MCHIP South Sudan End-of-Project Report

October 1, 2007–April 30, 2014

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Submitted by:

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Jhpiego in collaboration with
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The Maternal and Child Health Integrated Program (MCHIP) is the USAID Bureau for Global Health's flagship maternal, neonatal and child health (MNCH) program. MCHIP supports programming in maternal, newborn and child health, immunization, family planning, malaria, nutrition, and HIV/AIDS, and strongly encourages opportunities for integration. Cross-cutting technical areas include water, sanitation, hygiene, urban health and health systems strengthening.

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Country Summary: South Sudan

Selected Health and Demographic Data for South Sudan	
GDP per capita (USD)	$1,546
Total population	8,300,000
Maternal mortality ratio (deaths/100,000 live births)	2,054
Institutional deliveries	11.5%
Antenatal care, 4 visits or more	17%
Neonatal mortality rate (deaths/1,000 live births)	52
Infant mortality rate (deaths/1,000 live births)	102
Under-five mortality (deaths/1,000 live births)	135
Total fertility rate	5.4%
Contraceptive prevalence rate (all methods)	3.5%

Sources: Southern Sudan Center for Census, Statistics, and Evaluation 2010, World Bank, Southern Sudan Household Health Survey 2010, WHO, 2012 South Sudan HIV/AIDS Epidemiologic Profile.

Major Activities by Program

- Build capacity for family planning (FP) and reproductive health (RH)
- Strengthen human resources in the area of monitoring and evaluation for HIV/AIDS
- Disseminate the national Expanded Program on Immunization (EPI) policies and support a national, multi-partner EPI review
- Support a program for prevention of postpartum hemorrhage (PPH)

Program Dates	October 1, 2007–April 30, 2014				
Total Mission Funding to Date by Area	FP: $647,000 HIV: $315,000 MCH: $1,716,000 **Total: $2,678,000**				
Geographic Coverage	Support to MOH: National Prevention of PPH Program: Mundri East and Mvolo Counties				
	No. of states	1/10 10%	**No. of counties**	2/86 2%	**No. of facilities**	20: Mundri East 11: Mvolo
Country and HQ Contacts	Catharine McKaig, Integrated Service Delivery Program Chief of Party; Jaime Mungia, Senior Program Officer					

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Acronyms and Abbreviations

AMTSL	Active Management of the Third Stage of Labor
ANC	Antenatal Care
ART	Antiretroviral Therapy
BP/CR	Birth Preparedness/Complication Readiness
CDC	Centers for Disease Control and Prevention
CES	Central Equatoria State
DHIS	District Health Information System
EmONC	Emergency Obstetric and Newborn Care
EPI	Expanded Program on Immunization
FP	Family Planning
FP/RH	Family Planning and Reproductive Health
FSW	Female Sex Worker
HHP	Home Health Promoter
HMIS	Health Management Information System
IEC	Information, Education and Communication
MCHIP	Maternal and Child Health Integrated Program
M&E	Monitoring and Evaluation
MOH	Ministry of Health
MOT	Modes of Transmission
MNCH	Maternal, Newborn, and Child Health
NGO	Nongovernmental Organization
PEPFAR	President's Emergency Plan for AIDS Relief
PMTCT	Prevention of Mother-to-Child Transmission
PPH	Postpartum Hemorrhage
RH	Reproductive Health
RH/MNCH	Reproductive Health/Maternal, Newborn, and Child Health
SBA	Skilled Birth Attendant
SHTP	Sudan Health Transformation Project
SSAC	South Sudan HIV and AIDS Commission
TFM	Transitional Funding Mechanism
VSI	Venture Strategies Innovations
WES	Western Equatoria State

Acknowledgments

MCHIP would like to express its gratitude and acknowledge the Ministry of Health of the Republic of South Sudan for its leadership and support. This project would not have been possible without them. We would particularly like to thank Dr. Baba, Director General of Primary Health Care, Dr. Alex Dimiti, Director General of Reproductive Health, National Ministry of Health, Chair of the Technical Advisory Group, Dr. Emmanuel Lino, Director of the HIV/AIDS/Sexually Transmitted Infections Director, Dr. Ayat Jervase, the former Director of the HIV/AIDS/Sexually Transmitted Infections Department, and Dr. Richard Lino Lako, Director of the Monitoring Evaluation and Research Department, for their leadership and resolute commitment to improving basic health services for the women, children, and families of South Sudan. We also acknowledge other Ministry of Health staff, including Elizabeth Novello Nylock, Dr. Taban Pasquale, Dr. Emmanuel Lino, James Ayeiny, Mark Luigi, Idak Makur, Golda Caeser, Dr. Margret Semira, Priskila Paul, Victor Emmanuel, and Leah Muja.

MCHIP also thanks its implementing partners, Save the Children and Mundri Relief and Development Association (MRDA), for participating in the prevention of postpartum hemorrhage (PPH) program. We would particularly like to acknowledge Mary Rose Dalaka, Maternal and Child Health Supervisor and PPH Focal Point with MRDA, for her commitment to making the program a success. The members of the PPH Technical Advisory Group provided critical stewardship and guidance to the program. Venture Strategies Innovations (VSI) supplied the misoprostol, and the Management Sciences for Health-led Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program distributed misoprostol for the two counties. The United Nations Population Fund (UNFPA) is committed to ensuring the availability of misoprostol for the expansion of the prevention of PPH program in South Sudan.

There were various stakeholders who played an instrumental role in supporting reproductive health and family planning services in South Sudan, including UNFPA, Marie Stopes, and IMA World Health.

We gratefully acknowledge the contribution and commitment of the skilled birth attendants, community midwives, maternal and child health workers, home health promoters, clients, and community members who participated in MCHIP's activities. The success of the program would not have been possible without them.

The MCHIP staff who implemented this program are listed below.

MCHIP Staff	Title	Duration of Service
Solomon Orero	Senior Technical Reproductive Health and Family Planning Advisor	August 2011–present
Gerald Kimono	Senior Monitoring and Evaluation Advisor	February 2012–present
Isabella Ochieng	PPH Technical Officer	October 2012–present
Solomon Abebe	Senior Maternal Advisor	August 2013–present

Executive Summary

Since the signing of the Comprehensive Peace Agreement in 2005 and subsequent independence in 2011, the Republic of South Sudan has made laudable achievements to improve the health of its citizens. With the highest maternal mortality ratio in the world, estimated at 2,054 per 100,000 live births, and other challenging reproductive health indicators, the Ministry of Health (MOH) has committed to improving and expanding access to quality reproductive health (RH) services. Together with the South Sudan MOH, the United States Agency for International Development (USAID)-funded Maternal and Child Health Integrated Program (MCHIP) worked in South Sudan from October 2007 to April 2014 to improve reproductive, maternal, newborn, and child health (RH/MNCH). The technical priorities under MCHIP were:

- Prevention of postpartum hemorrhage (PPH) through (a) clean and safe delivery, including active management of the third stage of labor and immediate newborn care, and (b) advance distribution of misoprostol for self-administration at home delivery;
- RH and family planning (FP);
- Expanded Program on Immunization (EPI); and
- Monitoring and evaluation (M&E) in the area of HIV/AIDS.

Senior FP/RH Advisor opens FP training

Building on the commitment of the MOH to advance these technical priorities, MCHIP made notable achievements:

- Technically supported the National RH Department to finalize the National FP Policy, RH Policy, and RH Strategy, which form the policy cornerstone and roadmap for the delivery of RH/MNCH services in South Sudan
- Assisted the National HIV/AIDS Division with meeting its reporting and other data requirements, including MOH reports, the South Sudan HIV and AIDS Commission (SSAC) annual report, global reports (UNAIDS, UN General Assembly high-level meeting targets, World Health Organization [WHO] treatment), the HIV/AIDS 2013–2017 strategic plan, proposal development for the Global Fund's transitional funding mechanism (TFM), the antiretroviral therapy (ART) scale-up plan (test and treatment cascade), and the prevention of mother-to-child transmission (PMTCT) of HIV scale-up plan. This assistance supported the MOH's efforts to apply for funding from donors and plan for the expansion of HIV/AIDS services
- Assisted the National HIV/AIDS Division with key surveys, including Round 3 of HIV Sentinel Surveillance, mapping and estimation of numbers of female sex workers, Centers for Disease Control and Prevention (CDC) Epi-Aid Investigation on high HIV prevalence in Western Equatoria State (WES), and the modes of transmission (MOT) study. These studies expanded understanding of the HIV/AIDS epidemic in South Sudan and can be used by the MOH and partners to inform programming

- Provided technical leadership to a multi-agency EPI review, reviewed program performance, contributed to a report summarizing findings and recommendations, which ultimately informed the comprehensive multi-year plan
- Completed a learning phase on a comprehensive program to prevent PPH in two rural counties of South Sudan. In Mundri East County, 94% uterotonic coverage was achieved, and 99% of women with home births who had misoprostol reported taking it. Before the intervention, there was limited use of uterotonics for PPH prevention in the hospital and no use in health centers. The program continued implementation after the completion of the learning phase, and a total of 2,240 women received a uterotonic. Following the MOH's approval of expanding the intervention in the country, the program began expansion to other counties in Western Equatoria State, under the Integrated Service Delivery Program (ISDP), and to the six other states under the Health Pooled Fund, with technical support from MCHIP and ISDP.

> *"The findings from our trip [to Mundri East] show great potential for the reduction of maternal mortality in South Sudan if we successfully roll out the program and implement it nationally. This conclusion has been reached unanimously by the trip team."*
>
> - Dr. Alexander Dimiti, Director General of Reproductive Health, National Ministry of Health

Table 1. Indicators under the Learning Phase of the Prevention of PPH Program, September 2012–March 2013

Indicators	Number
Training under the Learning Phase	
Eligible home health promoters in the intervention areas	270
Home health promoters trained on birth preparedness/complication readiness and misoprostol distribution	260
Eligible health facility staff in intervention areas	124
Health workers trained on birth preparedness/complication readiness and misoprostol distribution	60
Service Delivery under the Learning Phase	
Pregnant women who received misoprostol in the study area	1,895
Women who had a home delivery	1,411
Women who delivered at home at took misoprostol	1,395
Women who delivered at the health facility and received misoprostol	133
Women who received oxytocin within three minutes of delivery	712
Women who reported any complications after consuming misoprostol	0
Referrals from community to health facility after consuming misoprostol	0
Maternal deaths among clients recruited	0

> *"The good thing about miso: I could carry it with me when I ran."*
>
> - Wilma Awowa, Home Health Promoter

MCHIP had important successes that can be used as a platform for future work in South Sudan. While these achievements are an important step in improving RH/MNCH at the national level, much work remains. The following are selected recommendations, based on program experience and lessons learned, that the MOH and partners can consider for the future.

- The prevention of PPH program showed remarkable potential for impact and continued amid the crisis in South Sudan; it should be expanded to all states. High uterotonic coverage was achieved in the learning phase of the program in rural areas of the country, and the MOH commissioned ISDP to continue expanding the intervention in WES and Central Equatoria State (CES). Furthermore, the intervention was continued in Mundri East and Mvolo Counties after the crisis in South Sudan began on December 15, 2013. More than 100 pregnant women gave birth in December 2013 and January 2014—and they survived, thanks to ISDP-supported health providers who administered a uterotonic to provide protection against PPH. This underscores the value of providing misoprostol to women in advance of childbirth, particularly in light of the many challenges faced in a conflict or post-conflict environment.
- The HIV/AIDS Division should consider creating an M&E unit, which will be responsible for strategic information functions, along with a unified HIV strategic information team. The team can be formed from the existing M&E and surveillance personnel serving under various stakeholders, such as the HIV/AIDS Division, the MOH M&E Directorate, and partners who support the MOH's HIV M&E and surveillance under the leadership of the MOH M&E Directorate.
- The national and state M&E unit personnel should undergo skills assessments in HIV M&E to identify any gaps and develop action plans to address the gaps.
- The HIV/AIDS Division should ensure that the strategic information and capacity strengthening strategic plans are implemented in the context of the overarching strategic and M&E framework at the sector and national HIV/AIDS response levels, including plans for data analysis, dissemination, and utilization.

Introduction

South Sudan faces unfavorable health indicators, including the highest maternal death rate in the world. Approximately 86% of births occur at home, the vast majority without a skilled attendant present, and only 17% of women receive four antenatal care visits. While there is no data on the causes of maternal death in South Sudan, approximately 34% of maternal deaths in Africa are attributable to postpartum hemorrhage (PPH), and the rate for Africa can be used as a proxy for understanding the burden of PPH in South Sudan.

Table 2. Selected Health and Demographic Data for South Sudan

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GDP per capita (USD)	$1,546
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Sources: Southern Sudan Center for Census, Statistics, and Evaluation 2010, World Bank, Southern Sudan Household Health Survey 2010, WHO, 2012 South Sudan HIV/AIDS Epidemiologic Profile.

The goal of USAID's Maternal and Child Health Integrated Program's (MCHIP) is to assist in scaling up evidence-based, high-impact maternal, newborn, and child health (MNCH) interventions and thereby to contribute to significant reductions in maternal and child mortality and progress toward Millennium Development Goals 4 and 5. MCHIP began work in South Sudan in Program Year 1 with support to the Expanded Program on Immunization (EPI), continuing work started under the MCHIP predecessor project, IMMUNIZATION basics. In 2009, MCHIP provided external technical support for development of the National EPI Policy and the adaptation of key EPI training packages, including the *Reaching Every District* and *Immunization in Practice* modules.

The Mission later invested in two long-term technical advisors who were to be embedded within the Ministry of Health (MOH) (family planning [FP]/reproductive health [RH] and HIV/AIDS monitoring and evaluation [M&E]) and charged with building institutional and managerial capacity. The intent of these areas of support was to improve the quality of health services in South Sudan. The objectives were fourfold:

- Objective 1: Build capacity for FP and RH
- Objective 2: Strengthen human resources in the area of M&E for HIV/AIDS
- Objective 3: Disseminate the national EPI policies and support a national, multi-partner EPI review
- Objective 4: Support a program for prevention of PPH

Table 3. MCHIP South Sudan Overview

Program Dates	October 1, 2007–April 30, 2014					
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Country and HQ Contacts	Catharine McKaig, Integrated Service Delivery Program Chief of Party; Jaime Mungia, Senior Program Officer					

MCHIP field support activities were coordinated and linked to activities in the Integrated Service Delivery Program (ISDP), an MCHIP Associate Award awarded by USAID/South Sudan in June 2012 (Table 4). The overall goal for ISDP is to increase access to high-quality primary health care services for all people in Central Equatoria State (CES) and Western Equatoria State (WES). The program has two main expected results in support of the MOH and in collaboration with county, state, and national stakeholders:

1. Standardized, functional, equipped, staffed health facilities able to provide a minimum package of quality primary health care services
2. Increased community access to information and services

Table 4. Summary of Implementation Strategies and Coordination between MCHIP and ISDP

MCHIP Field Support	ISDP
Support program for prevention of PPH learning phase	
Provide capacity-building, monitoring, supervision, and technical assistance for the prevention of PPH learning phase: ▪ Develop training materials for clean and safe delivery for skilled attendants ▪ Develop training materials for birth preparedness/complication readiness (BP/CR) for home health promoters (HHPs) ▪ Develop monitoring tools ▪ Provide training of trainers for BP/CR for HHPs and health workers ▪ Support MCHIP staff: PPH Technical Officer, Senior Maternal Health Advisor ▪ Conduct monitoring visits ▪ Provide technical assistance	As part of sub-awards for primary health care services in Mvolo and Mundri East Counties, support county implementing partners to deliver prevention of PPH program: ▪ Replicate training of BP/CR for health workers and HHPs ▪ Community level: Identify pregnant women, counseling, distribution of misoprostol, follow-up visits ▪ Facility level: Provide clean and safe delivery ▪ Supervise and monitor
Support program for prevention of PPH scale-up	
▪ Disseminate results at national level in Juba	▪ Provide training of trainers for clean and safe delivery training for skilled attendants ▪ Replicate training for clean and safe delivery for skilled attendants in all 16 counties of WES and CES ▪ Support county implementing partners in WES and CES to scale up the prevention of PPH program (2013–2017)

This report presents MCHIP South Sudan's cumulative activities and achievements. The body of the report is organized by the program objectives. The report also includes annexes summarizing achievements against the Performance Monitoring Plan, success stories, a list of presentations at international conferences, and a list of documents produced or adapted under the program.

Major Accomplishments

OBJECTIVE 1: BUILD CAPACITY FOR FAMILY PLANNING AND REPRODUCTIVE HEALTH

Following the formation of the South Sudan MOH—after the signing of the Comprehensive Peace Agreement, the subsequent referendum, and independence—there was a need to develop policies, protocols, guidelines, and programs for FP/RH services in the Republic of South Sudan. Yet there were challenges in meeting this need, which were compounded by human resource gaps within the MOH. In response to the MOH RH Department's request for technical assistance, MCHIP seconded a Senior FP/RH Advisor to the national MOH beginning in August 2011. The chief roles of the Senior FP/RH Advisor were to (a) strengthen FP/RH policies and strategies through coordination of inputs, (b) support the coordination of FP/RH efforts at the national level, and (c) support training and rolling out policies at both the national and state levels. The Senior FP/RH Advisor worked under the jurisdiction of and reported to the Director of the MOH RH Department.

Expected Results

- Revised the National FP Technical Guidelines through the coordination of the FP Technical Working Group and under the leadership of the Directorate of RH
- Reviewed the technical content and coordinated the process to finalize the National FP Policy, RH Policy, and RH Strategy, which form the policy cornerstone and roadmap for the delivery of RH/MNCH services
- Improved the delivery of quality, accessible, affordable FP/RH services by building strong health provider skills through training and facilitative supervision
- Increased the availability of, access to, and range of choices and contraceptive options for birth spacing/family planning through an array of service delivery approaches, including the public and nongovernmental sectors and social marketing
- Increased demand for FP through appropriate information, education, and communication (IEC) and behavior change communication interventions, including community-based approaches
- Integrated FP/RH into other programs
- Harmonized national approaches to FP/RH through liaising with development partners and other relevant programs
- Designed, conducted, analyzed, and reported on assessments, evaluations, and other research on FP/RH topics

Major Accomplishments

The Senior FP/RH Advisor supported a myriad of strengthening efforts within the MOH RH Department. Through the advocacy of the Senior FP/RH Advisor, the Department of RH was re-established as a full directorate in 2012 and a Director General was identified. The RH Directorate was given a mandate to coordinate all RH/MNCH activities in the country. Another important milestone for the Directorate of RH is the budgetary allocation from the central MOH for the establishment of relevant personnel positions that will contribute to RH/MNCH activities. Subsequently, the

Senior FP/RH Advisor facilitates training for values clarification in FP

Directorate of RH has undertaken the establishment of activities in all states of the country. Throughout this process, the Senior FP/RH Advisor, under the Directorate of RH, advocated and promoted RH/MNCH to increase attention to issues; coordinated stakeholders; and advocated for innovative approaches to improve RH/MNCH, using WHO's framework to health systems.[1] The activities coordinated and policies supported by the Senior FP/RH Advisor are summarized below.

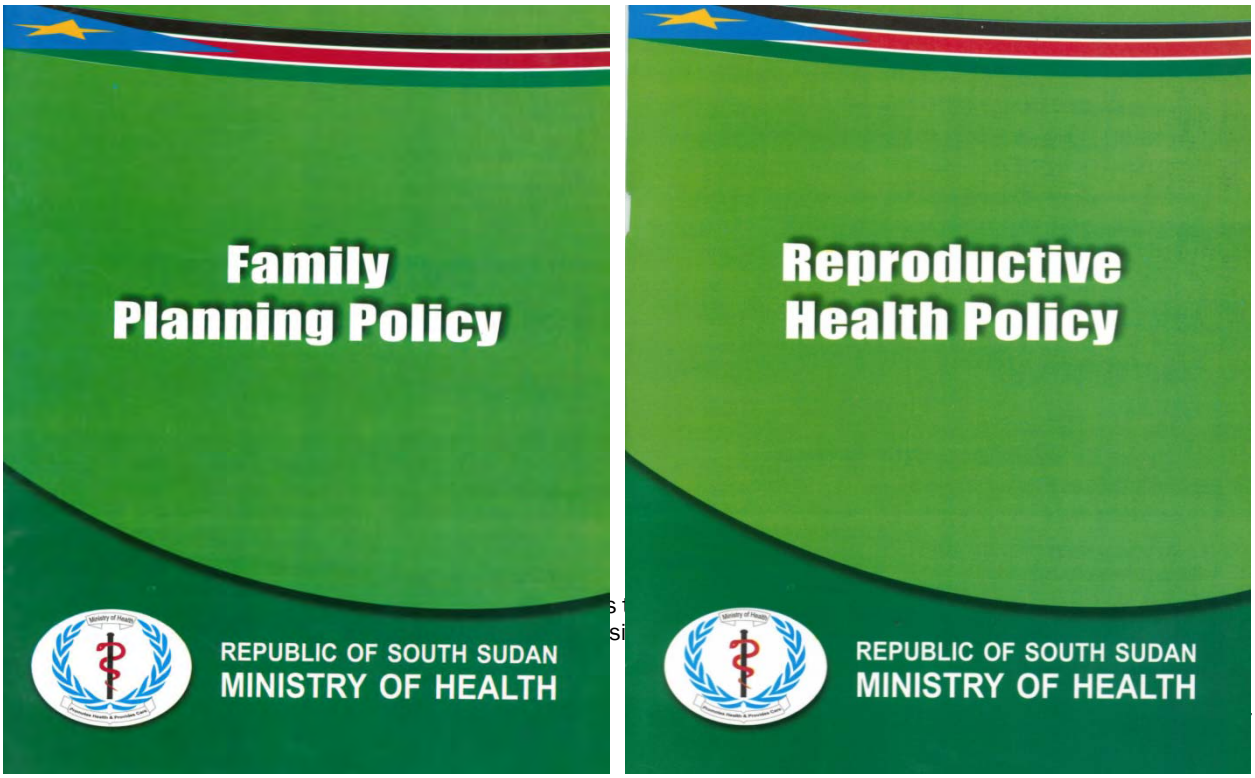
1. **Revised the National FP Technical Guidelines through the coordination of the FP Technical Working Group and under the leadership of the Directorate of RH**

   The Senior FP/RH Advisor convened consultative technical working groups with stakeholders to update the National FP Technical Guidelines. Updates to the 2007 National FP Technical Guidelines were completed in four areas: (a) medical eligibility criteria; (b) integration of FP services into other RH services, especially HIV/AIDS; (c) method mix at various levels of service delivery; and (d) South Sudan background information, including information on the various policy instruments and strategic plans. These revisions were made in accordance with the World Health Organization (WHO) 2011 Technical Updates on Family Planning. Dissemination of the guidelines, with funding by United Nations Population Fund (UNFPA), is forthcoming.

2. **Reviewed the technical content and coordinated the process to finalize the National FP Policy, RH Policy, and RH Strategy, which form the policy cornerstone and roadmap for the delivery of RH/MNCH services**

   The Senior FP/RH Advisor coordinated the consultative process to finalize the FP Policy, RH Policy, and RH Strategy, which align with the recommendations of the 1994 International Conference on Population and Development, the South Sudan Development Plan 2011–2013, and the Health Sector Development Plan 2012–2016. Together, the policies and strategy outline a framework and roadmap for strengthening RH programs and interventions in South Sudan. The drafts were presented to various stakeholders for review and approval and a broad base of partners were involved in planning the dissemination. UNFPA supported the first round of printing of the policies: (a) 2,000 copies of the FP Policy, (b) 2,500 copies of the RH Policy, and (c) 2,500 copies of the RH Strategy. ISDP will print an additional 2,000 copies of each document for distribution in CES and WES.

Figure 1. Cover Pages of National FP and RH Policies



3. **Improved delivery of quality, accessible, affordable FP/RH services by building strong health provider skills through training and facilitative supervision**

The Senior FP/RH Advisor provided technical leadership on behalf of the MOH and completed the following activities:

- Trained 26 health workers in a one-week, competency-based, mentorship training in emergency obstetric and newborn care (EmONC) with practical sessions at Yambio Hospital: The participants learned all practical aspects of identifying what to do when confronted with hemorrhages in pregnancy, how to practice infection prevention to avoid sepsis, and the value of generating records and recordkeeping.
- Supported the MOH by participating in the EmONC training of health workers from Upper Nile State in Malakal: The FP/RH Advisor discussed the national RH and FP policies and provided training on professional ethics in FP/RH interventions.
- Provided technical support to Basic Services Fund for their supportive supervision of their implementing partners in Mvolo and Wulu Counties in WES and Lake State on September 24–29, 2012: Worked with partners so clinical providers could better understand practices of FP and active management of the third stage of labor and educated them on the national policy. Participated in discussions with the various County Health Department Officers and clarified their role in supervision and promoting best practices in MNCH and FP.
- Provided technical support to IMA Worldwide and facilitated a training of 13 health workers in basic FP from March 11–16, 2013: Emphasis was provided on the use of the draft FP curriculum, and service providers' value clarification and attitudinal transformation. This was a process of training to help the providers identify their own values and attitudes toward FP and how that impacts FP service provision. The training and process help the providers identify sociocultural barriers to FP and how to transform their attitudes to promote quality services in FP. The participants had previously attended nine months of training on EmONC in Kenya.
- Supported the MOH in the review of proposals for RH activities by partners.
- Gave presentations in the ISDP FP training in WES and CES, focusing on clarifying values and transforming attitudes for service providers to promote FP services: The workshop was preceded by training in the insertion of Jadelle and Implanon on models and provision of services to clients at Juba Teaching Hospital. A draft FP training curriculum for service providers was field-tested during this training and will be finalized under the stewardship of the Directorate of RH.
- Represented the Director General of RH at Marie Stopes's South Sudan retreat: Presentations were given on the FP/H policy direction based on the Basic Package for Health and Nutrition Services, FP Policy, and RH Policy. As in other training, the Senior FP/RH Advisor promoted values clarification for FP service providers.

Table 5. Training technically supported by Senior FP/RH Advisor on behalf of MOH

Type of Training	Funding	Number of Trainings	Number of People Trained
EmONC in Yambio	Global Fund through UNDP	2	50
EmONC in Wau	Global Fund through UNDP	1	25
EmONC in Malakal	Global Fund through UNDP	1	25
EmONC in Rumbek	Global Fund through UNDP	1	25
Family planning	ISDP	1	15
Family planning	IMA World Health	1	13
Family planning	Marie Stopes	1	20
Total number trained with technical support of Senior FP/RH Advisor			**173**

EmONC: emergency obstetric and newborn care; UNDP: United Nations Development Programme

4. **Increased availability of, access to, and range of choices and contraceptive options for birth spacing/family planning through an array of service delivery approaches, including the public and nongovernmental sectors and social marketing**

   The Senior FP/RH Advisor continuously advocated for security of contraceptive commodities among bilateral partners and donors, and as a result of this advocacy, notable advancements were achieved:
   - USAID and UNFPA were very supportive in the procurement of various contraceptive methods.
   - Marie Stopes procured and shared contraceptive commodities, particularly implants, with other institutions and providers and organizations.

The Senior FP/RH Advisor also collaborated on the preparation of UNFPA's country program, with a focus on FP commodity security and sustainability, as well as training in RH, sexual and gender-based violence, and adolescent sexual RH. In addition, the Senior FP/RH Advisor participated in the training of volunteers for Reproductive Health Association of South Sudan, serving as the association's voluntary technical advisor. Previously known as the FP Association of South Sudan Juba Branch, this association is being revitalized with the goal to propagate, advocate, and improve access to RH, including FP services.

5. **Increased demand for FP through appropriate IEC and behavior change communication interventions, including community-based approaches**

   The Senior FP/RH Advisor reviewed and facilitated FHI 360's production of FP IEC materials, which were distributed in FHI 360's focus facilities. One of the activities under the advisor's larger FP advocacy efforts was to expose and orient policymakers at different levels to FP and community-based approaches.

   MCHIP included the development of IEC FP materials in the Program Year 6 workplan; however, this activity was removed, with USAID approval, in order to reallocate funds following the South Sudan crisis that began in December 2013. ISDP will support the IEC FP materials at a later date.

6. **Integrated FP/RH into other programs**

   The Senior FP/RH Advisor made notable accomplishments to bolster integration of FP/RH in programs within South Sudan:
   - Supported the review of the home health promoter (HHP) curriculum, protocols, and guidelines under the Sudan Health Transformation Project (SHTP) II
   - Participated in partners' quarterly review meetings under SHTP II to review roles in delivering comprehensive FP services at different service delivery points
   - Facilitated identification and coordination of three senior health workers (Head of OB/GYN at Juba Teaching Hospital, Head of Pediatrics at Juba Teaching Hospital, and Principal at Juba College of Health Sciences) to be trained as MNCH champions in South Sudan. The three have been trained as advocates by MCHIP in Kenya, Malawi, and Ethiopia, and they work very closely with the Directorate of RH.

- Made arrangements for two senior obstetricians and gynecologists to attend a regional expert summit in July 2013, which brought together champions of maternal health to discuss the use of misoprostol. The summit was sponsored by Venture Strategies Innovations (VSI), the Association of Gynecologists and Obstetricians Tanzania, and the East Central South African Obstetricians and Gynecological Society. The goals of the summit were capacity-building, cross-country learning, and strengthening a network of champions in maternal health to work toward common goals. The Senior FP/RH Advisor was part of a group of participants from South Sudan. At the end of the meeting, every country team developed an action plan to implement when they returned home. As part of the meeting, a policy dialogue related to the recommendations from the UN Commission on Life-Saving Commodities for Women and Children was held. The discussion was facilitated by PATH and VSI, and the dialogue fed into a report outlining a global agenda for action to break down barriers in accessing maternal health medicines and other supplies. The report was released by PATH in late September.
- Participated in the partners' quarterly meeting in WES, convened by the Director General and officiated by the Honorable Minister of Health on August 15–17, 2012. Delivered a presentation that highlighted FP as a component of EmONC and summarized the components of the FP Policy and RH Policy.
- Visited the MCHIP prevention of PPH implementing facilities (Mvolo and Yeri Primary Health Care Centers). Visited the first clients and traditional birth attendants who used misoprostol, to ascertain their perspectives on the program. The clients and traditional birth attendants agreed on the value of this lifesaving intervention.
- Facilitated and participated in Prevention of PPH Technical Working Group progress review meeting as the representative from the Office of the Director of the MOH Directorate of RH.
- Supported several high-ranking government officials to attend the 2013 International Conference on Family Planning in Addis Ababa in November 2013. This conference galvanized the decision-makers and service providers to develop a broad understanding of FP services and its various benefits at all levels.
- Co-facilitated the MCHIP PPH Workshop in Washington, DC, in September 2013. A presentation was delivered on the prevention of PPH program in South Sudan to share results and lessons learned.

7. Harmonized national approaches to FP/RH through liaising with development partners and other relevant programs

As the focal person for FP/RH in the MOH Directorate of RH, the Senior FP/RH Advisor played a critical role in coordinating development partners and stakeholders to advance the FP/RH agenda in South Sudan. Key achievements are as follows:

- Convened a total of 12 (one every quarter) FP technical working groups: Meetings were hosted and attended by development partners and other programs, such as Marie Stopes International, MCHIP, and UNFPA. Meetings contributed to the following national efforts: (a) participation of stakeholders in dissemination of policies; (b) sensitizing policymakers (e.g., Council of Ministers, the National Parliament, State Ministers of Health, State Council of Ministers, State Parliamentary Committees), lobbying for their commitments, and increasing the visibility of issues related to FP service delivery; (c) reviewing the FP training curriculum for service providers, which will be used to standardize training nationally; (d) preparation for updating the FP Technical Guidelines.

- Coordinated monthly Reproductive Health Coordination Forum meetings from the office of the Director of RH and facilitated sharing of activities in RH/FP and MNCH: The meetings were restructured by the Senior RH/FP Advisor to center on thematic discussions about work, lessons learned, and challenges. Meetings were alternately chaired by the Senior RH/FP Advisor and the Director General in the Directorate of RH.
- Coordinated monthly Prevention of PPH Technical Working Group meetings to prepare for the program and monitor implementation progress.
- Continued to attend and participate in the weekly MOH senior management meetings, which provide a forum to discuss maternal and child health and RH issues. These management meetings continue to serve as a platform for advancing the approval of key policies, such as the training of various cadres of nurses, midwives, and nurse-anesthetists.
- Provided technical support to the WES MOH during their strategic planning meeting for the RH program. The meeting was attended by representatives of all development partners working in the state. The state MOH had all partners align their operational and annual work plans to reflect maternal and child health/FP priorities of the MOH. Two key resolutions of the meeting were to put more emphasis on FP provision and to address the skills of health workers in basic and comprehensive emergency obstetric care. These activities will lead to increased availability of, access to, and range of choices and contraceptive options for birth spacing and family planning in WES.
- Prepared background information on RH/FP in South Sudan and population issues for the Sixth Coordination Meeting of the East African Reproductive Health Network, which was held in Addis Ababa on March 5–9, 2012. The Senior RH/FP Advisor accompanied the Acting Director General of RH to the meeting. Following feedback to the MOH senior management board, it was decided that South Sudan should pursue the necessary steps to officially join the network and possibly host a future meeting. The Senior RH/FP Advisor continued to support the documentation needs resulting from the recommendations of the senior management board, including technical collaboration with network member countries.
- Assisted the MOH with the technical review of the design of antenatal care (ANC), maternity units, and theaters that are to be constructed by the United Nations Development Programme through the Global Fund. This activity followed an assessment of units constructed earlier through support from the Global Fund. The units, which were constructed in several parts of the country, were found not to have met various global standards. As a result of these reviews, the facilities will be handed over to the MOH so that the best use can be made of them.
- Assisted the MOH with development of selection criteria for the sites that are to benefit in the next phase of facility construction.

8. **Designed, conducted, analyzed, and reported on assessments, evaluations, and other research on FP/RH topics**

   As the focal person for FP/RH in the MOH Directorate of RH, the Senior FP/RH Advisor:

   - Provided technical support to the EmONC needs assessment to evaluate the quality of data generated from the field: As part of the national quality assurance team of the EmONC needs assessment, the Senior RH/FP Advisor reviewed the data as it was collected from the states to confirm the veracity of data. The assessment generated data on the physical condition of all the functional health facilities in the country, the availability of human resources and equipment, and the services offered and who was offering those services. The result of this assessment confirmed the poor condition of most health facilities and informed the government and partners how to re-strategize to effectively deliver health services, based on the WHO building blocks, including infrastructure as a seventh pillar.
   - Provided technical support to the planning for the Maternal Mortality Ratio Survey, which was planned for January–March 2014. It has since been postponed due to the current national crisis.

The significance of the technical support and leadership provided by the Sr. FP/RH Advisor to the MOH was illustrated by the extensive lobbying by the Director General of RH, National MOH, for the Sr. FP/RH Advisor to return to the MOH after the crisis in December 2013.

"The Honorable Minister of Health particularly welcomed the return of Dr. Solomon Orero, who had helped the Ministry across all the Directorates, not just the Directorate of Reproductive Health."

- Dr. Alexander Dimiti, Director General of Reproductive Health, National Ministry of Health

OBJECTIVE 2: STRENGTHEN HUMAN RESOURCES IN THE AREA OF MONITORING AND EVALUATION FOR HIV/AIDS

The national AIDS response in South Sudan is coordinated at the multi-sectoral level by the South Sudan HIV and AIDS Commission (SSAC), which was established in 2006 by a presidential decree. The mandate of SSAC is to coordinate the development of a policy framework and strategies for curbing and combating the spread of HIV. SSAC works closely with the Division of HIV/AIDS of the MOH, whose mandate is to develop health sector responses to HIV/AIDS by ensuring that quality, equitable HIV/AIDS prevention services, treatment, care, and support are accessible for people infected with and affected by HIV/AIDS. The HIV/AIDS Division of the MOH has been at the forefront of the fight against the HIV/AIDS epidemic in South Sudan and continues to be the biggest contributor to the national HIV response. MCHIP provided targeted technical support to the HIV/AIDS national response by seconding a Senior M&E Advisor to the HIV/AIDS Division of the MOH. The HIV/AIDS M&E Advisor worked under the jurisdiction of the MOH and reported to the Director of the MOH HIV/AIDS Division and to USAID's representative to the President's Emergency Plan for AIDS Relief (PEPFAR).

One of the major challenges faced by the HIV/AIDS program before the posting of the MCHIP Advisor was inadequate data/information on the HIV/AIDS epidemic to enable evidence-based decision-making in program design and improvement. Some of the reasons for the inadequate data were that HIV M&E and surveillance processes and program indicator tracking were based on multiple processes rather than a common program-wide strategic information plan. While tracking impact and outcomes of HIV prevention, care, treatment, and support programs through surveys and surveillance—augmented by episodic program evaluation studies—is in line with internationally recognized best practices, the processes were often irregular and faced many challenges. Tracking was often characterized by multiple vertical data collection systems and tools. While some program indicators were obtained from the District Health Information System (DHIS) and other MOH reporting mechanisms, facilities and states were not able to process data from these systems. Yet they were often required to submit reports to various

partners. In addition, reporting arrangements between nongovernmental organizations (NGOs) and the MOH were also lacking. The proliferation of the data collection systems for specific disease programs (e.g., tuberculosis and HIV) placed a substantial burden on health facilities, did not provide a comprehensive picture, and made data management expensive and burdensome. Furthermore, there were limited functional monitoring systems for outputs and coverage of health sector HIV/AIDS interventions at the state and county levels.
In this context, the HIV/AIDS M&E Advisor was posted to strengthen the M&E capacity and performance of the MOH's HIV/AIDS Division.

Expected Results

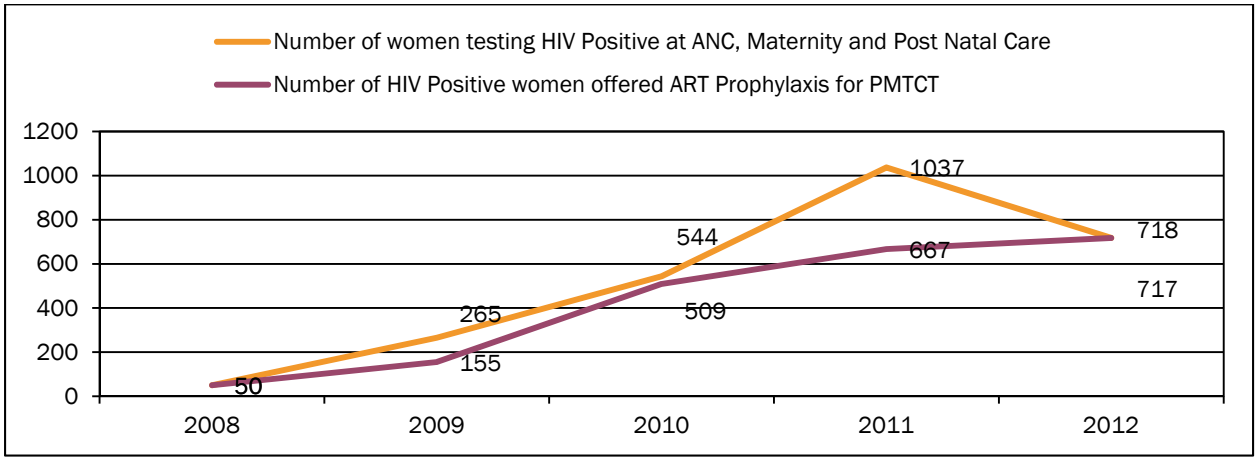
- Contributed to the enhancement of the M&E skills and performance of the staff in the MOH's HIV/AIDS Division by supporting development of a standard training curriculum on M&E for HIV/AIDS
- Improved coordination, capacity, and institutionalization of a data quality assurance system (revised data quality assessment tool for HIV/AIDS)
- Improved analysis and use of routine HIV/AIDS and RH data at the national and lower levels
- Improved planning, coordination, and implementation (including tool/register revision and dissemination) of HIV/AIDS health management information system rollout

Major Accomplishments

Since 2010 the MOH has embarked on significant M&E system building efforts. An M&E framework was developed, national indicators were selected, data collection tools were developed, an M&E working group was organized, and the foundation of a national health management information system (HMIS) was built. The collection and reporting of HIV/AIDS-related data became part of the national HMIS. However, HIV/AIDS data collection and reporting was fragmented as a result of vertical programming and the involvement of multiple development partners with competing interests. The HIV/AIDS M&E Advisor's role was to harmonize and strengthen the different M&E systems to fit into the national HMIS. The HIV/AIDS M&E Advisor worked with the staff of the HIV/AIDS Department by assisting them with understanding routine data collection tools and providing support for the analysis and use of the data collected to improve the performance of the national HIV/AIDS control program. The advisor also supported the coordination of all M&E efforts at the national level. Data collection tools, data flow, data analysis, and data reporting were specific areas where technical assistance was particularly beneficial. The section below highlights the accomplishments of the HIV/AIDS M&E Advisor.

1. **HIV service data manipulated, compiled, cleaned, and analyzed**
   The HIV/AIDS M&E Advisor provided technical support to strengthen the M&E function of the HIV/AIDS Division to ensure improved analysis and use of routine HIV/AIDS and RH data at the national level. Although the MOH has established the DHIS, the system has yet to be implemented in all the states in South Sudan. The states in which the DHIS has already been implemented face challenges with data reporting, with minimal data reaching the national level, due to insufficient capacity of staff to generate reports, transportation challenges, and inadequate computer maintenance. In addition, some partners that implementing HIV/AIDS activities have vertical data reporting systems, and these vary from partner to partner. In many instances, partners are also collecting only the data required for reporting to their donors. Therefore, merging the data from the MOH and partners is difficult. However, MCHIP has been assisting staff at the HIV/AIDS Division with compiling, cleaning, and analyzing data on HIV counseling and testing, RH/PMTCT, ART, blood safety, condom use, and sexually transmitted infections.

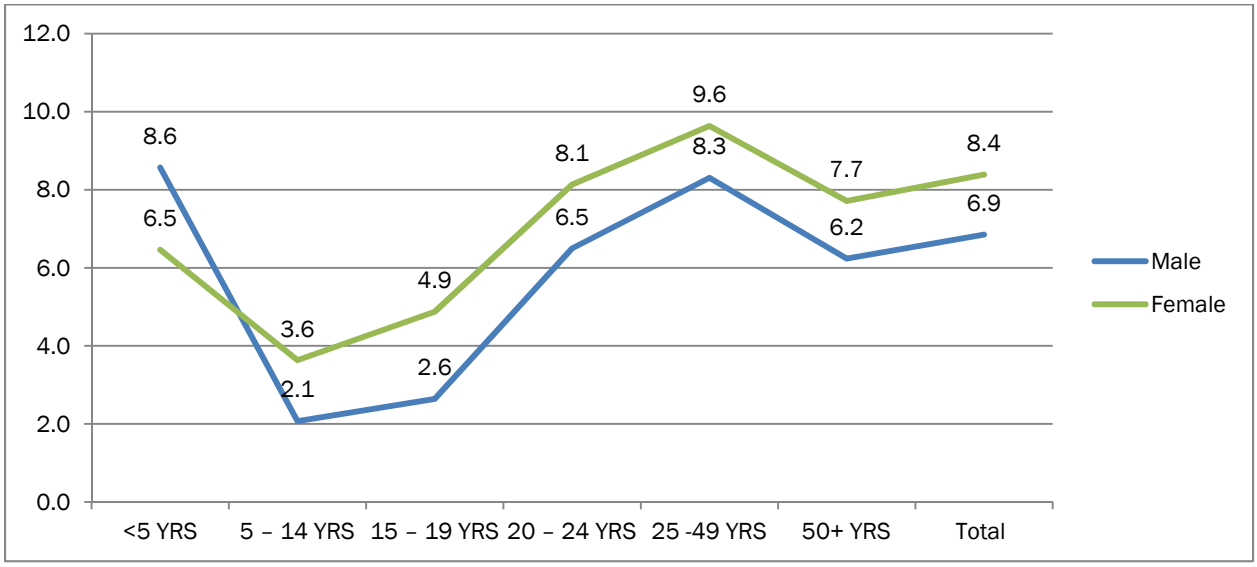
Figure 2. Antiretroviral Prophylaxis for Women at PMTCT Sites, South Sudan, 2008–2012



Source: HIV/AIDS routine program data, 2008-2012

The number of PMTCT sites increased from three in 2008 to 75 in 2012. This technical assistance enabled the HIV/AIDS Division to contribute to the South Sudan Global AIDS Progress Reports and compile the HIV/AIDS Division annual reports.

Figure 3. HIV Seroprevalence by Sex and Age Group, 2011



Source: HIV/AIDS routine program data, 2011

2. Assisted the HIV/AIDS Division in meeting its reporting requirements

The HIV/AIDS M&E Advisor assisted the HIV/AIDS Division with compiling the South Sudan 2011 and 2012 Global AIDS Progress Reports, which were submitted to UNAIDS as a part the country's global reporting responsibility. The HIV/AIDS M&E Advisor also supported the SSAC and the MOH's compilation of the South Sudan Midterm Review Report of the United Nations General Assembly 2011 Political Declaration on HIV and AIDS high-level meeting targets. This is a biannual report that assesses South Sudan's progress toward the high-level meeting targets.

The HIV/AIDS M&E Advisor also assisted the HIV/AIDS Division with compilation of the 2012 and 2013 annual reports. These reports took stock of the progress made and challenges faced in implementing the HIV/AIDS program. In addition, the advisor worked with the MOH respond to HIV/AIDS data requests from development partners such as USAID, CDC, UN agencies, and international and local NGOs, for program design, program improvement, and reporting requirements.

3. Assisted the HIV/AIDS Division with meeting other data requests

As a member of Transitional Funding Mechanism (TFM) Technical Working Group, the HIV/AIDS M&E Advisor assisted the MOH with proposal writing for the TFM grant from the Global Fund. The TFM proposal sought transitional funding for an HIV continuity of services grant that ended November 30, 2013. The TFM proposal covered the cost of antiretroviral drugs, opportunistic infection/HIV care, tests, technical support and clinical mentorship, supply-chain management, and program management for 7,419 HIV patients estimated to be on ART by the end of the TFM grant (November 30, 2015) as well as 8,517 patients estimated to be on pre-ART at the beginning of the TFM grant. The HIV/AIDS M&E Advisor provided the necessary data, reviewed documents, and attended meetings, culminating in the successful submission of the proposal and receipt of funding.

The HIV/AIDS M&E Advisor supported the MOH and SSAC in drafting of the National Strategic Plan on HIV and AIDS (2013–2017), the South Sudan HIV and AIDS Operational Plan (2013–2014), and the South Sudan National HIV and AIDS Strategic Information Plan (2013–2017). The validation workshops for these documents took place in July 2013. The plans describe the national response under the stewardship of the government of South Sudan and stipulate strategic directions and action on how the unique challenges that HIV and AIDS pose to the welfare of the South Sudanese population will be addressed. The HIV/AIDS M&E Advisor provided the necessary data, reviewed documents, and attended meetings of the technical working group tasked with drafting the plan.

The HIV/AIDS M&E Advisor assisted the PEPFAR South Sudan team with develop a five-year strategic plan (2013–2017) to define PEPFAR's support for the successful implementation of the South Sudan HIV National Strategic Plan. The HIV/AIDS M&E Advisor provided the necessary data, reviewed documents, and attended meetings.

4. Reviewed data collection and reporting tools

To adhere to WHO's latest guideline on treatment and care of HIV patients and to ensure enhanced and effective program monitoring, the HIV/AIDS M&E Advisor, with support from WHO, assisted the HIV/AIDS Division with a review of the ART patient monitoring and reporting tools. The review involved organizing a two-day meeting of providers, HIV directors in the South Sudan states, and NGO partners to discuss how to improve the current tools. The meeting and subsequent discussions revised the following data collection and reporting tools: HIV care and ART patient card; counselor card for adherence; pre-ART register; ART register; HIV care and ART monthly tool; and cohort analysis form. The Division also introduced the following new tools: ART handheld card; adverse event form for antiretrovirals; patient appointment book; and ART drug dispensing register. All the tools have been revised, and training of health providers and rollout to the 22 sites was completed in 2013.

The HIV/AIDS M&E Advisor assisted the HIV/AIDS Division with the design of data collection and reporting tools and with a training workshop on HIV early infant diagnosis. The new HIV early infant diagnosis data collection and reporting tools include an infant clinical follow-up chart, an exposed infant register, and an exposed infant monthly reporting tool.

The HIV/AIDS M&E Advisor assisted the HIV/AIDS Division with a review of PMTCT data collection and reporting tools. The review involved organizing meetings of staff at the HIV/AIDS Department and NGO partners to discuss the current tools and how to improve them. The meetings and subsequent discussions mandated a small group of stakeholders to (a) revise the data collection and reporting tools (ANC register, maternity register, PMTCT register, labor/delivery record, and monthly reporting form) and (b) introduce a maternal health card and maternal health handheld card. All of the tools have been revised and are awaiting approval from the Directorate of RH. Training of health providers and rollout to the sites is expected in 2014.

5. Supported training

The HIV/AIDS M&E Advisor was a co-facilitator for M&E sessions at a one-week training on HIV early infant diagnosis, during which 25 health workers from eight sites were trained. The program has subsequently been rolled out to the eight sites, and follow-up visits are ongoing. The program is being implemented with support from the Global Fund and UNDP.

The HIV/AIDS M&E Advisor also co-facilitated training on integrated management of adult and adolescent illness for 32 participants from 22 ART sites. The training participants included clinicians, nurses, pharmacists, data clerks, and counselors. The second round of training, for ART facilities whose health workers did not attend the first training, will take place in 2014.

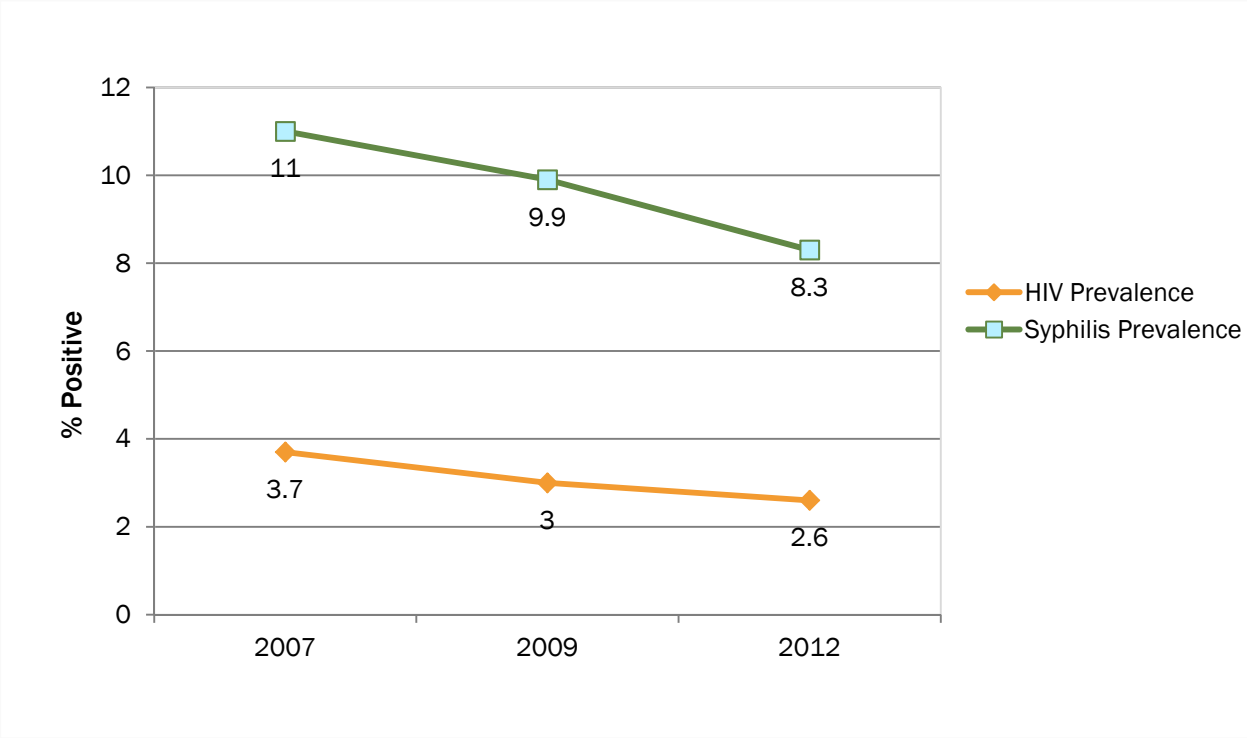
6. Assisted the HIV/AIDS Division with carrying out surveys

The HIV/AIDS M&E Advisor assisted the HIV/AIDS Division with the following surveys:

- 2012 South Sudan Antenatal Sentinel Surveillance of HIV and Syphilis: The HIV/AIDS M&E Advisor directed data collection, management, and analysis, and wrote the survey draft report. The survey was conducted among 11,155 pregnant women ages 15–49 who were attending their first ANC visit. Data were collected at 35 ANC sites in all 10 states of South Sudan. The objectives of the survey were to:
  - Estimate HIV and syphilis prevalence among pregnant women in South Sudan;
  - Understand the geographical spread of HIV infection and identify emerging pockets;
  - Understand the trends in the HIV epidemic among the general population, as well as high-risk groups in different states; and
  - Provide information for advocay, program planning, and program evaluation.

  The survey revealed the following key results:
  - Overall HIV prevalence was 2.6%, 95% CI [2.3–2.8].
  - At the site-specific level, Ezo had the highest prevalence of HIV infection, at 14%, followed by Yambio and Tambura, at 8.4% and 6.5%, respectively. Gokmachar and Kwanjok reported the lowest prevalence of HIV infection, at 0%, followed by Katigiri, 0.1%.
  - Correlates of HIV infection were marital status, level of education, and gravida. Compared to women in monogamous marriages, single women were two and a half times more likely to have HIV infection (odds ratio [OR] [95% C.I], p-value: 2.6 [1.9-3.6], p<0.000. Women with elementary education, when compared to women with no formal education, were half as likely to have HIV infection (OR [95% C.I], p-value: 0.5 [0.4-0.7], p<0.000). Compared to women with one pregnancy, women with two pregnancies were almost twice as likely to have HIV infection (OR [95% C.I], p-value: 1.8 [1.2 – 2.6], p<0.001).

Figure 4. Trends in HIV and Syphilis Prevalence among Pregnant Women, 2007, 2009, 2012



- Overall syphilis prevalence from the 2012 surveillance survey was 8.3%, 95% CI [7.7-8.7].
- Correlates of syphilis infection were residence (urban/rural), marital status, level of education, and gravida. Pregnant women residing in rural areas had the highest prevalence of syphilis infection (9.8 [9-10.5]) while those residing in urban/peri-urban areas had the lowest prevalence (5.9 [5.2-6.6]). Compared to those residing in urban areas, women residing in rural areas had almost two times the odds of having acquired syphilis infection (OR [95% C.I], p-value: 1.7 [1.4-1.9], p=0.000). Single women had about half the odds of having a syphilis infection compared to married women in monogamous relationships (0.6 [0.5-0.9], p=0.007).
- Compared to those with an elementary school education, women with no formal education were almost twice as likely to have syphilis infection (OR [95% C.I], p-value: 1.9 [1.6 – 2.3], p<0.001).
- Women with a history of two pregnancies had the highest prevalence of syphilis infection (9.2 [7.9 – 10.5]), while those in their first pregnancy had the lowest prevalence (5.9 [5- 6.8]). Compared to women in their first pregnancy, women with a history of two pregnancies were more likely to have acquired syphilis infection (1.6 [1.2 – 2], p=0.000).

- Survey on Mapping and Size Estimation of Female Sex Workers (FSWs) in South Sudan: The HIV/AIDS M&E Advisor was a part of the study team that planned and implemented the study, with specific responsibility for data management, report writing, and dissemination of results. This survey was conducted with the support of WHO. While the survey is expected to cover all 10 states in South Sudan, the initial focus was for Juba and Yambio cities. The approach involved the following tasks:
  - Defining HIV high-risk activities in South Sudan: The definition of high-risk activities as high-risk sexual behaviors and commercial sex work among women provided the investigators with a simple but clear definition of "what is the risk" as well as "who is involved."

- Providing information on "how many" there are: The study aimed to estimate the number of people engaged in high risk activities.
- Identifying various locales (locations and spots): "Where and when" the high-risk activity takes place was documented in a detailed profile of these locales.
- Ascertaining the sub-types of high-risk activities and individuals within one larger group: A typology of high-risk activity was created (e.g., street-based FSWs, brothel-based FSWs, etc.).

The study was implemented in a phased approach, along with a process of developing local capacity for scaling up based on the availability of resources and local technical capacity. The first phase involved developing and field-testing the mapping methodology in the two cities; the second phase will involve field implementation of mapping in another 12–15 urban and semi-urban locations, while in the third phase the mapping data collected will be used to develop national estimates of FSWs in South Sudan and to provide the HIV program with a strategic direction for planning targeted interventions. South Sudan has a low-prevalence, generalized HIV epidemic. However, surveillance and mapping of key populations such as FSWs provides information on the spread of the epidemic from these populations to the general population. Some of the results of the survey include:

- An average of 2,511 (range of 2,013–3,008) FSWs were identified in Juba across 513 spots on a typical day. The number of FSWs on a typical day in Yambio was estimated at 378 (range of 316–439), from a total of 129 hotspots, of which 36% were hotel-based, 29% were venue-based, and 24% were street-based sex workers.
- Although Juba reported a larger number of sex workers than Yambio, the ratio of FSWs per 1,000 adult males is higher in Yambio (25.7/1,000) than in Juba (24.3/1,000). FSWs in Juba entertain more clients in a day than do FSWs in Yambio.

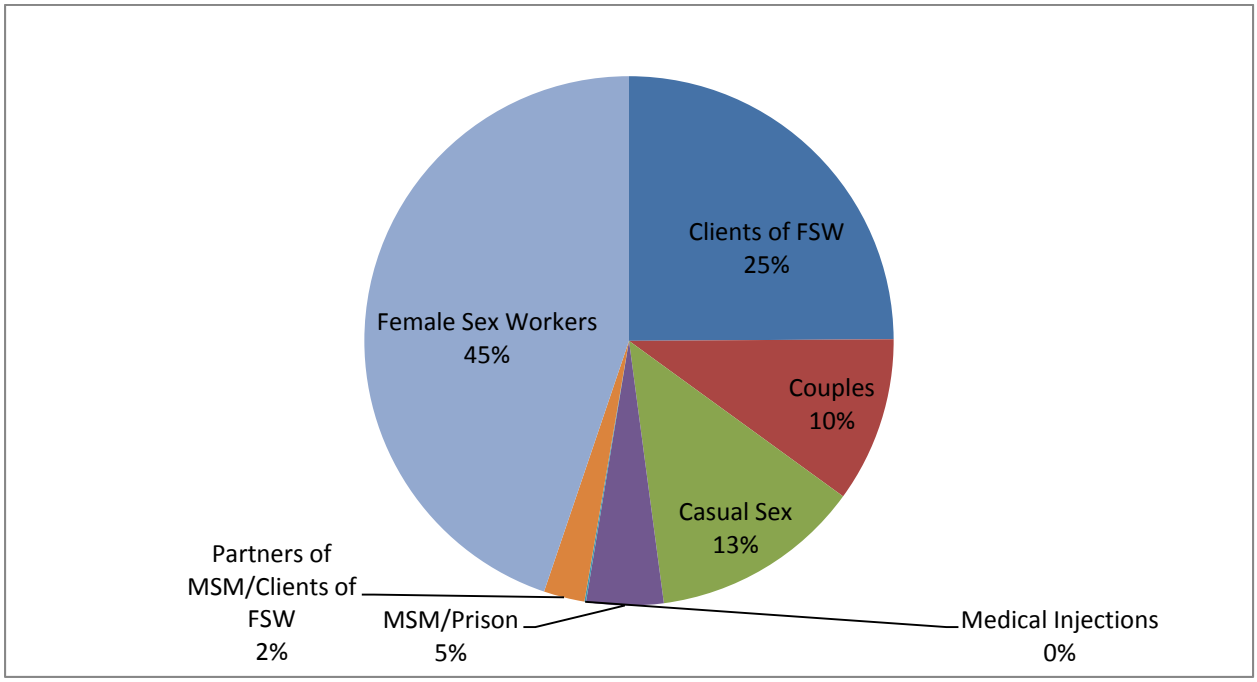
- Epi-Aid Investigation on High HIV Prevalence in Western Equatoria State: The HIV/AIDS M&E Advisor assisted in data compilation for a CDC team conducting an Epi-Aid Investigation on High HIV Prevalence in WES in June 2012. The objectives of the study were to:
  - Describe the epidemiology of HIV infection from existing data sources in WES and contiguous areas;
  - Identify risk factors for high HIV prevalence in WES; and
  - Provide recommendations to state and national health officials.

  The Epi-Aid investigation study confirmed the reported high HIV prevalence in the state and the following key factors: early sexual debut, multiple sexual partners, unprotected sexual intercourse, transactional sex, history of conflict and instability, cross-border migration, community acceptance of risky sexual behaviors, and limited HIV prevention services.
- HIV Modes of Transmission (MOT) study: The HIV/AIDS M&E Advisor assisted the HIV/AIDS Division by participating in planning for the study, providing all the data used in the study, reviewing the results, and drafting a report. The objective of the MOT is to use data from different studies to generate an estimate of the specific populations foreseen to contribute most to the incidence of HIV during the upcoming year, so that HIV prevention efforts and resources cab be directed to those populations. The epidemiological MOT was developed by the Joint United Nations Program on HIV/AIDS (UNAIDS). The following steps were taken for its application in South Sudan: (1) selected populations that share the same risk behavior; (2) searched for information sources to establish indicators, including population size, HIV and sexually transmitted disease prevalence, condom use, and number of sexual partners and sexual acts with partners; (3) selected the best quality sources to be incorporated based on defined

criteria, such as study coverage, validity, and methodology; and (4) processed and analyzed data, which included entering information and developing estimates of HIV incidence for the upcoming year, by population.

Among the populations that were selected based on a common risk behavior and the availability of data to generate incidence estimations were commercial sex workers, their clients, men who have sex with men, *boda-boda* drivers, and various segments of the general population. Initial findings of HIV incidence modeling predicts that the HIV epidemic in South Sudan is resident in FSWs (45%) and their clients (25%), as well as men and women who engage in casual sex (12.9%). These populations accounted for 83% of incident cases in 2012. Other modes that are contributing to new infections are persons in marital or stable unions (10%), men who have sex with men (4.7%), and partners of those who engage in risky behaviors (such as clients of sex workers, partners of those engaging in casual sex, and men who have sex with men) (2.5%). Medical injections and blood transfusions contribute 0.1% of new cases of HIV to the South Sudan population (Figure 5).

Figure 5. Proportion of New Cases of HIV by Risk Group in South Sudan, 2013



7. Assisted the HIV/AIDS Division with HIV/AIDS estimates

The HIV/AIDS M&E Advisor assisted the HIV/AIDS Division with projecting the course of the HIV/AIDS epidemic using surveillance and program data through modeling in the Spectrum/Epidemic Projection Package (EPP). EPP is software used for such purposes in many countries, and it follows the recommendations of the UNAIDS Working Group on Estimates and Projections. The software estimated the numbers of infections, new infections, and AIDS deaths. The prevalence projections were also converted to numbers of people affected. Below are some of the estimates for 2012.

Table 6. UNAIDS Spectrum HIV Estimates, South Sudan, 2012

HIV+ (adults and children)	150,000
New HIV infections	15,000
Annual AIDS deaths	13,000
Incidence (ages 15–49) (%)	0.26
New HIV infections, adults (ages 15+)	12,000
New infections (ages 0–14)	2,500
AIDS orphans	111,000
Women needing PMTCT	7,500

Table 7. UNAIDS Spectrum Estimates of Treatment Coverage, 2012 (CD4 count < 250)

Adult (15+) on ART	Child (0–14) on ART	Women receiving PMTCT
7%	5%	13%

8. Built capacity of HIV/AIDS Division

- Assisted the HIV/AIDS Division with an assessment of PMTCT sites and the services they offer in South Sudan: This assessment included determining which sites are offering the recommended services (testing and ART prophylaxis) and which ones are not operational due to staff shortages, commodities shortages, or lack of training.
- With the support of WHO, assisted the MOH with a data quality assessment and cohort analysis at ART sites: After staff were trained to undertake the exercise, a total of 10 sites were covered. Data analysis was done and results were disseminated.
- Supported the MOH, with the support of Intrahealth International, in conducting a self-assessment of the existing M&E and surveillance system for HIV/AIDS in South Sudan: The assessment involved administering the 12-component M&E strengthening tool in a workshop to staff of technical units at all levels of the MOH (facilities, county health departments, state ministry of health, HIV/AIDS Division at national level, and SSAC) and to other stakeholders. The exercise empirically documented strengths, weaknesses, and gaps in the existing M&E system. This assessment led to the development of the HIV/AIDS Strategic Information Plan, which will be instrumental in aligning, harmonizing, and reinvigorating M&E and surveillance processes for HIV/AIDS. It will also improve the validity and completeness of data reporting.
- Assisted the HIV/AIDS Division with revising PMTCT guidelines by providing the required data: The guidelines used in South Sudan for PMTCT services were developed in 2010. In the last three years new information and changes in technical guidance have been issued from WHO. The M&E Advisor assisted the Division of HIV/AIDS, with the support of UNICEF, in carrying out a PMTCT situational analysis for South Sudan and developing a PMTCT scale-up plan. The analysis and the plan will be used primarily to guide future PMTCT interventions and to leverage partnerships and resources for implementation.
- Assisted the HIV/AIDS Division with compiling a five-year workplan with quantified expected immediate results for all activities: The workplan is a part of the South Sudan Health Sector Development Plan.
- Assisted the HIV/AIDS Division with the Test-Treat-Retain Study: The study investigated the root causes and underlying factors and developed strategies and interventions to address the low ART coverage in South Sudan. The study was conducted using the "Test-Treat-Retain" cascade tool, which defines a continuum of care for people living with HIV, with four overlapping steps: HIV testing, enrollment in HIV care, ART initiation, and retention in life-long ART and chronic care.
- Assisted the MOH and SSAC in compiling annual HIV/AIDS services data for 2013 to prepare for dissemination during World AIDS Day in December 2013: The MOH and SSAC organized a two-week national HIV testing and counseling campaign, which

entailed mobilizing community members to access HIV testing and counseling sites, thus providing people with an opportunity to know their HIV status.

- Assisted the HIV/AIDS Division with developing a HIV/AIDS Strategic Information Plan 2013–2017. The Strategic Information Plan (2013-2017) within the HIV/AIDS sector has paved the way towards the tracking necessary information (i.e., routing monitoring, evaluation, research, surveys, surveillance) to contribute to well-informed, timely, and strategically guided services in response to the epidemic.

OBJECTIVE 3: DISSEMINATE THE NATIONAL EXPANDED PROGRAM ON IMMUNIZATION POLICIES AND SUPPORT A NATIONAL, MULTI-PARTNER REVIEW

Major Accomplishments

In September 2011, an MCHIP consultant took part in a multi-agency external independent review of the EPI program in South Sudan and dissemination of the EPI policy. The consultant's role in the review included the following activities:

- Provided leadership and guidance in close coordination with WHO and other partners
- Contributed to the development of data collection tools and methods for the EPI review
- Reviewed program performance by assessing administrative reports and data, and by making visits to review sites
- Contributed to a report summarizing the EPI review findings, including recommendations to guide the comprehensive multi-year plan and program implementation
- Provided input to the South Sudan comprehensive multi-year plan, drawing on the results of the EPI review
- Participated in the design and facilitation of a national meeting to launch the 2009 National EPI Policy and disseminate the EPI review report

OBJECTIVE 4: SUPPORT A PROGRAM FOR PREVENTION OF POSTPARTUM HEMORRHAGE

Efforts to reduce the number of maternal deaths caused by PPH must be emphasized at both the facility and community levels, especially in South Sudan, where approximately 86% of births occur at home, the vast majority without a skilled attendant. The South Sudan MOH expressed and confirmed its commitment to reducing maternal deaths through a program for PPH prevention. While the MOH prefers that women deliver in health facilities with skilled attendants, given that only a small percentage of South Sudanese women can do so and in order to save lives, the MOH is in favor of making misoprostol available to women, regardless of whether they deliver at home or in a health facility.

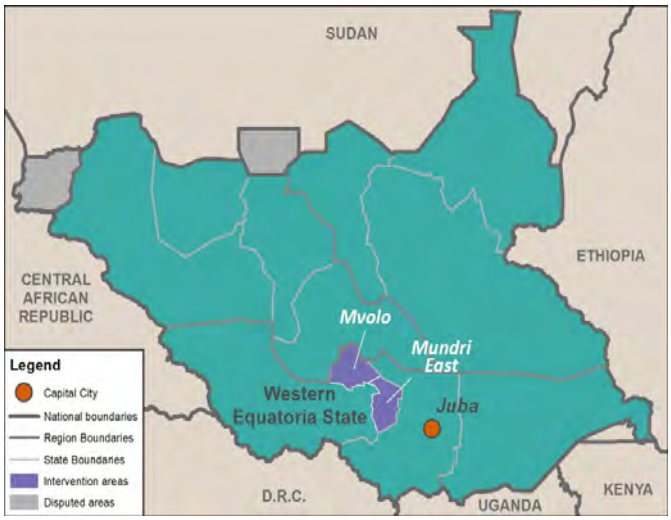
Expected Results

- Health provider and HHP capacity improved in prevention of PPH information and services
- Counseling and misoprostol provided to 2,000 women
- Misoprostol used by 1,000 women for prevention of PPH at home births
- Results disseminated from the learning phase and lessons learned identified

Major Accomplishments

Following a catalytic regional meeting hosted by MCHIP in Ethiopia in February 2011, which included key stakeholders from South Sudan, efforts to define a PPH reduction strategy for South Sudan were accelerated. The MOH, with technical support from MCHIP, implemented a combined health facility and community-focused program for prevention of PPH. The program strengthened active management of the third stage of labor (AMTSL) and management of PPH at health facilities as well as counseling and advanced distribution of misoprostol by health care providers and HHPs for self-administration at home births.

Figure 6. Map of PPH Implementation Districts



The program design was completed under the Management Sciences for Health-managed SHTP II project and implemented under the MCHIP ISDP. Save the Children and Mundri Relief and Development Association (MRDA) were the program's in-country partners for implementation. VSI supplied the misoprostol, and Systems for Improved Access to Pharmaceuticals and Services Program (SIAPS, implemented by Management Sciences Health) distributed it for the two counties. MCHIP technical guidance and assistance was provided by Jhpiego and JSI.

The learning phase of the program was implemented from September 2012 to March 2013 in Mundri East and Mvolo Counties. MCHIP received approval from the Johns Hopkins School of Public Health Institutional Review Board. The learning phase had the following objectives:

1. Assess whether ANC visits by trained professionals are an effective mechanism for advanced distribution of misoprostol for PPH prevention for women who deliver at home
2. Assess whether home visits by HHPs for counseling on birth preparedness/complication readiness (BP/CR) and advanced distribution of misoprostol is effective for PPH prevention for women who deliver at home
3. Assess the coverage and use of misoprostol for home births
4. Determine whether misoprostol is acceptable to South Sudanese women for PPH prevention
5. Measure whether a strategy of advanced distribution of misoprostol affects the proportion of deliveries conducted in a health facility

The key activities implemented under the learning phase of the program are described below.

1. **Strengthened capacity of HHPs to provide counseling on BP/CR, referral of pregnant women for antenatal care, and correct use of misoprostol**

   Out of the 270 eligible HHPs in the two implementation counties, 260 (96%) HHPs received training for the prevention of PPH program (96%). MCHIP developed HHP training materials—a facilitators' handbook and participants' handbook—for the program. The four-day training entailed three days of classroom interactive sessions, lecture, role plays, and group work, while the fourth day focused on community-supervised practice on counseling of pregnant women and their families using counseling flip cards/IEC materials. The IEC

materials had been adapted by MCHIP to the South Sudan context. HHPs were trained to (a) provide education on BP/CR, including the risk of PPH; (b) distribute misoprostol late in pregnancy (at/after 32 weeks); and (c) conduct postnatal care follow-up interviews at homes to collect information on experience/complications and retrieve empty or unused misoprostol packets. After completion of the training, HHPs were equipped with the knowledge, skills, and attitudes needed to counsel pregnant women, their support persons, families, and other community members about the importance of taking misoprostol for prevention of PPH and what actions to take if a PPH occurs.

MCHIP conducted post-training follow-up and supportive supervision to the implementation areas to ensure that HHPs were conducting the intervention according to standard. MCHIP also reviewed the data that was being collected to identify any data quality issues and provide capacity-building as needed. Approximately one visit per quarter was made by the PPH Officer to the implementing NGO, and joint supervision visits were made to the field to observe HHP counseling visits at the household level.

2. Strengthened capacity of skilled birth attendants (SBAs) to provide AMSTL as part of clean and safe delivery at health facilities

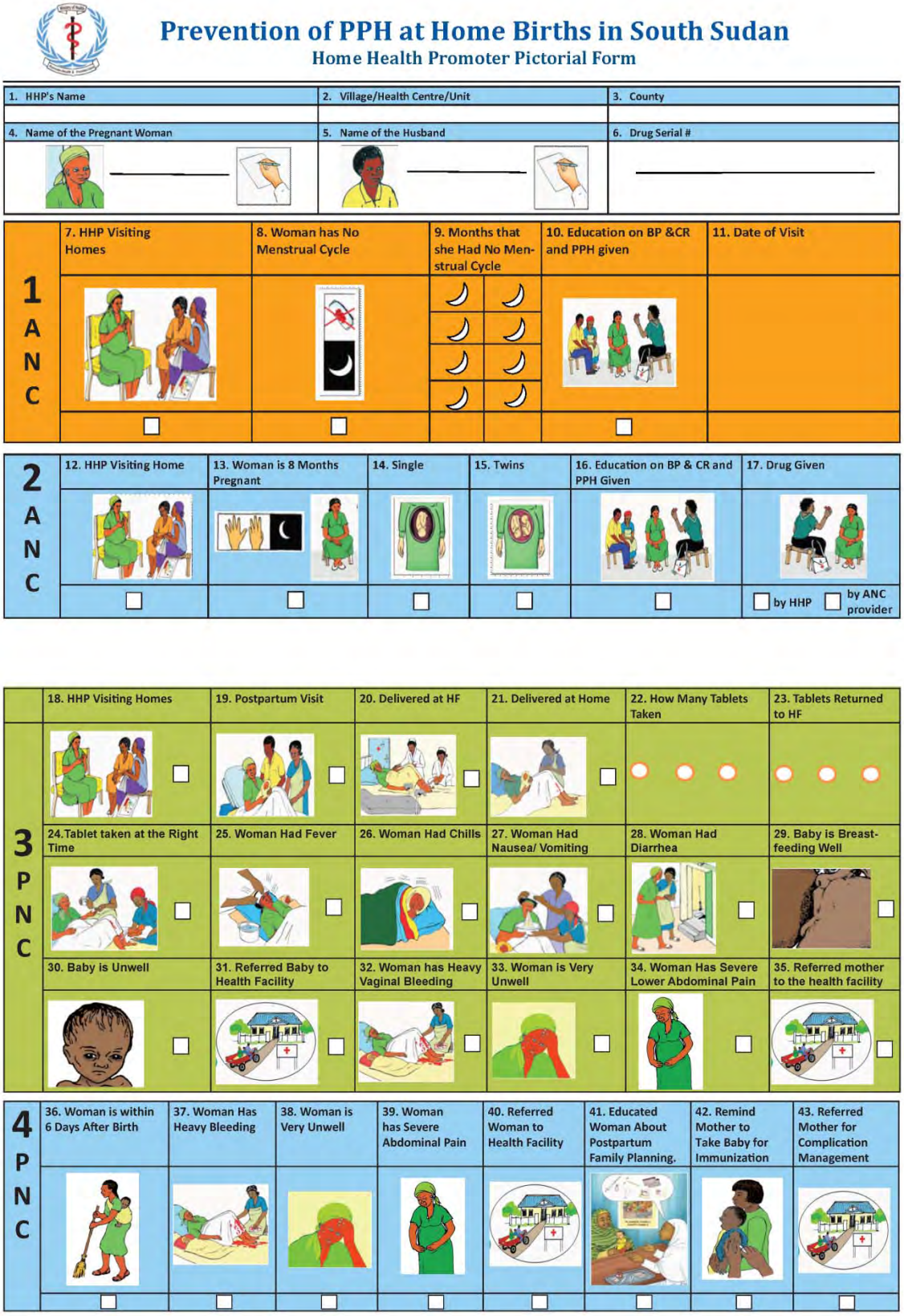
Out of the 124 eligible health workers in the two implementation counties, a total of 60 SBAs, community midwives, and maternal and child health workers were trained (48%).[2] SBAs included clinical officers, medical assistants, nurses, nurse midwives, and midwives. Training was conducted in Lui Hospital for participants from Mundri East and at a midwifery training center in Juba for participants from Mvolo.

The clean and safe delivery training materials were developed and field-tested by MCHIP. Participants were trained to provide BP/CR education, distribute misoprostol late in pregnancy, and conduct postnatal care follow-up interviews at the facility. In addition, the health workers were trained on clean and safe delivery, which included AMTSL, management of PPH, and immediate newborn care. The training also provided an opportunity for SBAs to develop their knowledge and skills in the management of certain basic emergency obstetric and newborn care signal functions such as manual removal of placenta, which has built a foundation for upcoming ISDP-supported training in basic emergency obstetric and newborn care.

MCHIP received 50 MamaNatalie anatomical models that had been procured under SHTP In addition, each county received two models for future training.

[2] Community midwives typically have not been included in South Sudan's definition of SBA; however, for the purposes of the prevention of PPH program, they were considered SBAs and were found to perform well.

Figure 7. Home Health Promoter Pictorial Form



3. **Supported development of HMIS at the community level for monitoring the new intervention**

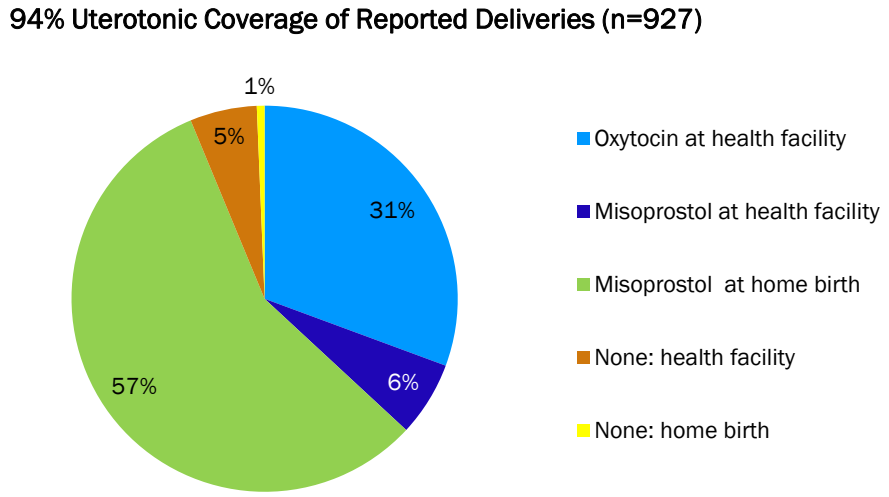
   Data collection forms with a pictorial format were developed for HHPs for monitoring the prevention of PPH intervention. The form used in other MCHIP countries implementing the intervention was adapted to the South Sudan context with culturally appropriate messages. Results from the learning phase showed usability of these forms by HHPs. When the intervention is rolled out in the national expansion, these forms should be integrated into the national HMIS as part of national program monitoring.

4. **Provided counseling and distributed misoprostol, through ANC and at the community level by HHPs, for self-administration by women at the time of birth**

   Findings from the learning phase indicated that it was safe, acceptable, feasible, and effective to implement a PPH prevention intervention that combined improving services at health facilities and reaching women who are unable to deliver at health facilities. Before this intervention, use of uterotonics for PPH prevention was limited in the hospital setting and nonexistent in health centers.

Figure 8. Uterotonic Coverage in the Learning Phase

The combined health facility and community-focused program for prevention of PPH resulted in uterotonic coverage of 94% of reported deliveries in Mundri West.



Use of misoprostol for home births was high: 99% of women having a home birth in Mundri East who had misoprostol reported taking it. No serious adverse events occurred among participants.

5. **Identified lessons learned and disseminated results from learning phase**

   A dissemination meeting was conducted on May 15, 2013, to promulgate the results of the learning phase. A wide representation of stakeholders participated, including the MOH, representatives from ISDP's county implementing partners, donors, and others. Presentations covered results, components of the intervention, lessons learned, and next steps. Participants were given the opportunity to ask questions, which were addressed by the facilitators. In addition, a midwife, an HHP, and a client and her husband from Mundri East shared their experience with the intervention and the positive impact it had on their lives and community. The MOH concluded the meeting by expressing satisfaction with the success of the learning phase and recommended rollout to other counties and states in South Sudan.

After this central dissemination meeting, MCHIP and ISDP continued to share results with stakeholders, including at the RH forum meeting in Juba, the MCHIP PPH workshop Washington, DC, in September 2013, and the MCHIP PPH workshop in Mozambique in February 2014.

Key Lessons Learned

- Leadership from the Ministry of Health and the PPH Technical Advisory Group were fundamental to program implementation and monitoring.
- The advocacy and program efforts of a champion were critical to implementation of both the community and facility components.
- In the absence of oxytocin, misoprostol can be used at facilities as a reasonable alternative.
- A detailed review showed significant delays in seeking care. Stronger maternal death audits would help to reveal the cause of any complications and the delays involved in addressing these complications.

6. Supported continuation of the prevention of PPH program in Mundri East and Mvolo Counties and expansion to other areas of South Sudan

The learning phase concluded in March 2013, but the intervention continued in Mundri East and Mvolo Counties with the endorsement of the MOH. The cumulative service delivery achievements (learning phase and beyond) are summarized in Table 8.

Table 8. Service Delivery Achievements in Mundri East and Mvolo

Service Delivery Indicators	Achievements
Number of pregnant women who received misoprostol	2,040
Number of women who had a home delivery	1,842
Number of women who delivered at home and took misoprostol	1,822
Number of women who delivered at a health facility and received misoprostol	190
Number of women who received oxytocin within three minutes of delivery	922

Note: Mundri East data reported through March 2014; Mvolo data reported through November 2013

With the endorsement of the MOH, expansion of the prevention of PPH program has started in other counties within WES, supported under ISDP. To date, the following progress has been made by ISDP:

- Technical support was provided to NGOs to replicate the clean and safe birth training, and 110 birth attendants were trained during ISDP rollout training in 16 counties.
- An orientation meeting was conducted for the prevention of PPH program in Tambura, Yambio, and Mundri West Counties to prepare for rollout. The meetings were conducted with county implementing partners' management and technical teams, county health departments, and community leaders.

Since the conclusion of the PPH prevention program learning phase, other programs and donors have started replicating the approach, with technical support by MCHIP and ISDP:

- Six additional states implemented by the Health Pooled Fund
- In "reachable" areas implemented by IMA World Health, the approach has been adapted so that mobile clinics and providers distribute misoprostol to pregnant women
- Additional counties within WES and CES

Next Steps for Expansion in South Sudan

Under the stewardship of the MOH and the PPH Technical Advisory Group, MCHIP recommends the following longer term steps to support expansion of the prevention of PPH program, using results from the learning phase:

- **Distribute training and monitoring materials developed in the learning phase for national application.** Counseling flip cards, HHP reporting forms, posters, and misoprostol inserts have been produced, and ISDP will distribute these materials to partners in selected counties where the PPH program will be expanded. Representatives from the Health Pooled Fund attended the HHP Training of Trainers in June 2014, and ISDP provided electronic copies of materials to participants. ISDP will share materials with any other partner that is interested in rolling out the intervention in South Sudan.
- **Integrate data collected by HHPs for prevention of PPH in the HMIS.** HHP data isn't currently captured in the HMIS. ISDP will advocate with the national MOH to integrate select service delivery indicators. Oxytocin has already been integrated, but the inclusion of other indicators will require longer-term advocacy.
- **Incorporate the intervention into the national HHP guidelines.** A technical working group on HHPs is considering the consolidation of different technical approaches so a common community mobilization strategy can be developed. ISDP will advocate for community-based distribution of misoprostol and health promotion within the HHP consolidated package.
- **Integrate other high-impact interventions for improving maternal and newborn health, such as chlorhexidine for newborn cord care.** ISDP will explore the feasibility of integration of other high-impact interventions.

Recommendations and Way Forward

As described in the preceding section, MCHIP had important successes that can be used as a platform for future work in South Sudan. While these achievements are an important step to improve RH/MNCH at the national level, much work remains. The following are selected recommendations, based on program experience and lessons learned, that the MOH and partners can consider for the future.

- The prevention of PPH program showed remarkable potential for impact, and it should be expanded to all states in South Sudan. High uterotonic coverage was achieved in the learning phase of the program in rural areas of the country, and the MOH commissioned ISDP to continue expanding the intervention in WES and CES. Furthermore, the intervention continued to be delivered in Mundri East and Mvolo Counties since the crisis in South Sudan began on December 15, 2013. More than 100 pregnant women gave birth between December 2013 and January 2014—and they survived, thanks to ISDP-supported health providers. Other donors and programs, including the Health Pooled Fund, have started to replicate this intervention in other states of the country with technical support of MCHIP and ISDP. It is recommended that this evidence-based and effective intervention be scaled up to all states of South Sudan to improve maternal survival.
- The presence of the Senior FP/RH Advisor has enabled ISDP and other programs to make significant gains in FP. The support of the Senior FP/RH Advisor facilitated ISDP's field test and subsequent revision of the FP curriculum for facility providers in South Sudan. The efforts of the FP Technical Working Group, led by the FP/RH Advisor, provided the first draft of the curriculum, which was operationalized in the ISDP-supported training.

FP counseling session as part of the pre-test of the FP curriculum

- To implement the Strategic Information Plan (2013–2017) of the HIV/AIDS Health Sector, the HIV/AIDS Division should consider creating an M&E unit that will be responsible for strategic information functions, along with a unified HIV strategic information team. The team can be formed out of the existing M&E and surveillance personnel serving under various stakeholders, such as the HIV/AIDS Division, MOH M&E Directorate, and partners who support the MOH on HIV M&E, with surveillance under the leadership of the MOH M&E Directorate.
- The national and state M&E unit personnel should undergo skills assessments in HIV/AIDS M&E to identify any gaps and develop action plans to address the gaps.
- The HIV/AIDS Division should ensure that strategic information and capacity strengthening strategic plans are implemented in the context of the overarching strategic and M&E framework at the sector and national HIV/AIDS response levels, including plans for data analysis, dissemination, and utilization.
- Targeted evaluations and sub-national sero-behavioral surveys should be conducted in five-year intervals to fill the data gaps in behavioral and program components of the response.

- The HIV/AIDS Division should continue to implement the DHIS to avoid having multiple M&E databases. The DHIS includes modules for accommodating all the required facility and community-based HIV data, critical for monitoring the response.
- The HIV/AIDS Division should develop a clear evaluation and research agenda.
- The HIV/AIDS Division, together with partners, should develop annual operational plans to support the implementation of national health strategic plan components, which are the mandate of the MOH.
- The HIV/AIDS Division should plan for integrated quarterly/biannual supportive supervision to the states, and the plan should encompass all areas of HIV prevention, care, and treatment, as well as behavior change communication and HIV/tuberculosis collaboration.
- The HIV/AIDS Division should produce quarterly HIV updates and disseminate the updates to partners, states, and counties.
- Continued support is needed for a Senior FP/RH Advisor in the central MOH to create high-level advocacy for RH/MNCH activities. The deployment of the advisor to the central MOH presented opportunities for coordinating and liaising with a broad range of stakeholders and policymakers to call attention to RH/MNCH needs. Placement also allowed for support to important cross-cutting activities related to RH/MNCH, such as support for human resources for health. The advisor secured 15 training positions for nurse-anesthetists at Kijabe Training Hospital in Kenya and 12 positions for obstetricians and gynecologists in medical schools in Kenya, Zimbabwe, and Tanzania. Furthermore, the advisor contributed to the curriculum review and development for midwifery training. It is recommended that this position continue to support institutional capacity-building and advocacy for RH/MNCH.
- There were some challenges that impeded activities; however, these challenges were also opportunities for advocacy:
- Budget limitations within the MOH to support FP/RH activities: Limitations with the MOH budget to support FP/RH activities presented some challenges. The Senior FP/RH Advisor addressed these budget limitations by working closely with a wide range of stakeholders to solicit funding from various partners on any proposed FP/RH activity. Technical working groups and other fora that convened stakeholders provided opportunities for this coordination.
- Human resource gaps in the MOH: The Directorate of RH had only four staff: Director General (Acting), Clinical Officer, Social Scientist, and Community Social Development. Only five states in the country had an RH Coordinator, and all five RH Coordinators were Clinical Officers. The other five states did not have the RH Coordinator position filled. These gaps in staffing presented challenges for the Senior FP/RH Advisor in capacity-building as well as in coordination of RH activities through the country.

Annex 1: Indicator Matrix

	Indicator	Definition/Clarification	Data Source /Collection Method	Frequency of Data Collection	EOP Achievement
1.1	Number of national policies drafted with USG support *+	The number of policy documents developed or modified with MCHIP support in order to improve access to and use of high-impact FP services. For MCHIP South Sudan, this includes the National FP Policy and FP protocols	Internal quarterly project reports	Quarterly/annually	3 *National FP Policy, RH Policy, and RH Strategy*
1.2	Number of people trained with USG Support	The number of people trained in FP and RH with MCHIP support	Internal quarterly project reports Training reports	Quarterly	320 *The MCHIP Sr. FP/RH Advisor technically supported FP training; however, the cost of training was borne by ISDP and/or other programs (e.g. IMA World Health, etc.).*
2.1.1	Mapping of existing indicators on HIV/AIDS in country The issue is discussed and presented at HMIS working group and decision taken	Harmonize and streamline indicators and reporting formats being collected on a routine basis and strengthen coordination between HIV/AIDS and M&E & HMIS units of the MOH	Quarterly report	Once	Completed
2.1.2	Revised data management guidelines available A plan for HMIS rollout with phase-wise coverage at the national level	Revision of data management and reporting guidelines and national scale-up of HMIS	Revised guideline and quarterly report	Once	Completed
2.1.3	Report data on 2012 counseling and testing, RH/PMTCT, ART, blood safety, condoms, and sexually transmitted diseases	Analysis of data from 2012 and report writing for the specified components	2012 report	Once	Completed *Generated 2 HIV/AIDS Division annual reports*
2.1.4	Achievable targets for all HIV/AIDS program areas set	Formulate a guide to settings for each program component based on what has been achieved	Target- setting report	Quarterly	Targets set in the HIV/AIDS strategic plan (2013–2017)
2.1.5	Supportive supervision with elements of data quality and M&E available	Develop a supportive supervision checklist and train staff in conducting supportive supervision	Supportive supervision checklist	Quarterly	Completed
2.1.6	HIV/AIDS Division quarterly reports available	Analysis and report writing for every quarter	Quarterly reports available	Quarterly	Completed *Annual reports*
2.1.7	Training materials on HIV/AIDS M&E available	Strengthen the M&E capacity of staff from HIV/AIDS Division	Training report and materials	Once	Integrated Management of Adolescent and Adult Illness training materials adopted
2.1.8	Training organized on RDQA	▪ Improve quality of reported data ▪ At least one RDQA conducted in 2012	RDQA training and field reports	Quarterly	Training on RDQA completed; RDQA not done due to lack of funds

	Indicator	Definition/Clarification	Data Source /Collection Method	Frequency of Data Collection	EOP Achievement
3.1	National program review conducted	National EPI program review conducted with MCHIP technical support, MOH leadership, and partner participation; dissemination meeting conducted; report and recommendations disseminated	National EPI program review report	Upon completion	Yes
3.2	National EPI policy disseminated	National EPI policy document was finalized in prior fiscal year; launch and dissemination workshop to be held for national, state, and county health office staff	National policy workshop report	Upon completion	Yes
4.1	Prevention of PPH introductory program successfully conducted in 2 counties	Two counties in which prevention of PPH introductory program activities were conducted	Completion report	Upon completion	2 counties in which prevention of PPH introductory program activities were conducted
4.2	Proportion of pregnant women who received misoprostol	Numerator: Number of pregnant women who received misoprostol in the study area during the specified timeframe Denominator: Total estimated number of pregnant women in the study area during the specified timeframe	HHP Registration and Drug Distribution Register Health Facility Distribution Register	Monthly	787/924 (85.2%) *Learning phase, Mundri East*
4.3	Proportion of women with home births who received misoprostol	Numerator: Number of women with home births interviewed who received misoprostol (disaggregated by receipt during ANC at the health facility or by HHP at home) Denominator: Total number of women with home births interviewed (disaggregated by where misoprostol was received, either ANC or at home)	Misoprostol Postpartum Questionnaire	Once	At ANC by health care provider: (135/787) 17.2% At home by HHP: (652/787) 82.8% *Learning phase, Mundri East*
4.4	Proportion of women with home births who received misoprostol and took misoprostol	Numerator: Number of women with home births interviewed who received misoprostol and took misoprostol (disaggregated by receipt during ANC at the health facility or by HHP at home) Denominator: Total number of women with home births interviewed (disaggregated by where misoprostol was received, either at ANC or at home)	Misoprostol postpartum questionnaire	Once	(527) 98.9% *Denominator not specified because women received misoprostol both at ANC or at home* *Learning phase, Mundri East*

	Indicator	Definition/Clarification	Data Source /Collection Method	Frequency of Data Collection	EOP Achievement
4.5	Proportion of women with home births who received misoprostol and took it correctly	Numerator: Number of women with home births interviewed who received misoprostol and took the drug misoprostol at the correct time Denominator: Total number of women who received misoprostol and were interviewed (disaggregated by where misoprostol was received, either at ANC or at home)	Misoprostol postpartum questionnaire	Once	Misoprostol distributed by HHP: (437/439) 99.5% Misoprostol distributed by health provider: (36/36) 100% *Learning phase, Mundri East*
4.6	Proportion of women who consumed misoprostol and experienced an adverse event	Numerator: Number of women who consumed misoprostol and experienced an adverse event Denominator: Total number of women who consumed misoprostol interviewed	Misoprostol postpartum questionnaire Severe Adverse Event (SAE) form	Once	(0/685) 0%
4.7	Proportion of women who consumed misoprostol and experienced minor side effects	Numerator: Number of women who consumed misoprostol and experienced minor side effects Denominator: Total number of women who consumed misoprostol interviewed	Misoprostol postpartum questionnaire	Once	(408/475) 85.9% *Learning phase, Mundri East*
4.8	Proportion of women who consumed misoprostol and experienced any obstetric complication	Numerator: Number of women with home births who consumed misoprostol and experienced any obstetric complications Denominator: Total number of women who consumed misoprostol interviewed *Note: data will also be disaggregated by type of complication (e.g., PPH)*	Misoprostol postpartum questionnaire	Once	(0/527) 0% *Learning phase, Mundri East*
4.9	Proportion of women who received misoprostol during ANC who can recall birth preparedness and PPH prevention information	Numerator: Number of postpartum women interviewed who received misoprostol during ANC and who can correctly recall birth preparedness and PPH prevention information Denominator: Total number of postpartum women interviewed who received misoprostol during ANC	Misoprostol postpartum questionnaire	Once	Received counseling by HHP: ▪ Correct knowledge of danger signs during pregnancy (at least one): (449) 94.7% ▪ Correct knowledge of signs of excessive bleeding: (203) 42.8% ▪ Correct knowledge of misoprostol: (472) 99.8% ▪ Correct timing and number of drugs to take: (451) 95.1% *Learning phase, Mundri East*

	Indicator	Definition/Clarification	Data Source /Collection Method	Frequency of Data Collection	EOP Achievement
4.10	Number of ANC providers who conduct antenatal counseling and education to standard	Number of ANC providers who conduct antenatal counseling and education to standard	Household monitoring visit education session observation checklist	Monthly	16 *Learning phase, Mundri East*
4.11	Number of HHPs who perform BP/CR and PPH counseling and education to standard	Number of HHPs who perform BP/CR to standard	Household monitoring visit education session observation checklist	Monthly	135 *Learning phase, Mundri East*
4.12	Proportion of health care providers/HHPs who know the correct administration of misoprostol	Numerator: Number of health care providers/HHPs who know the correct administration of misoprostol Denominator: Total number of health care providers/HHPs observed	Education session observation checklist	Once	(83) 96.5% *Learning phase, Mundri East*
4.13	Proportion of pregnant women who received misoprostol from an HHP	Numerator: No. of pregnant women given misoprostol by a HHP Denominator: Estimated number of pregnant women who received misoprostol during the specified period	▪ HHP drug distribution register ▪ Health facility drug distribution register	Monthly	652 (82.8%) *Learning phase, Mundri East*
4.14	Proportion of women who consumed misoprostol who are satisfied with their experience	Numerator: Number of women who consumed misoprostol who are satisfied with it and plan to take it at their next pregnancy/delivery and/or will recommend it to a friend or relative Denominator: Total number of women who consumed misoprostol	Misoprostol postpartum questionnaire	Once	Received counseling and misoprostol by HHP: ▪ Would recommend misoprostol to a friend: 448 (95.3%) ▪ Agreed to pay 5 South Sudanese Pounds (SSP): 435 (91.8%) ▪ Would take misoprostol for next delivery: 468 (99.8%) Received counseling and misoprostol by health provider: ▪ Would recommend misoprostol to a friend: 32 (86.5%) ▪ Agreed to pay 5 SSP: 33 (89.2%) ▪ Would take misoprostol for next delivery: 36 (97.3%)

	Indicator	Definition/Clarification	Data Source /Collection Method	Frequency of Data Collection	EOP Achievement
4.15	Proportion of deliveries at program health facilities	Numerator: Number of deliveries occurring at the health facilities included in the program during the specified time period Denominator: Total number of estimated deliveries in the program area during the specified time period	Labor and delivery register	Monthly	43% *Learning phase, Mundri East*
4.16	Number of women who received a uterotonic immediately after birth at program health facilities	Number of women with vaginal births who delivered at program health facilities who received a uterotonic immediately after birth	Birth register	Monthly	342 (86.8%)
4.17	Number of providers who give a uterotonic within 3 minutes of delivery	Number of providers who give a uterotonic within 3 minutes of birth	AMTSL observation checklist	Monthly	712
4.18	Number of providers who perform AMTSL to standard	Number of providers who perform all three elements of AMTSL to standard	AMTSL observation checklist	Monthly	29

Annex 2: Success Stories

1. HELPING MOTHERS GIVE BIRTH SAFELY AMID SOUTH SUDAN'S CONFLICT

Lanyi, South Sudan -- When the gunshots started in Lanyi town, Wilma Avowa was grinding corn in preparation for dinner. She grabbed a few clothes, some food, and packed them in her bag. As she fled her home in this community located five hours from South Sudan's troubled capital, she feared for her two pregnant neighbors, both of whom were due to deliver soon.

Meanwhile, the two women, Esther Maliga, 19, and Florence Lextion, 24, were at home, resting. Florence was lying on a mat on the floor when she heard the gunfire. She got up quickly and packed a few clothes for the baby she knew was coming. Her plan to give birth in the local health facility was quashed by the civil unrest embroiling her nascent country. She took the hands of her two children, a three-year-old and a five-year-old, and set off for the protection of the hillside about two kilometers away. Florence moved as fast as she could, but she had to stop several times to rest, hiding behind trees and lying flat on the ground with the children next to her. Her husband was far away from the village, tending to the family's cattle.

By the time Florence and her children reached the hillside, most of their neighbors were gathered there, including Wilma and Esther. The women crowded under a rock overhang, which hid them from sight. They stayed there through the night and most of the next day. Florence and Esther both went into labor that afternoon.

Luckily for both women, Wilma was prepared. A volunteer home health promoter, Wilma had stored in her bag three doses of misoprostol, an educational flip chart, and two Mama kits—the basic essentials for assisting in a birth.[3] Wilma had been trained to promote the use of misoprostol among pregnant women in her community as part of a lifesaving initiative supported by the U.S. Agency for International Development's Integrated Service Delivery Program (ISDP). Misoprostol is a drug that helps prevent postpartum hemorrhage, the leading cause of maternal deaths in most of the developing world. South Sudan has the highest rate of maternal deaths in the world.

"The good thing about miso, I could carry it with me when I ran," says Wilma, recalling that December day. Unlike other uterotonic drugs, which work by causing the contraction of the uterus and control bleeding, misoprostol does not require refrigeration. This drug is the basis of the strategy supported by ISDP to prevent bleeding after birth.

[3] Mama kits are provided by UNFPA in South Sudan. They include a sterile blade, ligatures, gloves, soap, and a small plastic sheet.

Wilma is one of 260 home health promoters who have been trained through the Mundri Relief and Development Association, which is supported through ISDP. In partnership with the government of South Sudan, ISDP, led by Jhpiego, aims to ensure that the populations of Western and Central Equatoria States—approximately 2 million people—have access to an integrated package of primary health care services.

Although more than 1,000 South Sudanese women have benefitted from this innovative, lifesaving approach since ISDP began in 2012, no one could have imagined that this vital service would be provided in the bush. But on this afternoon, Wilma laid out a small bed sheet on the long grass and used the contents of the Mama kit to assist Esther in giving birth. After the baby girl was delivered, Wilma gave Esther the misoprostol to prevent excessive bleeding. Three hours later she did the same for Florence, who also gave birth to a healthy baby girl. Wilma says they slipped the women with their babies back under the rock overhang soon after they delivered, to keep them safe.

In recalling the birth of her daughter Alice Terewa, Florence says she wasn't afraid during her delivery, but she "wanted the baby to come quickly, so that if they needed to run later," they could. Esther named her baby daughter Jaminewa. Both mothers say their daughters share a special bond, being born within hours of each other, in such difficult circumstances, and with the support of Wilma. In spite of the conflict that erupted in South Sudan in December 2013, community midwives and volunteer home health promoters like Wilma have carried on their work —visiting pregnant women in their homes, helping them prepare a birth plan, and educating them on how to self-administer misoprostol. More than 100 pregnant women gave birth between December 2013 and January 2014—and they survived, thanks to the ISDP-supported health providers.

In Lanyi, in Mundri East County, unlike other areas of South Sudan, the conflict was limited to opposition forces raiding the town for supplies. The armed men moved through the roadside town, taking supplies such as food, water, and cell phones, but they left after another day. After two nights in the bush, the community returned to their homes with two new healthy additions, Alice and Jaminewa. The story of how a woman volunteer sought to safeguard the lives of her neighbors by ensuring access to misoprostol is already being told again and again.

This intervention—which puts a lifesaving measure directly into the hands of women—has provided mothers with the opportunity to safeguard healthy families, beginning on the day of birth.

2. PROGRAM IN SOUTH SUDAN HELPS MOTHERS SURVIVE CHILDBIRTH

It was past midnight when Zelpha Sarah Sigin's labor pains began. Wilma Thomas Ajiba, a community health volunteer in Mideh, South Sudan, arrived at the family hut just after Sigin gave birth to her daughter. "When the baby came, [Sigin] started bleeding," Ajiba says. "It just poured. I checked to see that there is no second baby, and I gave her the tablets."

The tablets stored in Sigin's hut were three white pills, the recommended dose of the drug misoprostol, a uterotonic that helps contract the uterus and prevent postpartum hemorrhage—the leading cause of maternal deaths. Unlike oxytocin, the drug most women receive to prevent hemorrhage after giving birth, misoprostol does not require refrigeration, making it a safe, low-cost, and effective alternative for use in village health centers, which often lack electricity, or at home when a pregnant woman can't get to a facility. "The bleeding stopped. And the mother is well," Ajiba says, gesturing to the smiling Sigin, who had given birth seven days before. Ajiba, a grandmother of 12 children, was chosen by her village to serve as part of a trained corps of volunteer home health promoters who identify pregnant women in their community, educate them on safe birth practices, and connect them to health services.

In South Sudan, surviving childbirth is an achievement. The newest country on the planet, South Sudan has the highest maternal death rate in the world. This situation is attributed in large part to a 20-year civil war that degraded the health system, deteriorated health facilities, and depleted the ranks of midwives and other health workers. Late last year, violence among political rivals broke out again, endangering the country's most vulnerable citizens: its women and children. When health services are disrupted, women are left to give birth at home, often alone, perhaps with a traditional birth attendant—but rarely with a skilled health care provider who can help if complications arise.

Jhpiego-led studies conducted more than a decade ago in Indonesia first showed the potential benefits of using community health workers to distribute misoprostol to women in the last trimester of pregnancy for self-administration to prevent postpartum hemorrhage at home births in the developing world.

In 2012, Jhpiego began working in South Sudan through the U.S. Agency for International Development to help the government provide basic health services in two of the country's 10 states. In collaboration with the Ministry of Health and other partners, Jhpiego decided that community distribution of misoprostol would bring lifesaving care to pregnant women who couldn't reach a health facility and therefore had to give birth at home. Today, 260 home health promoters (the term used for the volunteer community health workers) and 60 health care providers working in 33 health facilities have been trained on the use of misoprostol, which is distributed during the eighth month of pregnancy. More than 1,000 pregnant women have received this care and used misoprostol without complications.

3. A HOME HEALTH PROMOTER BRINGS A LIFESAVING INTERVENTION TO A MOTHER IN HER COMMUNITY

Lanyi, South Sudan -- In the village of Lanyi in Western Equatoria State in South Sudan, Susan Emmanuel is a home health promoter who provides education to pregnant women and their families in her community. Esther Benneth, a 23-year-old residing in the village, was visited by Susan in her home when she was pregnant. Along with providing information about how to prepare for pregnancy and delivery, Susan also educated Ester and Ester's husband about what to do in the event of complications, the importance of delivering in a health facility with a skilled provider, and how to self-administer misoprostol, an effective uterotonic, if Susan had to deliver at home.

Photo: Ester, proud mother of healthy twins, and her sister

Susan Emmanuel is one of many HHPs who are participating in a special initiative to reduce the leading cause of maternal death in South Sudan: postpartum hemorrhage. The USAID-funded Maternal and Child Health Integrated Program (MCHIP) is partnering with the Ministry of Health to implement this initiative in two counties within Western Equatoria State. The evidence-based and comprehensive intervention package entails components at the facility and community levels. At the facility level, health providers have been updated with clinical skills to perform clean and safe delivery, including active management of the third stage of labor. At the community level, home health promoters have been trained to deliver counseling on birth preparedness, complication readiness, and the correct use of misoprostol.

During her pregnancy, Ester dutifully followed Susan's counseling and visited the health facility four times for antenatal care. At one of these visits, Ester was informed by the facility midwife that she was pregnant with twins. When she went into labor, Ester again followed Susan's advice. She and her husband visited Lanyi Primary Health Care Center and her delivery was attended by a skilled provider. The health center had a non-functioning cold chain system to store oxytocin—the result of South Sudan's decades-long civil war and ensuing health system and infrastructure challenges—so the midwife delivered the twins safely with the administration of 600 mcg misoprostol.

Findings from this program will inform the gradual future scale up of the program to other counties, so thousands more women can have access to this lifesaving intervention.

4. A LIFESAVING INTERVENTION FOR MOTHERS IS ROLLED OUT IN MUNDRI EAST

Mariam, six months pregnant, listened intently as Mary, a home health promoter, described how Mariam and her family could prepare for complications during delivery. Mariam was joined by her family, including her mother-in-law, stepmother, and father. Mary sat facing all of them as she talked through the educational messages illustrated on a counseling flip chart. Although Mariam was pregnant for the second time, this was the first time she had heard these messages.

The closest primary health care unit to Mariam's home had not been staffed in some time, and Lui County Hospital was a long distance from her home. Mary delivered Mariam's first baby at home because Mariam did not have transportation to the hospital. Mary was selected by her community in October 2012 to serve as a voluntary home health promoter for the catchment area of the Wandi primary health care unit. Well-respected and motivated to serve for the welfare of her community, Mary was proud of being selected. Now she could provide education to the pregnant women in her community, including Mariam. At the conclusion of the home visit, Mary asked Mariam to repeat the key messages. With the help of her family, Mariam was able to correctly repeat what Mariam had described, showing her understanding of the counseling session.

Under the USAID-funded Maternal and Child Health Integrated Program (MCHIP), Mary was trained as a home health promoter through an initiative to prevent postpartum hemorrhage (PPH). Mary learned to counsel to pregnant women and their support persons on birth preparedness, complication readiness, PPH, the importance of delivering with a skilled provider, and use of misoprostol, a uterotonic drug used to prevent PPH if a woman delivers at home. Through home health promoters like Mary, women who deliver at home without the assistance of a skilled provider have access to an effective lifesaving drug that they can self-administer orally to prevent PPH after delivery. This community-based intervention complements efforts to strengthen facility-level services, including in-service training to health providers on clean and safe delivery, active management of the third stage of labor, and management of PPH. Under the leadership of the Government of the Republic of South Sudan, and in partnership with implementing partners MRDA and Save the Children, 2,441 pregnant women in Mundri East and Mvolo Counties have enrolled in the MCHIP prevention of PPH program.

At the conclusion of her visit to Mariam, Mary said that she would return when Mariam was eight months pregnant. At that visit, she would give further counseling, provide misoprostol, and give Mariam instructions on how to use it if she delivered at home. Mary also said she would return for a third visit after delivery to monitor Mariam and her baby and collect the used or unused package of misoprostol. Mariam's father was concerned about the lack of health facility staff at Wandi and asked Mary when a health provider would be posted. Although Mary was unable to answer his question, she encouraged Mariam's father to plan for transport to Lui Hospital for Mariam's delivery. She emphasized again the use of misoprostol to prevent PPH. Mariam's father nodded, saying, "This program is good for our community."

Annex 3: List of Presentations at International Conferences and Publications

Conference	Date	Presenter Name	Title of Presentation
FIGO Conference, Italy	September 2012	Solomon Orero	Preventing Postpartum Hemorrhage in South Sudan by Advanced Distribution of Misoprostol: The Process and Experience from South Sudan
MCHIP PPH Workshop, Washington, DC	September 2013	Solomon Orero	Preventing Postpartum Hemorrhage in South Sudan by Advanced Distribution of Misoprostol: The Process and Experience from South Sudan
MCHIP PPH Workshop, Mozambique	February 2014	Isabella Ochieng	Preventing Postpartum Hemorrhage in South Sudan by Advanced Distribution of Misoprostol

Annex 4: List of Materials and Tools Developed or Adapted by the Project

Material	Date
Republic of South Sudan Ministry of Health Family Planning Policy	November 2012
Republic of South Sudan Ministry of Health Reproductive Health Policy: Present and Future Prosperity Through Safe Motherhood and Healthy Childhood	November 2012
Republic of South Sudan Ministry of Health Reproductive Health Strategic Plan, 2013-2016	November 2012
Clean and Safe Delivery Participants' Handbook	November 2013
Clean and Safe Delivery Trainers' Handbook	November 2013
Prevention and Management of Postpartum Hemorrhage: Implementation Guidelines	December 2013
Home Health Promoter Prevention of Postpartum Hemorrhage Trainers' Handbook	November 2013
Home Health Promoter Pictorial Reporting Form	November 2013
Misoprostol Repackaging Insert	November 2013
Prevention of Postpartum Hemorrhage in South Sudan Briefer: Increasing Access to Evidence-Based Interventions	May 2013
Home Health Promoter Prevention of Postpartum Hemorrhage Counseling Flipchart	November 2013
Home Health Promoter Birth Preparedness and Complication Readiness Counseling Flipchart	November 2013