities	Mentorship Visit Reports	Quarterly	**Baseline: 0** **Y1 Q3: 0% (0/28)**	
17	Met need for EmONC services*	Numerator = women with obstetric complications treated in EmONC facilities[10] Denominator = expected number of obstetric complications[11] (estimated as 15% of expected births)	Delivery register	Quarterly	**Baseline: 90.7% (233/257)** **Y1 Q3: 64.2% (167/260)**	Includes Kabwe General, Kabwe Mine, Katondo, Ngungu and Pollen

[10] "EmONC facility" defined as only those facilities that performed all 7 BEmONC or all 9 CEmONC functions during the quarter.

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
17a	Met need for EmONC services* at facilities performing all key EmONC functions excepting assisted vaginal delivery (AVD)	Numerator = women with obstetric complications treated in facilities performing all EmONC functions minus AVD, Denominator = expected number of obstetric complications[2] (estimated as 15% of expected births)	Delivery register	Quarterly	**Baseline: 23% (59/257)** **Y1 Q3: 20.1% (54/260)**	All facilities
18	Number of designated basic and comprehensive EmONC facilities performing all of their respective EmONC signal functions*	Number of designated basic EmONC facilities that are performing all 7 of the basic EmONC signal functions; number of designated comprehensive EmONC facilities that are performing all 9 of the comprehensive EmONC signal functions	Facility assessment	Quarterly	**Baseline: 7.14% (2/28) performed 7 functions; 0% (0/28) facilities performed all EmONC functions** **Y1 Q3: 7.14% (2/28) performed 7 functions; 0% (0/28) facilities performed all EmONC functions**	No facility including the hospitals KG&KM performed all the signal functions
19	Proportion of all births that occur in facilities*	Numerator = number of births that occur in health facilities in a specified period Denominator = expected number of births in the same period	Delivery register	Quarterly	**Baseline: 113.4% (1939/1710)** **Y1 Q3: 116.9% (2030/1736)**	The value has moved from 6840 to 6942. Note that since the 2015 expected births is 6942, for this quarter the denominator comes to 1736

[11] Direct obstetric complications occur during pregnancy or within 42 days of the end of pregnancy and include the following:

- Hemorrhage
- Prolonged/obstructed labor
- Postpartum sepsis
- Complications of abortion
- Severe pre-eclampsia/eclampsia
- Ectopic pregnancy
- Ruptured uterus

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
19a	Proportion of all births that occur in designated BEmONC and CEmONC facilities[12]*	Numerator = number of births in designated BEmONC and CEmONC facilities that occur in a specified period, Denominator = expected number of births in the same period	Delivery register	Quarterly	**Baseline: 113.4% (1939/1710)** **Y1 Q3: 116.9% (2030/1736)**	Same as above. This could be the CSO projection limitations
20	Proportion of facility births attended by a skilled health care worker[13]*	Numerator = births attended by a skilled health care worker Denominator = all births in facilities offering delivery services	Delivery register	Quarterly	**Baseline: 98.9% (1918/1939)** **Y1 Q3: 100% (2029/2030)**	
23	Cesarean sections as a percentage of all births*	Numerator = births by cesarean section in EmONC facilities Denominator= expected number of births	Delivery register, operating theatre register	Quarterly	**Baseline: 11.6% (198/1710)** **Y1 Q3: 4.2% (154/1756)**	Data shows a rise in the number of CS from 0.2% to 4.2%
24	Proportion of women giving birth in target facilities receiving a uterotonic within one minute of birth	Numerator = number of women giving birth in target facilities receiving a uterotonic immediately following birth Denominator = all vaginal deliveries in target facilities	Delivery register	Quarterly	**Baseline: 100% (1910/1910)** **Y1 Q3: 94.7% (2125/1855)**	
25	Proportion of deliveries with partographs	Numerator = client files with Partographs Denominator = total number of deliveries	Client files	Quarterly	**Baseline: 2.5% (449/1939)** **Y1 Q3: 69.3% (909/2030)**	
26	Proportion of Partographs correctly filled out and used for appropriate clinical decision making	Numerator = Partographs correctly filled out Denominator = all Partographs filled out	Client files	Quarterly	**Baseline : 11% (49/449)** **Y1 Q3: 58.5% (532/909)**	

[12] "Designated EmONC facility" defined as facility trained and mentored in EmONC

[13] A skilled health care worker is defined as "an accredited health professional—such as a midwife, doctor, clinical officer or nurse—who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postpartum period, and in the identification, management, and referral of complications in women and newborns" (WHO, 2008). Traditional birth attendants are excluded from this category.

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
27	Proportion of women with severe Pre-eclampsia or Eclampsia treated with magnesium sulfate injection	Numerator = No. of women with severe Pre-eclampsia or Eclampsia treated with magnesium sulfate injection, Denominator = Total no. of women with severe Pre-eclampsia or Eclampsia	Client files	Quarterly	**Baseline: 50% (39/78)** **Y1 Q3: 63.5% (33/52)**	
28	Proportion of women with postpartum haemorrhage (PPH) receiving care according to national standards	Numerator = clients with indications of PPH receiving documented care and/or appropriate referral according to national standards Denominator = all clients with indications of PPH	Client files	Quarterly	**Baseline): 59.3% (16/27)** **Y1 Q3: 96.4% (27/28)**	
29	Proportion of women delivering in MCSP FP target facilities receiving an IUCD insertion prior to discharge	Numerator= # of women delivering in MCSP FP target facilities receiving an IUCD insertion prior to discharge; Denominator = number of women delivering in all MCSP FP target facilities	Delivery Register, FP register	Quarterly	**Baseline: 0.2% (4/1939)** **Y1 Q3: 0.49% (10/2030)**	Only for Kabwe Mine Hospital, Ngungu and Kasavasa
29 a	CYP for PPIUCD in MCSP FP target facilities	Conversion factor for Copper-T380-A IUD = 4.6 CYP per IUD inserted	Delivery Register, FP register	Quarterly	**Baseline(July - Sept13): 18.4 CYP (4.6*4)** **Y1 Q3: 46 CYP (4.6*10)**	
30	Number of women receiving an insertion of the Jadelle contraceptive implant in MCSP FP target facilities	Number of women receiving an insertion of the Jadelle contraceptive implant in MCSP FP target facilities	FP Register	Quarterly	**Baseline(July-Sept13): 546** **Y1 Q3: 316**	Only for Bwacha, Chindwini, Kabwe Mine, Kasavasa, Katondo, Kawama
30 a	CYP for Jadelle contraceptive implant in MCSP FP target facilities	Conversion factor for the 5-year Jadelle contraceptive implant = 3.8 CYP per implant	FP Register	Quarterly	**Baseline: 2074.8 CYP (3.8*546)** **Y1 Q3: 1201 CYP (3.8*316)**	
31	Proportion of new-borns who received all four elements of essential new-born care (ENC)[6]	Numerator = live births in target facility receiving ENC[14], Denominator = all live births in target facility	Client files, Delivery register	Quarterly	**Baseline: 95.1% (1799/1892)** **Y1 Q3: 100% (2012/2012)**	All the live facility births were reported to have breast fed.

[14] ENC is defined as: A package of basic care including: 1) immediate and thorough drying; 2) immediate skin-to-skin contact; 3) delayed cord clamping; 4) initiation of breastfeeding in the first hour.

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
32	Proportion of babies not breathing at birth that were successfully resuscitated	Numerator = newborns not breathing at birth that are successfully resuscitated at target facilities Denominator = all newborns not breathing at birth at target facilities	Client files, Delivery register	Quarterly	**Baseline: 34% (28/82)** **Y1 Q3: 96.3% (77/80)**	
33	Number of women who have had at least 1 ANC visit during first trimester	Number of pregnant women who attended at least one antenatal care visit with care provided by *skilled health personnel* at during their first trimester of pregnancy	Safe Motherhood register	Quarterly	Baseline: 148 Y1 Q3: 256	
34	Proportion of women who attend at least four times for antenatal care during pregnancy	Numerator = Number of women ages 15 to 49 with live births who attended ANC four or more times during most recent pregnancy Denominator = Total number of women with live births within the reference period	Safe Motherhood register	Quarterly	**Baseline: 34.4% (651/1892)** **Y1 Q3: 35.4% (712/2012)**	Indications from the tally sheets and SMR show low number of women who attend ANC at least 4 times although higher than at 1st ANC during the 1st trimester. The ratio of the baseline to the current reporting shows a reduction in the number of fourth visits. No reasons were given at the time
35	Number of women who stayed in a mother's shelter prior to delivery in a facility	Number of pregnant women who stay in a mother's shelter prior to delivery.	Mothers' Shelter register	Quarterly	**Baseline: 0** **Y1 Q3: 0**	No health facility has built a mother's shelter in Kabwe
36	Proportion of infants breast fed within 1 hour of birth among facility-based live births	Numerator = Number of newborns put to the breast within 1 hour of delivery Denominator = Total number of live births	Delivery register	Quarterly	**Baseline: 84.3% (1595/1892)** **Y1 Q3: 100% (2011/2012)**	At least all babies except one were reported to have breastfed within 1 hour of birth
37	Proportion of pregnant women with known HIV status (includes women who were tested for HIV and received their results)	Numerator = The number of women with known (positive) HIV infection attending ANC for a new pregnancy over the last reporting period including number of women attending ANC, L&D who were tested for HIV and received results Denominator = all women attending ANC for a new pregnancy in the reporting period	HMIS reports PMTCT Register	Quarterly	**Baseline: 60% (2013/3355)** **Y1 Q3: 92.5% (2219/2386)**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
38	Proportion of HIV-positive pregnant women who receive ARVs or ART to reduce mother-to-child-transmission during pregnancy and delivery	Numerator = Number of HIV-positive pregnant women who received antiretroviral for prophylaxis or treatment during pregnancy or during labor and delivery (L&D) Denominator = Number of HIV-positive pregnant women identified in the reporting period (including known HIV-positive at entry)	HMIS reports PMTCT Register MTCT labor ward register	Quarterly	**Baseline: 41.1% (146/355)** **Y1 Q3: 95% (316/333)**	The data suggest that the acceptance rate to option B+ has improved over time compared to when first introduced
39	Proportion of infants born to HIV-positive women who received an HIV test within 2 months of birth	Numerator = Number of infants who received an HIV test within 2 months in the reporting period Denominator = Number of HIV-positive pregnant women identified in the reporting period (include known HIV-positive at entry).	HMIS reports PMTCT Register Baby-mother follow-up register	Quarterly	**Baseline: 78.0% (277/355)** **Y1 Q3: 73.9% (246/333)**	
40	Proportion of infants born to HIV-positive pregnant women who are started on CTX prophylaxis within two months of birth	Numerator = Number of infants born to HIV-infected women that are started on Cotrimoxazole prophylaxis within two months of birth at USG supported sites within the reporting period Denominator = Number of HIV- positive pregnant women identified in the reporting period (include known HIV- positive at entry).	HMIS reports PMTCT Register Baby-mother follow-up register	Quarterly	**Baseline: 87.6% (311/355)** **Y1 Q3: 78% (260/333)**	Facilities reported stock outs of CTX prophylaxis in Mansa district in the reporting period
41	Overall Case fatality rate (deliveries)*	Numerator = number of maternal deaths due to direct obstetric complications in designated EmONC facilities Denominator = number of direct obstetric complications in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline: 2.5% (1/40)** **Y1 Q3: 2.5% (1/66)**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
41 a	Case fatality rate due to hemorrhage*	Numerator = number of maternal deaths due to hemorrhage in designated EmONC Facilities Denominator = number of cases of maternal hemorrhage in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline: 0% (0/24)** **Y1 Q3: 0% (0/31)**	
41 b	Case fatality rate due to sepsis/infection*	Numerator = number of maternal deaths due to sepsis/infection in designated EmONC facilities Denominator = number of cases of maternal sepsis/infection in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline : 0% (0/7)** **Y1 Q3: 0% (0/15):**	
41 c	Case fatality rate due to hypertensive disorders, preeclampsia, and/or eclampsia*	Numerator = number of maternal deaths due to hypertensive disorders, pre-eclampsia, and/or eclampsia in designated EmONC facilities Denominator = number of cases of maternal hypertensive disorders, pre-eclampsia, and/or eclampsia in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline: : 0% (0/37)** **Y1 Q3: 0% (0/31)**	
41 d	Case fatality rate due to prolonged or obstructed labor*	Numerator = number of maternal deaths due to prolonged or obstructed labor in designated EmONC facilities Denominator = number of cases of prolonged or obstructed labor in designated EmONC facilities	Delivery register, Delivery register, Female ward	Quarterly	**Baseline: 25% (1/4)** **Y1 Q3: 0% (0/42)**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS KABWE DISTRICT Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	COMMENTS
			(gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit			
41e	Case fatality rate due to other direct obstetric causes not included in 37a-37d*	Numerator = number of maternal deaths due to other direct obstetric causes not included in 37a-37d in designated EmONC facilities Denominator = number of cases of other direct obstetric causes not included in 37a-37d in designated EmONC facilities	Delivery register, Female ward (gynaecology) register, Outpatient department register, Death register, and/or Maternal mortality audit	Quarterly	**Baseline: 0% (0/72)** **Y1 Q3: 0% (0/351)**	Other causes include APH, Raptured uterus, Ectopic pregnancy and abortion complications and the other direct obstetric complications on the indicators
42	Proportion of facility births that result in stillbirth*	Numerator = stillbirths in designated EmONC facilities, Denominator = all births in designated EmONC facilities	Delivery register	Quarterly	**Baseline : 3.1% (60 /1939)** **Y1 Q3: 2.2% (44/2030)**	
43	Proportion of facility births that result in intrapartum stillbirth	Numerator = stillbirths occurring during labor and delivery in designated EmONC facilities Denominator = all births in designated EmONC facilities	Delivery register, Client Files	Quarterly	**Baseline: 1.3% (26/1939)** **Y1 Q3: 1.23% (25/2030)**	
44	Proportion of facility births that result in very early neonatal deaths due to any cause*	Numerator = newborn deaths within the first 24 hours of life in designated EmONC facilities Denominator= all live births in designated EmONC facilities	Delivery register	Quarterly	**Baseline: 0.8% (16/1892)** **Y1 Q3: 0.5% (10/2012)**	

#	INDICATOR	DEFINITION	DATA SOURCE	FREQUENCY OF DATA COLLECTION	ACHIEVEMENTS	COMMENTS
					KABWE DISTRICT	
					Baseline (Oct14-Dec14) Y1 Q3 (Jan15-Mar15)	
45	Proportion of facility births that result in very early neonatal deaths due to birth asphyxia*	Numerator = newborn deaths within the first 24 hours of life due to birth asphyxia in designated EmONC facilities Denominator= all live births in designated EmONC facilities	Delivery register	Quarterly	**Baseline: 0.3% (5/1892)** **Y1 Q3: 0.5% (10/2012)**	
46	Proportion of facility births that result in early neonatal death*	Numerator = deaths within the first 7 days of life, Denominator = all live births in designated EmONC facilities	Delivery register	Quarterly	**Baseline: 1.1% (21/1892)** **Y1 Q3: 0.6% (12/2012)**	

Appendix B: List of Presentations at International Conferences and Publications

Program success attributable to dedicated local leadership – the story of Mansa and Samfya Districts in Luapula province of Zambia. Oral Presentation. Presented by Martha Ndhlovu, MCSP MNH Technical Advisor. International Council on Nursing Conference. Seoul, South Korea. June 2015.

Innovations in reinforcing behavior change through improving quality of maternal and neonatal health care in a limited resource setting - the success of MCSP – Zambia. Oral Presentation. Presented by Charity Bwalya, MCSP Technical Officer. Kenya Obstetrical and Gynecological Society. Nairobi Kenya. February 2015.