



MCHIP Madagascar End-of-Project Report

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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.

This report was made possible by the generous support of the American people through the United States Agency for International Development (USAID), under the terms of the Leader with Associates Cooperative Agreement GHS-A-00-08-00002-00. The contents are the responsibility of the Maternal and Child Health Integrated Program (MCHIP) and do not necessarily reflect the views of USAID or the United States Government.

Country Summary: Madagascar



Selected Health and Demographic Data for Madagascar

GDP per capita (USD)	447.44
Total population	22.29 million
Maternal mortality ratio (deaths/100,000 live births)	500*
Skilled birth attendant coverage	43.9
Antenatal care, 4+ visits	49.3
Neonatal mortality rate (deaths/1,000 live births)	24
Infant mortality rate (deaths/1,000 live births)	48
Under-five mortality (deaths/1,000 live births)	72 [48]**
Treatment for acute respiratory infection	42
Oral rehydration therapy for treatment of diarrhea	55.5
Diphtheria-pertussis-tetanus vaccine coverage (3 doses)	72.8
Modern contraceptive prevalence rate	23
Total fertility rate	4.8
Total health expenditure per capita (USD)	17.97

Sources: World Bank, Madagascar 2008–2009 Demographic and Health Survey, WHO, UNICEF.

* 2008–2012 reported MMR which is not adjusted for underreporting and misclassification. A 2010 adjusted ratio reports MMR as 240 according to WHO and UNICEF.

**UNICEF Under-5 mortality ranking (1 = highest mortality rate)

Major Activities by Program

- Conduct a quality of care study
- Provide technical assistance to local professional organizations, social franchises, USAID bilateral programs, and other collaborating partners
- Carry out training and follow-up activity in maternal and newborn health
- Conduct maternal and newborn health interventions in five districts at the community level targeting the main causes of maternal and neonatal death
- Improve pre-service midwifery education
- Implement a postpartum hemorrhage prevention program in Fénérive Est and Vohemar Districts
- Conduct study on knowledge, attitudes, and practices regarding umbilicus cord care and use of chlorhexidine

Program Dates	September 30, 2008–June 2014					
Total Mission Funding to Date by Area	\$3,970,750 (MCH) \$150,000 (FP)					
Geographic Coverage	No. (%) of Regions	5/22 (22%)	No. of Districts	766/119 (55.5%) (districts where we worked in MNH)	No. of Facilities	392/3,04 4 (13%)
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Acronyms and Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
AMTSL	Active Management of the Third Stage of Labor
ANC	Antenatal Care
ASOS	Action Socio-sanitaire Organisation Secours
CA	Community Agent
CDS	Comité de Developpement Social (Social Development Committee)
CHX	Chlorhexidine
COMAGO	Collège Malgache des Gynécologues et Obstétriciens
CROM	Conseil Régional de l'Ordre des Médecins de Toamasina
CSB	Centre de Santé de Base
DHS	Demographic Health Survey
EKAR	Eglizy Katolika Apostolika Romana (Roman Catholic Church)
EmONC	Emergency Obstetric and Newborn Care
ESFI	Ecole Supérieure des Infirmiers de l'Hopital Vaovao Mahafaly Mandritsara
« VAOVAO MAHAFALY »	
ESISF SFA	Ecole Supérieure des Infirmiers et Sage-femmes de Saint François d'Assises
ESPM	Ecole Supérieure Paramédicale de Madagascar
FE	Fénérive Est
FNSF	Fédération National des Sages Femmes
FY	Fiscal Year
H4 +	Health4+ Partnership comprised of WHO, World Bank, UN Women, UNICEF, UNFPA, UNAIDS
HNI	Human Network International
HR	Human Resources
ICF I	ICF International
ICM	International Confederation of Midwives
IFSPA	Institut de Formation Supérieur des Paramédicaux Atsinanana
IFSPR	Institut de Formation Supérieure des Paramédicaux "Les Rossignols"
INFOSUP	Institut de Formation Supérieure des Paramédicaux
INSPAM	Institut Supérieur d'Etudes Paramédicales de Madagascar
IP	Infection Prevention
ISCAMEN	Institut Superieur Catholique de Morondava
ISISFA	Institut Superieur des Infirmiers et des Sages femmes d'Antsiranana
ISMATEC	Institut des Sciences Médicales, de l'Administration et de Technologies
ISPARAMED	Institut Supérieur des Paramédicaux de Madagascar
JHU IRB	John Hopkins University Institutional Review Board
JSI	John Snow International
KAP	Knowledge, Attitude, and Practice
L&D	Labor and Delivery
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MCHIP	Maternal and Child Health Integrated Program

MDG	Millennium Development Goal
MMR	Maternal Mortality Rate
MN	Maternal and Newborn
MNCH	Maternal, Newborn, and Child Health
MNH	Maternal and Newborn Health
MOPH	Ministry of Public Health
MSI/MG	Marie Stopes International Madagascar
NGO	Nongovernmental Organization
ODDIT	Organe de Développement du Diocèse de Toamasina
ONM	Ordre National des Médecins
ONSFM	Ordre National des Sages-Femmes de Madagascar (National Midwifery Board)
PE/E	Pre-eclampsia/Eclampsia
PHPP	Prévention de l'Hémorragie du Post Partum
PPH	Postpartum Hemorrhage
PSI	Population Services International
QMM	QIT Madagascar Minerals.
QoC	Quality of Care
QoC-MNC	Quality of Care of the Prevention and Management of Common Maternal and Newborn Complications
SAF/FJKM	Sahan'Asa Fahasalamana Fiangonana Jesosy Kristy Malagasy
SALFA	Sahan'Asa Loterana Fahasalamana (Lutheran faith-based organization for health)
SBA	Skilled birth attendant
SEFAM	Sekoly Loteriana Fanomanana Mpitsabo Mpanampy (Lutheran School for Midwives and Nurses)
SOMAPED	Société Malgache de Pédiatrie (Madagascar's Pediatric Society)
TIC	Technician in Informatics and Communication
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UAZ	Université Adventiste ZUREICHER Antsirabe
USAID	United States Agency for International Development
WHO	World Health Organization

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We also thank the various partners for their invaluable contributions to the implementation of the interventions and activities of MCHIP/Jhpiego Madagascar: the Ministry of Public Health through decentralized structures, organizations of the UN through the H4 + working group, organizations funded by USAID, professional associations, faith-based organizations working in health, and private professional associations.

Last but not least, many thanks to Madagascar's team for their full involvement and to other people for their direct or indirect participation in the project:

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Executive Summary

As part of efforts to combat the main causes of maternal and neonatal mortality, which are respectively 498/100,000 live births and 24/1000 live births, MCHIP Madagascar implemented maternal and newborn health (MNH) interventions that aimed to: 1) contribute to improving the quality of MNH care in Madagascar through improved policies, standards, strategies, and implementation approaches; 2) demonstrate an effective scalable model of MNH services, on a household-to-hospital continuum, incorporating innovative technical interventions and implementation approaches; and 3) address system factors that have an important bearing on the effectiveness of service delivery at community and health facility levels.

During the life of the project, MCHIP did not work with public entities given the restrictions imposed by the U.S. Government in response to the 2009 political coup. Therefore, to attain the above goals at the facility level, MCHIP Madagascar employed a strategic approach working through professional health associations and private/faith-based organizations. MCHIP worked at the community level through existing partners, including USAID's Santénet 2 program and local associations such as ASOS (*Action Sociosanitaire et Organisation Secours*), to implement activities. MCHIP established three main objectives:

1. To provide support and technical leadership in maternal, newborn, and child health (MNCH) at the national level;
2. To contribute nationally relevant program learning on integrated community and peripheral health facility approaches to MNH, based on demonstration activities in three districts (Ambatondrazaka, Fénérive Est, and Tolagnanro); and
3. To increase uterotonic coverage to prevent postpartum hemorrhage (PPH) at the health facility and community levels in the district of Fénérive Est.

MCHIP MADAGASCAR'S PROJECT ACTIVITIES AND RESULTS

Activities can be divided into three categories:

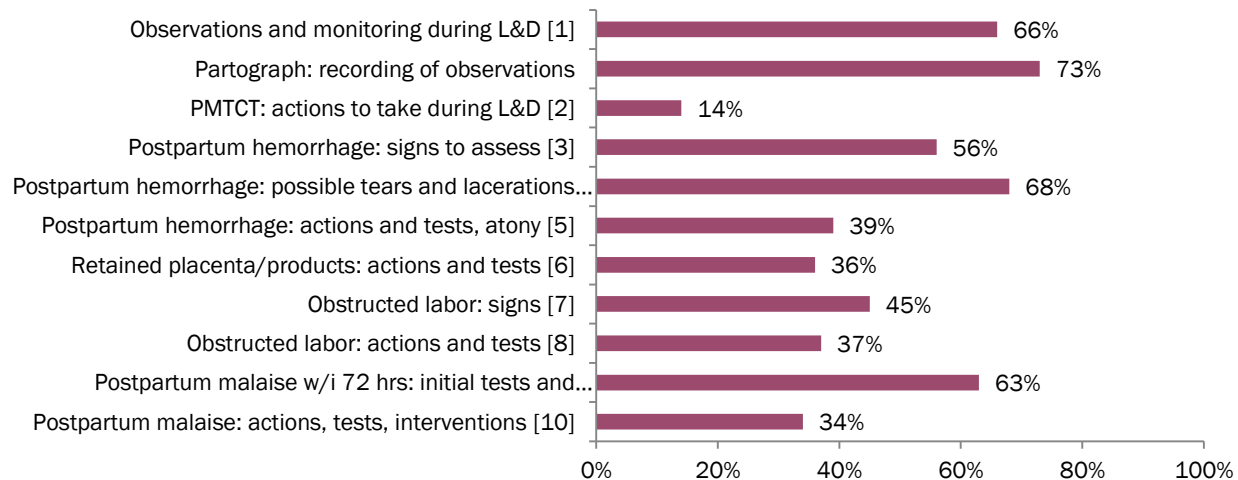
1. Collecting information to guide and justify activities
2. Conducting MNH interventions according to the country's needs
3. Carrying out interventions to demonstrate best practices for improving MNH in the context of Madagascar

Collecting Information

- A **desk review** included gathering and analyzing information on: the health status of mothers, newborns, and children in Madagascar; interventions conducted to improve MNCH; gaps needing to be addressed to improve health outcomes; and recommendations for MCHIP interventions and activities adapted to the local context.
- A **quality of care (QOC) study of emergency obstetric and newborn care (EmONC)** reported data on health services readiness and the QOC offered by providers for the main causes of morbidity and mortality among mothers and newborns (e.g., knowledge and care of pre-eclampsia/eclampsia, PPH, and infection for the mother; and newborn resuscitation). The findings of the QoC assessment indicated that despite a number of areas of strong performance, gaps remain at all stages of the care of pregnant women and newborns, representing opportunities for action by stakeholders. These

findings served to orient the work plan of MCHIP’s intervention in Madagascar and was also used as a reference in the development of the national gap analysis in maternal and child health and the national five-year plan for reproductive health. Figure 1 below shows the gap in health providers’ knowledge.

Figure 1. Mean Scores for Health Care Providers’ Knowledge



- A **baseline survey in three districts** collected general health information, specifically on MNH. Information gathered allowed the project to measure MNH changes throughout the intervention. The main findings show that: magnesium sulfate is not available in all community health centers in the three districts, providers’ knowledge about PPH care is low (ranging from 17.2% to 33%), providers’ knowledge about pre-eclampsia/eclampsia ranged from 0% to 20%, and knowledge of active management of the third stage of labor was only 8% to 17.2%.

Conducting MNH Interventions

At the National Level

- MCHIP Madagascar shared MNH information and knowledge with MNH stakeholders during health partner coordination meetings and medical and midwifery association meetings, and by collaborating with international and national experts. Topics included good practices in MNH, prevention of the neonatal asphyxia, humanized maternal care, and respectful care. More than 1,114 people benefitted from this information sharing.



- **MNH skills development** was carried out to contribute to the improvement of MNH by strengthening and updating providers’ capacity to offer high-quality services. MCHIP Madagascar worked with professional associations, faith-based organizations, and private associations such as Top Reseau, Blue Star, and Santé Sud. Over 15 organizations developed a memorandum of understanding to partner with MCHIP (ONM, Federation des Sages femmes, Somaped, Salfa, SAF, Santé Sud, Mercy Ministry, ASSOS, ACCESS

Zon'olombelona, ODDIT, CARE, CROM, ONSF, QMM, EKAR). Activities for MNH skills development include training 51 trainers to then go on and train 873 providers to offer high-quality MNH service at 392 health centers in 19 regions of Madagascar.

- **Post-training follow-up** is an evidence-based practice that aims to maintain a high level of acquired competencies. A total of 89.6% of trained providers received post-training follow-up. Although time-consuming and expensive, this follow-up is necessary to maintain a high quality of MNH services. Other partner organizations including JSI/Mahefa, Intrahealth and UNFPA will use the same approach for their projects.

Strengthening of pre-service training was implemented by working with 13 private midwifery training institutes (UAZ, ESFI, IFSPA, IFSPR, SEFAM, ESISF SFA, ISPARAMED, INFOSUP, ISMATEC, ESPM, ISCAMEN, ISISFA, INSPAM), and the National Order of Midwives (*Ordre National des Sages Femmes*). MCHIP helped update the midwifery curriculum, improve the management capacity of the private training institute, increase the skills of 37 educators and teachers, and train 13 private institute managers in simulator skills lab management. MCHIP also gave some materials and equipment to 10 private training institutes. At the end of the three-year course, 1,532 midwives are capable of offering high-quality MNH services. Working only with the private sector and *Ordre National des Sages Femmes* limited the impact of the project and made it challenging to change national policy for midwifery schools.

At the District Level

- MCHIP conducted an **MNH intervention** in Taolagnaro, Ambatondrazaka, and Fénérive Est districts to demonstrate the feasibility of an evidence-based practice in the Madagascar context targeting the main causes of maternal and neonatal mortality. MCHIP trained community agents (CAs) in MNH, allowing CAs to offer counseling in danger signs, emergency plans, delivery plans, ANC attendance, and delivering in health care centers. CAs were also trained to perform pre-transfer emergency acts such as reducing PPH using uterine manual compression or skin-to-skin contact to protect the baby. Other CAs from Moramanga and Amparafaravola were trained in community MNH (in total, 756 CAs). With MCHIP support, CAs in the five above-mentioned districts offered services to 6,845 pregnant women, 2,455 women in postpartum, 2,329 newborns; and referred 615 women and 94 newborns. These CAs also benefited from post-training follow-up visit to maintain their competencies.
- The **emergency plan** is a community mechanism conceived to organize and make easier the transfer of patients with health complications from the community to health centers or between two health centers. The emergency plan is composed of five pillars: a decision-making mechanism, a transport mechanism, an urgent funds mechanism, people who help to give blood in case of transfusion and to provide support, and an information system which provides information about the health center and presence of qualified providers. The emergency plan was institutionalized by the mayor in some communes. Within the three districts, 20 of 27 (74%) communes worked with MCHIP to set up emergency plans in Taolagnaro District, 14 of 20 (70%) communes have them in Ambatondrazaka District, and six of 12 (50%) communes have them in Fénérive Est District. Currently, 272 of 389



(69.92%) of Fokontany have functioning emergency plans. The existing emergency plans enabled 615 women to survive from complications. To increase usefulness, the emergency plan should be linked to other community activities such as micro banking which increases the capacity of the member to overcome problems.

- MCHIP Madagascar also **tested registers** to collect data during the delivery and postpartum/postnatal periods. The objective was to improve quality data collection particularly for indicators that track complications. Providers found that registers save time and reduce their workload; registers also remind them of the steps or activities to be carried out during the delivery or postnatal visit. Because all MCHIP interventions were relatively limited in terms of coverage and duration, and were designed to demonstrate feasibility in the local context only, it was difficult to collect outcome or impact data to show changes.

Conducting Evidence-Based Practices

- MCHIP implemented an informative project for **prevention of newborn infection by using chlorhexidine 7.1% in the Mahabo District**. The project had two phases and four components.
 - During **Phase 1**, MCHIP partnered with PSI to assure formative research and the protocol received authorization from the Johns Hopkins University Institutional Review Board (JHU IRB and the local Malagasy Ethics Committee). The objectives were to: assess current cord-care practices among women and select influential family members and providers commonly attending and participating in decision-making related to delivery care; assess whether chlorhexidine (in this formulation) is acceptable to women and selected influential family members for cord care; determine any existing or possible future barriers and motivators among women and selected influential family members that might affect the feasibility of using chlorhexidine programmatically for newborn umbilical cord care; and assess the willingness among women and selected influential family members to pay for chlorhexidine at multiple price points and places of distribution. **Phase 1** resulted in the brand name (AroFoitra) and a logo, as well as information about the knowledge, attitude and practice about cord care.
 - **Phase 2** was implemented by the USAID-funded Malagasy Healthy Families (JSI/MAHEFA) Project at the community level. MCHIP is still involved through the technical working group and ensures technical compliance of the project. The technical working group included UN partners with USAID projects (JSI/MAHEFA and a primary health care project, MIKOLO) and plans to scale up the program to their intervention zones.
 - The second informative project is the introductory program **to increase uterotonic coverage for prevention of PPH at births in health facilities and at home in Fénérive Est District**. MCHIP received authorization from the JHU IRB and local ethic committee. The aim of this project is to generate evidence and inform future policy on the expansion of uterotonic coverage for all women giving birth to prevent PPH using both facility-based and community-based approaches. MCHIP requested an amendment for the protocol timeframe to be extended in Fénérive Est and for Vohemar District to be added. The project in Vohemar is slightly different from the Fénérive one in that MCHIP is working with the JSI/MAHEFA Project to test an integrated program of PPH prevention using misoprostol and newborn infection prevention using chlorhexidine



Simple instructions for the application of CHX included in each insert of the medication

7.1% at the community level. Due to the post-coup restrictions issued by USAID, the project was only implemented at the community level. Information collected from the Fénérive project shows that the intervention is feasible and acceptable for both the health agent and beneficiary (see Table 1 below). For pregnant women registered by CAs, 56.9% (2,788 of 4,903) received misoprostol (Famonjy) during a home visit (distribution coverage) but 78.3% (2,182 of 2,788) effectively used the product (protection coverage). As the two projects were integrated in Voohemar, the scope of work of the chlorhexidine technical working group was changed to include misoprostol. The group will work to change MNH policy to include misoprostol and chlorhexidine 7.1% programs as essential interventions to improve MNH in Madagascar.



A community health agent

Table 1. Women’s Reported Satisfaction with Misoprostol among Enrolled Women Interviewed Postpartum Who Received Misoprostol, Delivered at Home and Ingested the Drug (n=1,920)

INDICATOR	NUMBER	PERCENTAGE (N=1,920)
WOMEN WHO EXPRESSED SATISFACTION WITH MISOPROSTOL		
Would recommend to a friend or relative	1,919	99.9%
Plan to use in future deliveries	1,919	99.9%
Be willing to pay between 500 and 1500 ariary	1,755	91.4%

CONCLUSIONS

Despite the restrictions concerning work with the government, MCHIP succeeded in showing results that are worth consideration by the Ministry of Public Health and MNH implementing partners. The innovative approaches outlined in this report can be duplicated in resource-scarce countries. Some ideas to keep in mind when implementing these programs include:

- Conduct research before writing your work plan to be sure the interventions target the right health problem.
- Orient interventions by targeting the main causes of maternal and newborn morbidity and mortality.
- Favor a long-term vision in human resource development by promoting appropriate and operational training activities (e.g., improving the teaching skills of educators and reviewing educational programs to fit with the needs of the country and the International Confederation of Midwives norms).
- Invest in private/nongovernmental and faith-based organizations to improve health services in cases where the public sector does not succeed in responding to health demands of the population.

Organizations and programs funded by USAID should assure the continuity of these promising interventions that can improve the health of vulnerable populations.

Introduction

OVERVIEW

Madagascar's maternal mortality rate (MMR) is high at 498 per 100,000 live births and has not changed significantly since 1997.¹ Many factors contribute to the high MMR, including the country's total fertility rate of 4.8.¹ Many rural women live in inaccessible areas that are distant from reliable transportation and health services (85% of the population lives five kilometers, or more than one hour's walk, from a basic health facility²) and even when pregnant women manage to visit their nearest health facility, there is no guarantee they will be able to access high-quality care. In the 2008/9 Demographic and Health Survey (DHS), 38% of pregnant women had anemia.¹ A major cause of anemia is iron deficiency, but 41% of women reporting a pregnancy in the previous three years said they received no iron-folic acid supplements. Although 91% of pregnant women reported having had at least one prenatal consultation, only 44% of all births were attended by a skilled health provider and only 35% of babies were born in a hospital settings.¹ Since the majority of women stay at home when they give birth, mother and newborn care are managed by a traditional birth attendant and families are forced to face multiple barriers in case of complications. The rates of preventable conditions such as postpartum hemorrhage (PPH) and obstetric fistula are very high; hemorrhage, eclampsia, and puerperal infections are the three primary causes of maternal death reported by the Ministry of Public Health (MOPH).

Madagascar has achieved remarkable advances in child survival over the last decade, with under-five mortality standing at 72/1000.¹ Currently, the neonatal mortality rate is estimated at 26 per 1,000 live births, during the five years preceding the 2012–2013 national survey to follow up on Madagascar's Millennium Development Goal (MDG) objectives. About one third of all child deaths occur in the neonatal period, with sepsis and birth asphyxia being the primary causes of neonatal death. Diarrheal diseases, malaria, and pneumonia are the other leading causes of death in infants and young children.

HISTORY OF MCHIP IN MADAGASCAR

In 2009, for the reasons mentioned above, Madagascar was designated one of USAID's 24 priority maternal and child health (MCH) countries. USAID has been a leading supporter of child health and nutrition programs in Madagascar for over 20 years, and to a lesser degree of maternal and newborn health (MNH) interventions. In recent years, the Mission's MNH support has been focused primarily at the community level through Santénet 2 (on the promotion of prenatal consultations, maternal nutrition, and prevention of malaria in pregnancy through intermittent preventive treatment) and BASICS III (on newborn health skills training and job aids for community-based health agents). With additional funding, USAID Madagascar wished to expand its high-quality MCH programming to include a more significant focus on MNH. Since the coup d'état in Madagascar in early 2009, the U.S. Government and many other international aid agencies have either withdrawn or placed restrictions on direct support to Madagascar's government and its public sector agencies, including the MOPH. These funding restrictions are expected to continue until there is a democratically elected government in place.

USAID Madagascar provided funding to MCHIP at the end of Fiscal Year 2009 (FY09) for the initial phase of a new MNH improvement effort. In line with current funding restrictions,

¹ ORC Macro. *Madagascar Demographic and Health Survey 2008–2009*.

² Hunter LM. *The Environmental Implications of Population Dynamics*. Santa Monica, Calif: Rand Population Matters; 2000.

MCHIP is restricted to work with and through the private sector, USAID’s community-focused bilateral health project—Santénet2—and other international agencies to address the quality of care (QoC) provided to women and newborns at all levels.

GOALS AND OBJECTIVES

Over the life of the MCHIP-Madagascar project, MCHIP aimed to: 1) contribute to improving the quality of MNH care in Madagascar through improved policies, standards, strategies, and implementation approaches; 2) demonstrate an effective scalable model of MNH services, on a household-to-hospital continuum, incorporating innovative technical interventions and implementation approaches; and 3) address system factors that have an important bearing on the effectiveness of service delivery at community and health facility levels.

The program’s three primary objectives are to:

1. Provide support and technical leadership in maternal, newborn, and child health (MNCH) at the national level,
2. Contribute nationally relevant program learning on integrated community and peripheral health facility approaches in MNH, based on demonstration activities in three districts (Fénérive Est, Ambatondrazaka, Taolagnaro), and
3. Increase uterotonic coverage to prevent PPH at the health facility and community level in Fénérive Est.

MAIN INTERVENTIONS AND COVERAGE

MCHIP Madagascar at the national level was positioned as a technical leader for MNH by working with United Nations organizations, USAID projects, members of professional associations, and networks of medical franchise. MCHIP contributed to the program learning approach that included the integration of the community with the health system by implementing interventions in MNH in five districts (Ambatondrazaka, Taolagnaro, Fénérive Est, Moramanga, and Amparafaravola). MCHIP Madagascar implemented interventions to demonstrate the feasibility and acceptability of community-based distribution of misoprostol and chlorhexidine (CHX) for the prevention of PPH and neonatal sepsis, respectively. Misoprostol activities took place in the districts of Fénérive Est and Voahemmar, and CHX activities took place in Mahabo.

RESULTS FRAMEWORK

MAIN INTERVENTIONS	RESULTS/GOALS
OBJECTIVE 1: PROVIDE SUPPORT AND TECHNICAL LEADERSHIP IN MNCH AT THE NATIONAL LEVEL	
<i>MCHIP worked with UN organizations, USAID partners, and professional associations to achieve the following results over the life of the project:</i>	
Reinforce and update training and technical skills of clinical trainers from professional associations, faith-based organizations, and private health associations	51/63 clinical trainers
Train and supervise practitioners from professional associations, faith-based organizations, and private health associations, in targeted MNH knowledge and skills	873/940 practitioners (783 received supervision)
Extend national-level information sharing work in best and evidence-based practice to reach health care providers from professional associations, faith-based organizations, and private health associations	1017 selected health care providers
Develop, review, and distribute posters or job aids on neonatal resuscitation, the use of magnesium sulfate, and a PPH treatment algorithm	924 health centers where work trained providers working in 392 health facilities
OBJECTIVE 2: CONTRIBUTE NATIONALLY RELEVANT PROGRAM LEARNING ON INTEGRATED COMMUNITY AND PERIPHERAL HEALTH FACILITY APPROACHES IN MNH, BASED ON DEMONSTRATION ACTIVITIES IN THREE DISTRICTS	

MAIN INTERVENTIONS	RESULTS/GOALS
<i>MCHIP worked with Santénet 2 to achieve the following results:</i>	
Train CAs to provide simple primary health care for women and newborns before and during transfer to health facilities, including teaching parents to provide skin-to-skin contact, providing uterine massage, how to place women in a lateral position in the event of convulsions related to PE/E; and standard fever reduction techniques while awaiting transport to a health facility. etc.	756/501 CAs
Support postpartum visits by CAs for women and newborns	2,455/12,350 women and 2,329/14,268 newborns
Support community interventions for maternal and newborn complications, i.e., detecting complications and using the emergency plan to refer cases to health centers when needed	615/1,680 women and 94/1,460 newborns
OBJECTIVE 3: INCREASE UTEROTONIC COVERAGE TO PREVENT PPH AT THE HEALTH FACILITY AND COMMUNITY LEVELS IN FÉNÉRIVE EST	
<i>MCHIP worked with Marie Stopes Madagascar, the Midwives Federation of Madagascar, Pediatric Society of Madagascar (SOMAPED), Ordre National des Médecins (ONM), and other key MNH Stakeholders to achieve the following results:</i>	
Update or train the health care providers on PPH prevention and treatment	44/27 health care providers
Train community agents on PPH prevention	169/149 community agents
Counsel community members during home visits about the dangers of PPH	4,903/5,060 pregnant women visited at home by a CA

STRATEGIES

To achieve the goals and objectives, MCHIP worked with professional associations, the private sector, religious bodies, and political and technical decision-makers to implement interventions at the district and commune level. MCHIP worked at the national level by integrating in the existing technical committees in MNH, such as H4+, a partnership comprised of the World Health Organization (WHO), World Bank, UN Women, United Nations Population Fund (UNFPA), United Nations Children’s Fund (UNICEF), and the Joint United Nations Programme on HIV/AIDS (UNAIDS). Working with existing technical committees ensured maximum coverage for the improvement and updating of provider skills in MNH in the private and public sector. MCHIP also used existing platforms such as Santénet 2 for community activities that involve working together with local development associations. MCHIP has strengthened existing circuits linking the community with the health system by implementing a functional emergency plan according to the local context. In collaboration with a technology NGO in Madagascar, Human Network International (HNI), MCHIP initiated the use of mobile technology to collect data from the project activities.

Major Accomplishments

Despite the facts that MCH is a priority issue in Madagascar and has benefitted from good interventions, little progress has been reported. MCHIP Madagascar believes that new approaches such as the implementation of evidence-based practices and the targeting of the main causes of maternal and newborn death can make a difference. It is essential, however, that these practices are proven feasible and acceptable in the context of the country. As such, MCHIP-implemented interventions were intended to provide decision-makers with the evidence they need to institutionalize these new approaches and put them to scale for adequate coverage and high-quality, ultimately leading to real impact.

COLLECTION OF BACKGROUND INFORMATION

Three kinds of types of information gathering have been used during the life of MCHIP: desk review, quality assessment and baseline survey.

Desk Review in MNH in Madagascar

Conducted in late 2009 and the beginning of 2010, an analysis was undertaken to gather, compile, and summarize documents (both published and unpublished) to gain a better understanding of the MNCH situation in Madagascar. Interviews with key informants in the United Nations, MOPH, other projects funded by USAID, and public/private sector organizations were carried out and documented along with other data on MNCH problems. This review provided a way forward for possible MCHIP interventions. Recommendations from the desk review included:

- Through its interventions in Madagascar, MCHIP was integrated in the MNCH development national planning. As a result, it contributed its expertise in helping crystallize strategies that are effective and beneficial to mothers, newborns, and children including working with professional associations and private sectors to prevent and treat the main causes of maternal and neonatal health.
- MCHIP adopted the two following types of approaches during project implementation:
 - A micro-project at selected districts according to well-defined criteria, and preferably in USAID areas of intervention. This approach allowed control over intervention management and the result and impact assessment. In time, such projects can be replicated in phases until its widespread expansion leads to global coverage.
 - A macro-project at the central or governmental level to support the development of MNCH plans for the country.

Most of the recommendations from the desk review were taken into account when starting the MCHIP project in Madagascar.

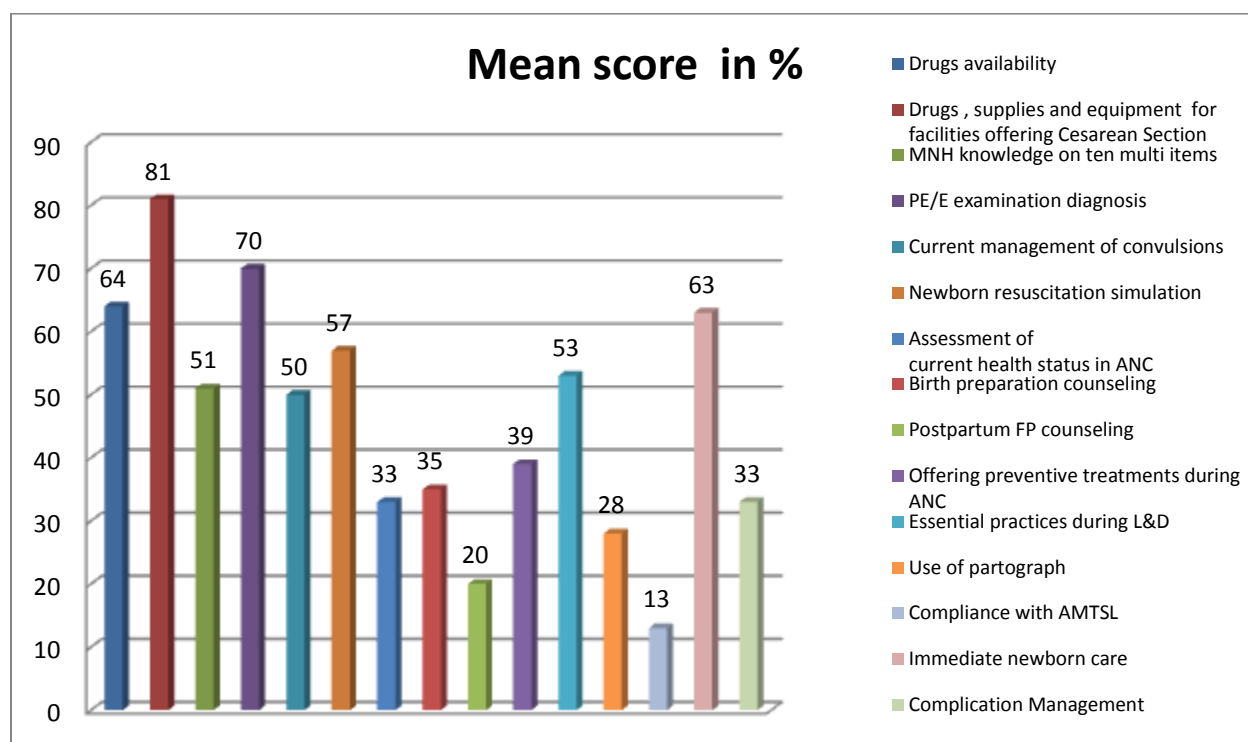
Quality of Care Survey

The QoC study in Madagascar was part of a multi-country effort, with studies carried out in Ethiopia, Kenya, Tanzania, and Rwanda and other countries. Although previous studies, such as the evaluation done in 2009 by UNFPA, looked at country needs in emergency obstetric and newborn care (EmONC), MCHIP undertook a study to assess the QoC received by women in Madagascar. Despite numerous studies measuring the accessibility of care, there is a distinct lack of data on the quality of health services using direct observation of providers as they care for women in antenatal care (ANC) and labor and delivery (L&D).

In collaboration with Tandem, a local consulting firm, the Quality of Care of the Prevention and Management of Common Maternal and Newborn Complications Study (QoC-MNC) was designed to complement and extend previous evaluations conducted in Madagascar. The study collected information on the quality of and access to MNH care, paying particular attention to observations of care given by providers and their ability to provide beneficial interventions for the prevention and treatment of the most common complications of pregnancy and birth. The study was based on a descriptive cross-sectional survey of 36 health facilities nationwide.

The findings of the QoC-MNC show that even though there are areas where performance is particularly good, gaps remain in all components of care for pregnant women and newborns (see Figure 2). The findings provided opportunities for stakeholders in maternal health to review and adapt their interventions. Detailed findings were discussed in relation to other studies and focused on ANC, infection prevention, L&D without complications, pre-eclampsia/eclampsia (PE/E), PPH, and newborn resuscitation. Findings on other topics are included as well.

Figure 2. Summary of QoC-MNC Study Results



The result of the QoC survey was disseminated to a group of national stakeholders in January 2013. The QoC-MNC served to reorient the work plan of MCHIP Madagascar intervention and demonstrate the feasibility of good practices that can make the difference in reducing maternal and newborn mortality by focusing on the primary causes of morbidity and mortality. Also, the QoC-MNC acted as reference for the development of a five-year national plan for reproductive health and a national gap analysis in MCH funded by Japan International Cooperation Agency. The findings of the study led to a number of recommendations on policies and programs as well as the state of health facilities in their readiness to provide services, the availability of health facilities, and the delivery of specific components of postnatal care, infection prevention, L&D, PE/E, obstructed labor, and prolonged resuscitation of the newborn.

Information and results concerning MNH were highlighted by MCHIP through technical information sharing meetings and dissemination of project results. Through multiple presentations and workshops, MCHIP shared vital technical information about MNH to a network of partners working in professional associations and other stakeholders. Some key findings were also presented during global meetings and conference, such as a presentation on infection prevention given by Eva Bazant at the 2012 International Society for Quality in Healthcare Meeting in Geneva, and a presentation given by Jean Pierre Rakotovao on PPH and PE/E during the 2012 International Federation of Gynecology and Obstetrics Meeting in Rome. *Cahier de Santé Tropicale*, a French-language journal indexed in PubMed, published a project article which covers: PPH and PE/E QoC findings, including review of all births and 15 complications observed. Reports³ in English and French version are available on MCHIP website.

Baseline Surveys in Three Districts⁴

A baseline survey was conducted to inform the development of an effective MNH plan of action in each of the three demonstration districts (Fénérive Est, Ambatondrazaka, Taolagnaro).

Objectives of the survey were to:

1. Incorporate relevant data from EmONC and QoC surveys, government health management information system, and project data from Santénet 2, UNICEF, and UNFPA; and
2. Collect information from health district offices, some basic health centers, and key informant such providers, community agents (CAs), and delivered women.

The methodology used included interviews with the head (or team) of the health district office in each district of intervention, the head or midwife from each chosen community health center (*Centre de Santé de Base*, or CSB) and CAs. The study included staff from six CSBs in Ambatondrazaka, three in Taolagnaro and two in Fénérive Est. It also included focus group discussions with women and their families, and observations/documentations of implementation in the chosen CSBs. The tools used were adapted from the Birth Preparedness and Complication Readiness Matrix as a template for mapping the potential programmatic elements to consider. The adapted matrix defines the roles of policymakers, facility managers, providers, communities, families, and women in ensuring that women and newborns receive appropriate, effective, and timely care. Tools were pre-tested in a district of Manjakandriana before their use in the three districts. Midwives from the midwifery professional associations were trained on the use of the tools to be used in the Ambatondrazaka District. Data from the baseline, which was used to inform the activities of MCHIP, is presented in the table below.

³ Qualité des soins pour prévenir et traiter l'hémorragie du postpartum et la pré-éclampsie/éclampsie : une évaluation fondée sur l'observation dans les hôpitaux de Madagascar.

⁴ Serge Raharison's trip report.

Table 2. Baseline Data Findings for Key Indicators in Ambatondrazaka, Taolagnaro, and Fénérive (est. 2011)

INDICATOR	AMBATONDRAZAKA	TAOLAGNARO	FÉNÉRIVE EST
Existence of qualified provider in the health center	100%	100%	86%
Availability of oxytocin	41%	100%	63%
Availability of magnesium sulfate	0 %	0 %	14%
Provider knowledge about PPH care	33%	17.24%	26%
Provider knowledge about PE/E	0%	13.79%	20%
Provider knowledge about postpartum infection care	58%	17.24%	31%
Provider knowledge about newborn resuscitation	100%	13.79%	14%
Provider knowledge about L&D	100%	75.86%	52%
Provider knowledge about dystocic delivery	-	65.52%	15%
Provider knowledge about active management of the third stage of labor (AMTSL)	8%	17.24%	14%
Urine tested during prenatal visit	8%	0%	0%
Intermittent preventive treatment of malaria in pregnancy integrated into ANC	100%	100%	100%
CSB has at least one day for immunization	91%	100%	24%
CSB has at least one day for postnatal care	91%	100%	100%
Service is always offered at the CSB (24 hours a day, seven days a week)	100%	100%	93%

CONDUCTING MNH INTERVENTIONS

Knowledge Sharing to Improve MNH in Madagascar

Globally, Madagascar is one of many countries engaged in the improvement of maternal health. A road map for safe motherhood was developed to conform to this engagement. Also, Madagascar committed to the MDGs and developed several strategies and interventions. However, official reports show that Madagascar is among the countries that are not going to reach targets. One reason for this shortfall is the fact that Madagascar is still behind on implementing technical recommendations and procedures.

MCHIP wanted to inform the different stakeholders in MNH on evidence-based strategies and norms that can dramatically improve MNH. Using different methods such as health partner coordination meetings, meetings of medical and midwifery associations, and collaboration with international and national experts (see Table 3), MCHIP provided guidance on different topics, including best practices in MNH, prevention of neonatal asphyxia, humanized maternal care, and respectful care (“the seven rights”). Stakeholder meetings also provided an opportunity to promote MCHIP’s intervention implementation approach with regard to MNH.

Table 3. Opportunities for Information Sharing for Best Practices in MNH and Attendees

EVENT	NUMBER OF ATTENDEES
SOMAPED Conference	170
Midwives Federation of Madagascar Conference	200
Annual meeting of the Association of Catholic Doctors	137
Religious sessions for nursing care	130
Introduction of PPH program in Fénérive Est	30
25th anniversary of Midwives Association	135
Meeting of the Conseil Régional de l'Ordre des Médecins de Toamasina (CROM)	62
Dissemination workshop	31
Human resources meeting	100
40th anniversary of Jhpiego celebration	40
Advocacy to QIT Madagascar Minerals (QMM)	20
Committee meeting of partners in MNH	59

MCHIP has also actively participated in key technical working groups of H4+ and other partners (USAID, Japan International Cooperation Agency, French Cooperation, etc.). The aim of the technical working groups is to provide insight and advice for national MNCH matters, share updates and experiences, and respond to international solicitations in MNCH such as the UN Secretary-General's plan of action. In 2012, MCHIP contributed to writing articles and a H4+ newsletter as well as a newspaper for CROM. Two technical working groups were developed by MCHIP; one for PPH management and one for use of CHX at home births. In addition, MCHIP field coordinators continued to hold meetings with the Social Development Committees (CDS) in Ambatondrazaka, Fénérive Est, and Tolagnaro to mobilize efforts in emergency plans. These interventions facilitated sharing of advice and providing technical information, thereby influencing the development of intervention strategies, updating knowledge and practices in MNH, ensuring the quality of services, and reducing harmful MNH practices.

Skills Development for In-Service Setting

To contribute to the improvement of the health of the mother-newborn dyad and to help reach MDGs 4 and 5, MCHIP was mandated by the USAID mission to collaborate with other partners to demonstrate the practicality and effectiveness of evidence-based, simple interventions. These interventions were at two levels:

1. At the national level, MCHIP improved services by updating the professional association members and private providers' knowledge and competences in MNH.
2. At the district and community level, MCHIP improved and added new competencies for CAs and local providers who serve as members of professional associations.

Intervention districts were selected using criteria such as the size of the population, high neonatal and maternal morbidity and mortality, and the presence of partners



like Santénet2. The following districts benefitted from these MCHIP interventions: Taolagnaro, Ambatondrazaka, Fenoarivo atsinanana, and later Amparafaravola and Moramanga. According to the demographic Instat projection, the combined population of these regions is **1,785,027** people.

Activities that were conducted included:

- Training members of professional associations and providers from faith-based organizations and private associations such as Top Réseau, Blue Star, and Santé Sud.
- Providing small equipment and job aids to providers who were trained.
- Training CAs to counsel in MNH, organize emergency plans, make referrals, and perform emergency acts such as skin-to-skin contact before and during the transfer to health center.
- Performing post-training follow-up activities.

Partners

Memorandums of understanding with bilateral organizations such as Santénet 2 and UN organizations allowed MCHIP to extend its scope of MNH intervention. MCHIP ensured support and a technical leadership role at national and peripheral levels by sharing technical information, improving training skills within the organizations, and improving the QoC within the health system.

Table 4. MCHIP Partners

PROFESSIONAL ASSOCIATIONS IN HEALTH	PRIVATE AND FAITH-BASED ORGANIZATIONS	NONGOVERNMENTAL ORGANIZATIONS AND PARTNERS
ONM CROM Fédération National des Sages Femmes (FNSF) SOMAPED Top Réseau Bluestar	<ul style="list-style-type: none"> ▪ SALFA ▪ SAF/FJKM ▪ EKAR Santé ▪ Santé Sud ▪ QMM/Rio Tinto 	Mercy Ministry NGOs: ASOS, CARE, ODDIT, ACCES Zon'olombelona, SAGE CDS/Communes CAs/Fokontany

Adaptation and Development of Training tools

Many documents and tools were developed or adapted, including:

- Training of trainers package
- Providers MNH training and supervision package:
 - Trainer's manual
 - Trainee's manual
 - Post-training follow-up guide
 - Job aids for newborn resuscitation, PPH, and PE/E
- CAs MNH training and supervision package:
 - Trainee's manual
 - Trainer's manual
 - Post-training follow-up guide
 - Job aids/counseling cards

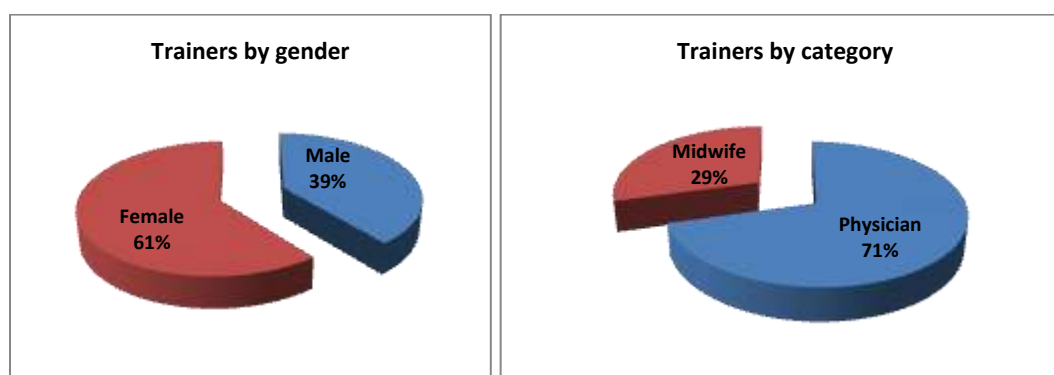
Training of Trainers

Table 5. Training Participants by Cadres and Gender

TRAINING ACTIVITY	NUMBER	CADRE	GENDER
Training of trainers	51	36 doctors, 15 midwives	31 women; 20 men
Providers in MNH	873	313 doctors, 443 midwives, 113 nurse, 4 others	688 women; 185 men
CAs in MNH	756	756 CA	627 women; 129 men
Post-training follow-up (providers)	738	Information not available	Information not available
Post-training follow-up (CAs)	756 first follow-up (among these, 459 received second follow-up)	CA	Information not available
TOTAL	3,102		

As shown in Table 5, MCHIP used Jhpiego materials to train 51 persons to serve as trainers in MNH. MCHIP supported these trainers to then train and follow-up on all kinds of providers such physician, midwives, nurses and CAs in the country in MNH. Figure 3 below shows the breakdown of trainers by gender and cadre.

Figure 3. Trainers by Gender and Cadre



Source: MCHIP data 2010–2011.

For sustainability, MCHIP performed transfer of competencies in training to the professional associations so that they can continue assuring the development of their members (See Table 6).

Table 6. Trainer by Organization or Association

ASSOCIATION	NUMBER OF TRAINERS
SOMAPED	4
CROM	9
Midwives Federation of Madagascar	11
Blue Star	5
Top Reseau	3
Santé Sud	4
EKAR Santé	4
SALFA	6
COMAGO	1
TOTAL	47

Applying Jhpiego norms, MCHIP helped some of trainers to attain a higher level along the Jhpiego Trainer Development Pathway. By the end of the project, MCHIP had developed six master trainers (two males and four females; five physicians and one midwife) and three international trainers.

Training of Providers in MNH

The topics of training centered on the primary causes of neonatal and maternal mortality (prevention of PE/E and PPH, neonatal resuscitation, use of partograph, and infection prevention). The competency-based training approach used ensures that providers are competent to deliver services after training. As shown in Table 5 above, 873 providers from different regions of Madagascar benefited from this training. Through professional associations, MCHIP covered 19 of the 22 regions and 66 of 119 districts in Madagascar. Across the country, 392 health facilities (199 CSB, 55 hospitals, and 138 private clinics) have at least one provider trained by MCHIP. By category of profession, MCHIP trained 313 physicians and 443 midwives (688 females and 185 males). At private and faith-based clinics where providers had been trained and followed-up, 22,185 women and 21,741 newborns benefitted directly from the MCHIP MNH training.

Training CAs in MNH

Following the community health policy in Madagascar, 756 CAs achieved level three due to MCHIP training (see Table 7 for breakdown by district and gender). This level allows them to provide high-quality services for the community that include in counseling, referrals, and simple primary care (such as external uterus compression in case of PPH, putting weight on the womb, giving oral hydration solution in case of hemorrhage, putting the women in the lateral position in case of convulsions for the mother and for the baby, skin-to-skin contact to maintain temperature, giving mother milk by spoon, lowering high temperatures using cold compresses) before and during the transfer, and implementing the emergency plan to ensure the transfer.

Table 7. CAs Trained, by District and Gender

DISTRICT	TOTAL CA	FEMALE	MALE
Ambatondrazaka	157	131	26
Taolagnaro	170	143	27
Fénérive Est	119	93	26
Amparafaravola	164	120	44
Moramanga	146	140	6
TOTAL	756	627	129

Table 8. CAs' Reach of People in Their Communities

ACTIVITY	PEOPLE REACHED WITH ACTIVITY
Offered services	6,845 pregnant women
Offered services	2,455 postpartum
Offered services	2,329 newborns
Referred	615 women
Referred	94 newborns

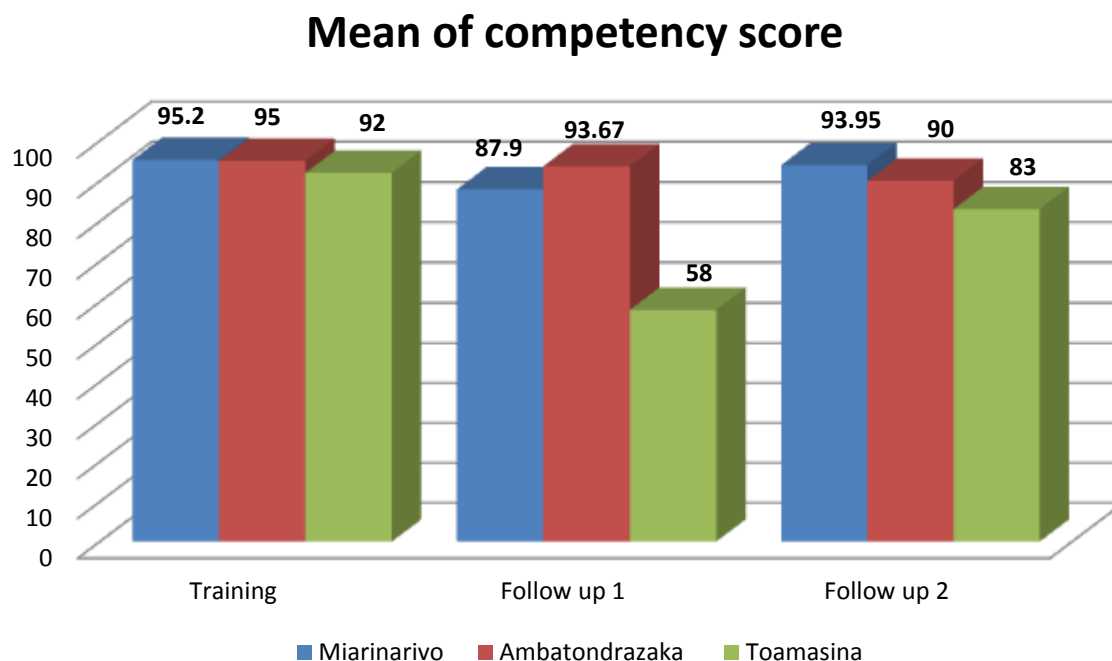
In terms of coverage, CAs working under MCHIP covered 539 fokontany/villages. As reflected in Table 8, project statistics show that of the life of MCHIP, CAs offered services to 6,845 pregnant women, 2,455 women in postpartum, and 2,329 newborn; they also referred 615 women and 94 newborns.

Post-Training Follow-Up for Providers

For quality insurance purpose, MCHIP undertook post-training follow-up for the providers trained in MNH. The objective of this follow-up was to ensure that the level of competence acquired during the training was maintained and also help providers resolve any problems that prevented the practice of their new skills.

The first follow-up occurred one month after training. MCHIP found that three follow-up visits (with one month of space between the two) were needed to make sure the level of competency was maintained. The post-training visit also increased provider motivation to apply the techniques and methods they had learned. About 10.4% of providers were missing during follow-up, primarily because of a change of work location, the provider being on vacation or having retired. Figure 4 shows how provider competencies were maintained by district over time from training through the second follow-up visit.

Figure 4. Provider Competencies at Training and Follow-Up



Post-Training Follow-Up for CAs

MCHIP used the same approach to maintain the competencies of CAs. The CAs were brought together in one location to: perform interactive role plays; discuss their experiences, success, and lessons learned; and resolve problems. All CAs in the three districts attended the gathering three times for the first three months and each quarter during the remaining life of the project. For the districts which were added later (Moramanga and Amparafaravola) only one meeting was held because of budget restrictions and a change of work plan during the last fiscal year.



The CA of Ampasy village convinced Erline (pictured here with her baby) to deliver her baby at the health center.

Emergency Plans

In 15% of cases, pregnancy complications can develop even when the woman has gone for her ANC visits and has no risk factors. MCHIP found that talking about emergency plans during the training was insufficient; it is crucial to strengthen the organizational competence of communities and fokontany to establish a functional, locally adapted emergency plan. Emergency plans can greatly facilitate the transfer of women who have developed complications, either from remote areas of the community to health centers or between two health centers. The emergency plan is composed by five pillars:

1. Decision-making
2. Transport
3. Urgent funds
4. Plan for people to give blood in case of transfusion and to provide support
5. Information system about the health center and presence of qualified provider

MCHIP implemented the following steps to implement the emergency plan with partners:

- Assess the existence and functionality of an emergency plan in each commune within the districts
- Elaborate an action plan to improve the existing plan or to develop a new communal emergency plan
- Implement an emergency plan in compliance with the local context
- Support and assess the emergency plan

Institutionalization of the emergency plan by a communal local law/decreed was an innovation used by MCHIP. It was found that people are especially motivated when the organization is legal and the initiative seems to be coming from the local authority.

With the support from MCHIP, communities at the three districts are now better prepared for referral. In Taolagnaro, 20 of 27 communes have a functioning emergency plan; in Ambatondrazaka, 14 of 20 communes have one; and in Fénéry Est, six of 12 communes have one. MCHIP developed the competency of 640 members of the CDS health committee in promoting the emergency plan and to help their community to set up the plan. At the end of the project, 272 out of 389 (69.9%) fokontany had a functioning emergency plan.

The existing emergency plans helped 615 women to survive from complications, contributing to a decrease in maternal and neonatal deaths by reducing or overcoming delays in decision-making to seek out high-quality of services. As a best practice, it is worthy to promote emergency plans in all communes and villages/fokontany of Madagascar. USAID's supported projects, including JSI under the USAID-funded Malagasy Healthy Families (MAHEFA) Project, would like to use MCHIP's approach to emergency plans in their program implementation.

Research for Delivery and Postnatal/Postpartum Registers

The existing data collection tools used in the health centers are not appropriate to collect some indicators in MNH during delivery and in the postpartum/postnatal periods. MCHIP developed intrapartum and postnatal/postpartum registers to be tested within the three districts as a demonstration. The aim was to contribute to improving quality data collection for MNH, particularly indicators for complications. The intent of the registers was to simplify data collection, and ensure the use information in decision-making. They can be used at all levels of the system from the CSB to the university hospital. MCHIP positioned the registers in all CSBs within the three districts; 150 registers for delivery and 150 registers for the postnatal consultation to be used during the timeframe of the pilot.

The registers can be used as a job aid during consultations and deliveries, and the information collected in the registers is useful for decision-making. According to providers, data and information collected in the registry is complete and very detailed; this facilitates the tracking of pregnant women. The register also allows data entry on normal delivery, treatment, and the immediate care of the newborn. Registers allow for a clear view of the health status of a mother and child. Data captured can help prevent risks to the mother and the child during delivery by reminding health workers of all the activities that must be done. MCHIP noticed that the existence of postnatal and postpartum register increased the offer of services. In addition, providers noted three positive points to the new registers: 1) data collected are consistent, conform with international norms, and easy to use; 2) registers save time and reduce the workload of the providers, because all the information is centralized; and 3) they allow easy data compilation for monthly reports.

The next step is to present the register to the MOPH at the Directorate of Safe Motherhood to be validated for widespread use. The MOPH will issue a directive for the use of registers at health facilities.

Improving the Quality of Service by Improving Pre-Service Training

In addition to public midwifery training schools, during the five previous years several private sector schools were involved in educating midwives. Through an assessment, MCHIP found that the private schools do not use a standardized curriculum or approach to teach students. In the public sector, the latest revision of the training curriculum dates back to 2005. The methodology used for teaching the students was not effective in providing midwives with the training and skills they needed to offer high-quality of services. In response to these challenges, MCHIP implemented several activities in cooperation with the Madagascar National Council of Midwives: a situational analysis, program review, teaching skills improvement, orientation in managing simulation labs, and allocation of basic equipment.

Assessment

MCHIP conducted a short assessment of the private midwifery schools around Antananarivo, using tools adapted from the International Confederation of Midwives (ICM) and the global MCHIP initiative in midwifery. The assessment targeted key informants of each school such as:

- The director or manager for the policy, organization, and structure of the institute
- The teacher/educators for the technical component of the education, and how teaching and the education program were organized
- The student for the organization of the education, their perception of the program content, and methodology used to transfer skills

Findings were used to develop an action plan to improve the capacity of each of the private midwifery schools. Ten of the 13 schools have already developed an action plan in collaboration with MCHIP.

Curriculum Review

The MCHIP technical team, along with representative of seven private midwifery schools, the Inter-Regional Training Institute of Paramedical Providers, Directorate of Training Institutes, and the Paramedical and President of Ordre National de Safe Femme de Madagascar (ONSFM), have reviewed the existing program of midwifery and training curricula to ensure compliance with the rules and standards established by ICM. This program review included: revision and updating of the mission and philosophy of training content, updating the norms and standards for midwives, revising the content of the training programs for each year (first, second, and third years) to ensure they align with the ICM-recommended competencies. The revised program⁵ will be presented by ONSFM and validated by the MOPH before use.

Training in Educational Skills

To ensure that the revised program is delivered in the most efficient fashion, MCHIP trained faculty members (teaching and instructors) of private midwifery schools on Effective Teaching Skills. During Santénet 1, Jhpiego conducted training for members of public paramedical schools and university faculty of medicine. The Jhpiego learning resource package was adapted before conducting the training. A total of 37 teachers and monitors benefited from MCHIP training. They were encouraged to review the way they prepare, conduct sessions, and evaluate

⁵Programme des études de la filière sage femme madagascar

lessons. MCHIP also conducted a post-training follow-up visit for teachers at three private schools, to verify if the directives were incorporated and new skills learned were being used. The total number of paramedicals in the schools who were trained in effective teaching skills by MCHIP were 480 (school year 2013/2014) and 526 (2014/2015).

Orientation on Managing Simulation Laboratories

The assessment determined that few schools have a simulation skills lab according to norms; for those where such a lab existed, students did not have full access or adequate chances to learn competencies using the anatomic models. Over two days, MCHIP provided training on how to manage a skills lab at the 13 private midwifery schools. Plans of actions for management of the skills lab were requested from each school, and MCHIP followed up to ensure that all planned activities were completed. An additional training day was used to learn the use of the anatomic model, MamaNatalie®, and its maintenance.

The availability of a good program adapted for local need and context allowed the institutes to educate midwives who then became immediately operational and able to give high-quality services. An improvement of services offered by midwives will contribute in the long run to reducing morbidity and mortality linked to the pregnancy and childbearing. Within the next three years, 1,532 midwifery students will benefit from these MCHIP activities.

INITIATION OF EVIDENCE-BASED PRACTICES

Two good practices were introduced by MCHIP based on interventions designed to determine their feasibility and acceptability in the context of Madagascar.

Introductory Program to Increase Uterotonic Coverage for Prevention of Postpartum Hemorrhage at Births in Health Facilities and at Home

USAID Madagascar mandated MCHIP to demonstrate the feasibility, practicability, and acceptability of an evidence-based practice to reduce the risk of PPH in the Malagasy context. The protocol received approval from the local Malagasy ethics committee and the JHU IRB (Study Title: “Introductory Program to Increase Uterotonic Coverage for Prevention of Postpartum Hemorrhage at Births in Health Facilities and at Home in Fénériver Est District, Madagascar” IRB No: IRB#0000400) to be implemented for six months.

Components of the project included the systematic use of uterotonic during AMTSL in the health center; the distribution of misoprostol during ANC by providers and home visit by CAs to pregnant women after 32 weeks of pregnancy; sensitization for delivery plan, emergency plan in case of complications, danger signs, need to deliver at the health center with a qualified skilled midwife, and PPH prevention.

During the preliminary results dissemination of the project, participants recommended reinforcing the collection of information from a similar project in another district. MCHIP asked for an amendment to the protocol to add Vohemar as an intervention district. The project in Vohemar is slightly different from the Fénériver Est because MCHIP partnered with JSI/MAHEFA in Vohemar to test an integrated program of PPH prevention using misoprostol and newborn infection prevention using CHX 7.1% at the community level.

Results from the Fénériver Est project show that the intervention is feasible and acceptable for both the CA and beneficiary. The following indicators (which should be carefully interpreted, given the fact that not being allowed to working with the government affected the accuracy of the denominators) show that:

Table 9. Counseling and Distribution of Misoprostol during the 1 year 5-Month Learning Phase, Fénérive Est

INDICATOR	NUMBER	PERCENTAGE
Estimated deliveries (January 2013- June 2014 - 17 months)	13,493	-
Total number of pregnant women identified:	4,903	36.3%
At health facilities during ANC*	NA	NA
At the community level during CA home visits	4,903	100.0%
Distribution rate: Number of pregnant women, of total estimated deliveries, provided counseling and advance distribution of misoprostol	2,788	20.6%
WOMEN WHO RECEIVED PPH PREVENTION PACKAGE OF COUNSELING AND ADVANCED DISTRIBUTION OF MISOPROSTOL		
At ANC by health care provider*	32	1.1%
At home by CA	2,756	98.9%
Expected pregnant women not reached with advance distribution of misoprostol	10,705	79.3%
*Support at ANC clinics for identification of pregnant women and advance distribution of misoprostol stopped early in the program, due to USAID restrictions.		

Table 10. Place of Delivery and Uterotonic Use among Enrolled Women in Fénérive Est Who Were Interviewed Postpartum (n=2,684)

INDICATOR	NUMBER	PERCENTAGE
PLACE OF BIRTH FOR ENROLLED WOMEN		
Health facility	496	18.5%
Home	2,121	79.0%
On the road	62	2.3%
Don't know	5	0.2%
MISOPROSTOL USE BY ENROLLED WOMEN: PERCENTAGE OF ENROLLED WOMEN WHO INGESTED MISOPROSTOL IMMEDIATELY AFTER BIRTH, BY PLACE OF BIRTH		
Health facility	196	39.5% (196/496)
Home	1,920	90.5% (1920/2112)
On the road	53	85.6% (53/62)
Don't know	13	0.5%
TOTAL	2182	87.3% (2182/2684)

Table 11. Women's Reported Satisfaction with Misoprostol among Enrolled Women Interviewed Postpartum Who Received Misoprostol, Delivered at Home, and Ingested the Drug (n=1,920)

INDICATOR	NUMBER	PERCENTAGE (N=884)
WOMEN WHO EXPRESSED SATISFACTION WITH MISOPROSTOL		
Would recommend to a friend or relative	1919	99.9%
Plan to use in future deliveries	1919	99.9%
Be willing to pay between 500 and 1500 ariary	1755	91.4%

MCHIP demonstrated that the PPH prevention intervention as an evidence-based practice is feasible in Madagascar to save the lives of mothers. With the existence of an integrated technical working group, the hope is that the project will be scaled up. The results from this project will be included in the multi-country analysis for community distribution of misoprostol for PPH prevention.

Prevention of Newborn Infection by the Use of CHX 7.1% for Umbilical Care

According to Madagascar’s 2008–2009 DHS, 24 newborn babies die in the first month of life for every thousand live births. Moreover, most deliveries (65%) take place at home, and only 44% are assisted by a skilled birth attendant (SBA). Neonatal infection is the second cause of neonatal mortality in Madagascar with scarce resources and where the prevention of infection is difficult to implement.

MCHIP has made great advances in the preparation for the CHX pilot project which aims to contribute to improving infant survival through the prevention of infections post-delivery. A CHX technical advisory group composed of the MOPH’s Division of MCH and Reproductive Health, MCHIP, PSI, and JSI/MAHEFA, was formed and met on several occasions. The then-Technical Director for MCHIP, Steve Hodgins, also provided technical assistance and guidance to develop an action plan for the project. This pilot project was implemented in Mahabo/Menabe. MCHIP partnered with PSI and JSI/MAHEFA for formative research and community agent mobilization, respectively.

MCHIP involved key maternal health stakeholders through technical advisory group meetings at the national level. These groups met periodically through all phases of the introductory PPH prevention program and the CHX introduction program.

- Technical group meetings with partners (PSI, JSI/MAHEFA) in CHX on the topics: communication, monitoring and evaluation, training
- Work with PSI on formative research regarding CHX: brand name pretest (AroFoitra), logo, packaging, instructions on how to use 7.1% CHX for the care of the umbilical cord of the newborn and communication strategy
- Work with JSI/MAHEFA on curriculum development for training health agents and community health workers in newborn infection prevention using CHX



Newborn who benefitted from AroFoitra in Mahabo Village

With PSI as a contractor, MCHIP conducted formative research⁶ concerning the common practices of certain regions on cord care such the preference in using gel in lieu of liquid, and the willingness to pay for the CHX. The findings were used to inform the implementation phase carried out by JSI/MAHEFA. A logo, local name (AroFoitra), packaging, and instructions for the CHX 7.1% gel were produced. In collaboration with the technical working group, MCHIP helped develop training curricula for CAs and providers, job aids such as counseling cards, and management tools.



⁶ Investiguer les pratiques courantes, les perceptions autour du soin du cordon ombilical et l’acceptabilite de la chlorexidine 7% par les cibles à antananarivo, tsiroanomandidy, mahabo.

With its leadership and technical competence, MCHIP facilitated the launch of the newborn infection prevention pilot using CHX 7.1% umbilical care in Madagascar. Momentum created from the implementation boosted the enthusiasm of other organizations such as UNICEF and UNFPA for the use of CHX 7.1% for umbilical care in their respective regions of intervention.

MNH CHAMPIONSHIP

Madagascar is among the countries that adopted the strategy of “champions” for the cause of mothers, their workplace, and the country. Three people were identified as having the necessary criteria, according to their influence or position, within their organizations: a gynecologist/obstetrician, a pediatrician, and a midwife (Pierana Randaoharison, Heritiana Randrianfinimpanana, and Abeline Hantavololona). All three received refresher training in EmONC and training in advocacy techniques. The team developed an action plan including activities that address preventable health problems (e.g., use of magnesium sulfate for prevention and treatment of PE/E, use of partograph, and prevention of infections).

Professor Pierana enhanced the skills of staff in service in Mahajanga (20 doctors and midwives) in the use of magnesium sulfate, use of partograph, and postpartum IUD. Dr. Heritiana with Mrs. Hantavololona evaluated second and third year students at the paramedical school (75 female students) and have set up in the Maternal and Pediatric University Hospital in Tsaralalana a control system for the prevention of infections.

MNH Results Summary

At the end of the project, almost all planned activities were achieved jointly with partners. The table below shows main interventions and associated partners.

Table 12. Summary of Results

MAIN INTERVENTIONS	MCHIP PARTNERS	OBSERVATIONS
TO PROVIDE SUPPORT AND TECHNICAL LEADERSHIP IN MNCH AT THE NATIONAL LEVEL		
Reinforcement and update of training and technical skills of clinical trainers	ONM, CROM, FNSF, SOMAPED, SALFA, SAF/FJKM, EKAR Santé, Santé Sud, Top Réseau, Bluestar	Output results limited by the restriction to work with local government
Training and supervision of practitioners, in targeted MNH knowledge and skills	The same partners	Same observations
Development, review and distribution of posters or job aids for care providers and neonatal health booklets for Mothers and AC	The same partners	Totally achieved
Extension of national-level advocacy work to reach selected health care providers	ONM, CROM, FNSF, SOMAPED, SALFA, Association des Médecins Catholiques	Totally achieved
TO CONTRIBUTE NATIONALLY RELEVANT PROGRAM LEARNING ON INTEGRATED COMMUNITY AND PERIPHERAL HEALTH FACILITY APPROACHES TO MNH BASED ON DEMONSTRATION ACTIVITIES IN THREE DISTRICTS		
Training and supervision of CAs in providing care for women and newborns with complications before transfer to health facilities	ONM, CROM, FNSF, SALFA, SAF/FJKM, EKAR Santé, Santé Sud, Top Réseau, Bluestar, ASOS, ACCES Zon'olombelona	Totally achieved
Support to the postpartum visits by CAs for women and newborns	ACCES Zon'olombelona, ASOS	Totally achieved
Support to the community interventions for maternal and newborn complications	ACCES Zon'olombelona, ASOS, CCDS	Totally achieved
INCREASING UTEROTONIC COVERAGE TO PREVENT PPH AT THE HEALTH FACILITY AND COMMUNITY LEVEL IN THE DISTRICT OF FÉNÉRIVE EST		
Update or training of the health care providers on PPH prevention and treatment	ONM, CROM, FNSF, Association des Paramédicaux de Madagascar, CARE	Output results limited by the restriction procedure determined by the USAID
Training and supervision of CAs in PPH prevention	The same partners	Totally achieved
Training and supervision of CAs on awareness visit about the dangers of PPH	The same partners	Totally achieved

Cross-Cutting Themes

PROGRAM LEARNING MATRIX			
PROGRAM LEARNING TOPIC	RELEVANCE OF TOPIC	PLANS FOR STUDYING, DOCUMENTING AND DISSEMINATING	RESULTS-REPORTS, PRESENTATIONS
Does training CAs on MNH danger signs increase their ability to identify complications and appropriately refer?	MCHIP has been training CAs on essential MNCH issues with a special focus on reinforcing their capacity to respond appropriately to women and newborns with complications. The initial pre-project assessment revealed that even though CAs are the primary health resource for women when they experience complications after giving birth at home, these CAs are not sufficiently trained to respond. Moving forward, MCHIP will maintain CA competency through supervision and monitoring of activities. Additionally, MCHIP seeks to further build capacity by expanding its cadre of trained CAs. MCHIP will document best practices in this area to scale up throughout the three districts and eventually at national level. This project adds to the global evidence base for strengthening community-based identification of and referral for complications in L&D.	Statistical information on CA recognition of complications and referrals to facilities is being collected in registers reviewed by supervisors and stored in a database. These registers have information on the number and reasons for referrals. Development of a report. Development of manuscript to be submitted to a peer-review journal.	Success stories See table 13: below
Working through private/professional associations: Experience and results	In countries where it is not possible to work with the government, this question will provide valuable insight into the opportunities and challenges that arise when working with private/professional associations while still trying to achieve sustainability and impact. Identifies implementation challenges for this model within this political context.	Information is collected and stored in a database. Dissemination through a presentation at the national stakeholder meeting.	<ul style="list-style-type: none"> • Doc. EOP – P.8 (tab.3), 9 (tab.4), 11 (tab.6) et 14 ; • All MCHIP reports include also the results from the collaboration with the private and professional associations.

PROGRAM LEARNING MATRIX

PROGRAM LEARNING TOPIC	RELEVANCE OF TOPIC	PLANS FOR STUDYING, DOCUMENTING AND DISSEMINATING	RESULTS-REPORTS, PRESENTATIONS
<p>Prevention of PPH using misoprostol at community level (also captured in Core MH questions)</p>	<p>This activity aims to demonstrate that misoprostol is a viable alternative for PPH prevention when oxytocin is not available, and will also test the program effectiveness of distributing misoprostol to women for use at home birth when they are not able to access care at a facility.</p> <p>MCHIP will document best practices in this area in order to influence the MOPH to accept misoprostol use at the national level, if appropriate. This project adds to the global evidence base for strengthening community-based management of MN complications.</p>	<p>Throughout program implementation, information will be collected to document progress and results with the goal of sharing best practices and advocating for scale-up if appropriate. Baseline data will be collected such as numbers/percent of facility births and current use of AMTSL. While MCHIP will gather and analyze the data, we will ensure that data is country-owned by including the technical advisory group, professional association members, and other partners in continuous updates about program progress and outcomes.</p> <p>Additionally, MCHIP will develop a final report to be presented and disseminated in a key stakeholders meeting, attended by collaborating partners, and UN organizations, among others.</p> <p>Development of a manuscript to be submitted to a peer-reviewed journal.</p>	<p>PPH study report generated (Fenerive Est)</p> <p>PPH program dissemination</p> <p>PPH study report drafted (Voheamar district)</p>
<p>New clinical registers/indicators</p>	<p>Having conducted MNCH training on key EmONC interventions that are not currently captured on registers, such as AMTSL and neonatal resuscitation, MCHIP has prioritized the revision of registers for use throughout Madagascar. In the past fiscal year, MCHIP worked with professional associations to develop modified registers that will capture and report on these important indicators. MCHIP has now been approved to pre-test these new registers in the three demonstration districts. MCHIP will push for MOH to adopt these revised registers and if successful, MCHIP will guide providers in their use.</p>	<p>Information on register use collected in database for analysis.</p> <p>Results will be presented at the national stakeholders meeting.</p>	<p>Reports from the three pilot districts See in annex</p>

PROGRAM LEARNING MATRIX			
PROGRAM LEARNING TOPIC	RELEVANCE OF TOPIC	PLANS FOR STUDYING, DOCUMENTING AND DISSEMINATING	RESULTS-REPORTS, PRESENTATIONS
Is use of CHX for umbilical cord application acceptable to clients and feasible with current CA practice?	<p>MCHIP's role in this project is limited to collaboration with PSI and JSI/MAHEFA; project implementation will be led by these partners.</p> <p>This pilot project will seek to demonstrate the program effectiveness of using CHX at the service provider and the household level. MCHIP will seek through its partnerships to assure a long-term vision for scaling the project up after the pilot, including supply, quality of care, and demand issues.</p> <p>This study will examine the attitudes and practices at the service provider and community level with regard to umbilical cord care and the acceptability of using CHX liquid or gel. In parallel, PSI and MCHIP, with possible assistance from an expert consultant in CHX production, will determine possible sources of product supply, including the potential for local production.</p>	<p>Throughout program implementation, information will be collected to document progress and results with the goal of sharing best practices and advocating for scale-up if appropriate. Baseline data will be collected such as numbers/percent of facility births and current use of CHX. While MCHIP will gather and analyze the data, we will ensure that data is country-owned by including the technical advisory group, professional association members, and other partners in continuous updates about program progress and outcomes. Additionally, MCHIP will develop a final report to be presented and disseminated in a key stakeholders meeting, attended by collaborating partners, and UN organizations, among others.</p>	<p>Report from the first phase of study implementation</p>

Program Learning Notes

1. Training Community Agents in MNH

In Madagascar, 70% of the population lives in rural areas with poor access to health services. Training community agents (CA) falls under the category of the community policy of bringing services closer to the beneficiaries, and particularly maternal and neonatal health services. Certain CAs do more than offer counseling and MCHIP took advantage of the situation to improve their skills to offer quality services. The training offered by MCHIP consisted of improving the capacity of CAs with the use of checklists to better observe pregnant women, postpartum women, and newborns in a systematic way to track real danger signs or complications during pregnancy, postpartum and postnatal period. MCHIP taught them life-saving techniques such as keeping a sick baby warm through skin to skin contact, ensuring that women who are hemorrhaging drink enough water or massaging or compressing the uterus from the outside either by hand or by placing weight (bag of rice or sugar) to compress the uterus. This approach decreased the false referrals because only the real complications were sent to the basic health facilities, the CAs were motivated to work with the midwives, and [they](#) [it](#) enhanced the confidence of the the communities toward the CAs because they now bring tangible aid and have saved lives with the speed of referral and life-saving skills.

A curriculum has been developed and is available in the list of documents to allow other organizations or projects to use them. A success story was put online to show what is happening in the villages where the CAs make the difference in saving lives.

Table 13: Community Health indicators related to the work of community health agents

Indicators over life of project	Number
Total number of pregnant women who were found to be bleeding, identified by community agents	97
Total number of pregnant women who were found to be hypothermic, identified by community agents	71
Total number of pregnant women who were found to have had convulsions, identified by community agents	6
Total number of pregnant women who were found to have abdominal pain, identified by community agents	8
Total number of newborns with a pale faces identified by community workers	48

Source : MCHIP data collection

2. Working with Professional Associations

This approach can be considered an innovation in Madagascar because health organizations prefer to work with the public sector. It is true that some organizations like PSI and MSM developed social network working with physicians in private practice, but no organization approached professional associations, like the Pediatric Society of Madagascar (SOMAPED), the Midwives Federation, and the Association of Physicians. In the existing context, the ban on working with the public sector has facilitated the acceptance of this approach.

The benefit of working with professional associations is having specialized and experienced human resources. The quality of services, such as training, is high. It is also an opportunity for these organizations to take part in the overall health of the population and to have the opportunity to improve the competency of the members and of the association. Some constraints include the fact that most members are working which limits their availability to complete activities. Some organizations lack experience in organization and show limitations with regards to public health activities. This is one reason that MCHIP was unable to work with obstetrician-gynecologists who are grouped in college and simply make presentations during the scientific day. It is necessary to develop the organizational capacity and the management of the associations so that they can improve their potential.

This approach is a key strategy that allowed MCHIP to implement its work plan. This approach is documented in this report.

3. Community approach to PPH prevention

Because PPH is the main cause of maternal mortality in Madagascar and « conventional » strategies do not seem to bring any significant improvements for the reduction of maternal mortality, MCHIP wanted to bring an innovative approach to increase coverage of Oxytocic irrespective of the place of birth. Most women (61%) still deliver at home and can no benefit

from services at the health facility level. The particularity of the community approach is the distribution of misoprostol by the CAs and the auto-administration by the woman herself. To be in line with the national policy to increase the number of deliveries in health centers by qualified workers, MCHIP included a component of increasing awareness of pregnant women to come for prenatal and postnatal consultations and to deliver in a facility.

The preliminary reports showed that the intervention is feasible and acceptable to the community. Distribution through the ACs is a practical and effective way to reach pregnant women. A report in the form of a brief was written and the Madagascar experience is part of the general documentation for an MCHIP publication.

4. Register births and Register Prenatal and Postpartm Consultations

The finding globally is that neither the system nor the existing tools used to collect information are able to capture certain key indicators for maternal and neonatal health. MCHIP has developed these registers to collect this crucial information for adequate decision making. The registers have been tested and used in the basic health centers of three districts. The analysis of the evaluation of the utilization of these registers shows that the providers are enthusiastic. Not only are the registers easy to use, but they also greatly facilitate the completion of the activities reports.

The restriction to work with the government prevented the registers from being presented to the ministry and validated before their utilization at a national level. The reports from three districts serve for further advocacy and copies of records will be made available to other countries or organizations.

5. The prevention of neonatal infections with the utilization of chlorhexidine 7.1 at the community level.

Infection in newborns is one of the primary causes of neonatal mortality. The umbilical cord seems to be one of the ports of entry of germs, especially with the impossibility of ensuring strict asepsis. MCHIP hopes to demonstrate the feasibility of this intervention to reduce newborn mortality. MCHIP formulated a protocol with JSI/Mahefa, the other USAID bilateral which will ensure the implementation at the community level according to the recommendations of the mission. The intervention involves two phases, the first to establish the conditions for a successful implementation. This consists of conducting a CAP survey on patterns of umbilical cord care at the community level as well as at the health center level and to develop a local product designation for greater ownership as well as the logo and packaging. MCHIP funded PSI to conduct the activities in the first phase. A report was made available to MCHIP concerning umbilical cord care behaviors. The logo and the name AroFoitra were used for CHX 7.1% in gel form for the introductory project. This strategy will be appropriate for the Ministry of Health and the partners who want to scale up in their intervention regions.

Recommendations and Way Forward

Despite the restrictions on working with the government, MCHIP generated results that are worth being considered by MNH partners in general and the MOPH in Madagascar in particular. Innovative approaches demonstrated by MCHIP represent good practices that can easily be duplicated in a country with scarce resources. Strategies applied included:

- Conduct research before developing the work plan to be sure interventions target the right health problem.
- Orient interventions by targeting the main causes of maternal and newborn morbidity and mortality.
- Favor a long-term vision in human resources development by promoting appropriate and operational pre-serve training activities such as improving the teaching skills of educators and reviewing educational program to fit with the needs of the country and the ICM norms.
- Invest in private/nongovernmental and faith-based organizations to improve health services when the public sector does not meet the needs of the population.

In the area of community health interventions, MCHIP demonstrated that it is very efficient to:

- Empower communities to organize a functional emergency plan according to the local context which serves a link or bridge between offer and demand of services.
- Improve the skills of CAs to offer lifesaving counseling and referrals for complications.
- Improve the skills of CAs to distribute lifesaving drugs such as misoprostol for PPH prevention and CHX for newborn infection prevention.

To ensure the CAs stayed motivated, MCHIP met with them on a monthly basis; these meetings served to collect data directly from the CAs, share experiences and solve potential problems. This approach is suitable for a pilot project only. Over time, community activities must be linked with the health system to minimize cost and to avoid human resource burn out. Communities offering services must be integrated to avoid vertical scheme interventions that overload CAs and lead to low-quality of activities.

In the area of skills development, MCHIP demonstrated a qualitative approach to skills development and sustainability, namely:

- Train members of professional organizations or nongovernmental organizations to be trainers for the rest of their team, thereby not only ensuring sustainability but also providing occasionally needed financial support to continue to ensure training for their members.
- Use focused, competency-based training that allows providers to be immediately motivated to apply the skills learned because skills are linked with the major complications and causes of maternal and neonatal morbidity and mortality.
- Provide materials or equipment to the provider or institute to ensure that they can apply the skills learned and to exercise to maintain the level of competency.
- Provide intense, low-dose post-training follow-up to maintain a high level of competency among trainees; organizations should put this activity within their work plans and budget because benefit of having high-quality skilled providers who can save lives is enormous.

Organizations and programs subsidized by USAID should ensure the continuity of these promising interventions to make a difference for the health of the vulnerable population it is serving. Otherwise, a similar program such as MCHIP should be implemented by the Mission with the aim to scale up and ensure high coverage.

Annex 1: Indicator Matrix

1.1 MONITORING INDICATOR							
INDICATORS		DEFINITION	RESULT				
			2011	2012	2013	2014	TOTAL
OBJECTIVE 1: Provide support and technical Leadership in MNCH at the national level							
1.1	Number of cooperating agencies and donors scaling up high-impact interventions with technical assistance from MCHIP	Number of cooperating agencies and donors include Santenet2, UNICEF, UNFPA, and others	5	8	5	1	19
1.2	Number of focused training packages on key MNCH interventions developed for or adapted to Madagascar	Number of focused training packages (modular, skills-based) on key MNCH interventions developed for or adapted to Madagascar, including on EmONC[1]for both in-service training and pre-service education	3	2	4	4	13
1.3	Number of attendees of MCHIP technical advocacy presentations	Number of attendees of MCHIP technical advocacy presentations	100	380	532	90	1102
1.4	Number of people trained in MNH	Disaggregates: level (national, regional, local), cadre, partner organization, institution, gender, years of experience, clinical topic area	453	266	154	0	873
1.5	Number of trained association members who are supervised with MCHIP participation	Number of trained members of the professionals associations (SOMAPED, Federation of Midwives, National Order of Doctors, etc.) who are supervised with MCHIP participation	90	544	104	0	738
1.6	Number of trainers trained in MNH	Number of trainers trained in MNH	0	36	15	0	51
1.7	Number of private training institutions that have adopted/incorporated revised MNH curriculum into pre-service training	Number of private training institutions with revised MNH curriculums used during pre-service training	0	0	13	0	13
1.8	Number of faculty at private training institutions who are trained on revised MNH curriculum	Number of faculty members at private training institutions who have received training on incorporating revised MNH curriculums into pre-service training	0	0	35	0	35
1.9	Number of private training institutions who have received equipment to be used in conjunction with revised MNH curriculum	Number of private training institutions who received equipment (i.e., NeoNatalie®, etc.) for hands-on training related to revised MNH curriculum	0	0	0	13	13
OBJECTIVE 2: Contribute nationally relevant program learning on integrated community and peripheral health facility approaches to MNH, based on demonstration activities in three districts							
2.1	Percent of providers working in the pilot districts who are members of private associations and trained by MCHIP, by topic	Numerator: number of providers members of associations who MCHIP has trained: 206	153	53	0	0	93.21%
		Denominator: number of providers overall working in the health facilities in pilot districts: 221	187	34	0	0	

1.1 MONITORING INDICATOR							
INDICATORS		DEFINITION	RESULT				
			2011	2012	2013	2014	TOTAL
2.2	Number of CAs trained in MNH by MCHIP in the three districts	Number of new CAs who offer MNCH counseling, dispensing or services in communities	107	316	333	0	756
2.3	Number of job aids that MCHIP develops or contributes to distributed for community-related and health center	Number of job aids developed and distributed to the professional association members or health centers	1818	1595	1900	1428	6741
OBJECTIVE 3: Increase uterotonic coverage to prevent PPH at the health facility and community level in the district of Fénérive Est							
3.1	Number of women who have received and ingested misoprostol for PPH prevention at a health facility from a private association member	Number of women who ingest misoprostol for PPH prevention at the health facilities in Fénérive Est district	0	0	30	0	30
3.2	Number of women who received and ingested misoprostol for PPH prevention from a CA	Number of women who ingested misoprostol for PPH prevention at the community level in Fénérive Est district	0	0	969	1183	2152
3.3	Number of members of private associations trained in PPH prevention and misoprostol distribution	Number of members of private associations trained in PPH prevention and misoprostol distribution	0	0	44	0	44
3.4	Number of CAs trained in PPH prevention and misoprostol distribution	Number of CAs trained in PPH prevention and misoprostol distribution	0	0	169	0	169
3.5	Number of members of private association which received supervision in PPH prevention and misoprostol distribution	Number of members of private association which received supervision in PPH prevention and misoprostol distribution	0	0	41	0	41
3.6	Number of CAs which received supervision in PPH prevention and misoprostol distribution	Number of CAs which received supervision in PPH prevention and misoprostol distribution	0	0	166	161	166
Objective 3.1 : Introduce uterotonic use to prevent PPH at the community level in the Vohémar district							
3.1.1	Number of pregnant women who received home visit from a CA	Number of pregnant women who received home visit from a CA	0	0	0	507	507
3.1.2	Number of pregnant women given Misoprostol	Number of women that have been consented and enrolled	0	0	0	303	303
3.1.3	Number of women correctly ingesting Misoprostol for PPH prevention	Number of women who ingested Misoprostol for PPH prevention	0	0	0	138	138
3.1.4	Number of CAs trained in PPH prevention and Misoprostol distribution.	Number of providers trained in PPH and Misoprostol	0	0	0	238	238
3.1.5	Number of CAs who are supervised with MCHIP participation.	Number of CA trained in PPH and Misoprostol	0	0	0	214	214

Source: MCHIP data collection.

1.1 OUTPUT INDICATORS FROM THREE DEMONSTRATION DISTRICTS DURING THE LIFE OF THE PROJECT		
INDICATORS FROM THE THREE DEMONSTRATION DISTRICTS	DEFINITION	RESULT
Percent of providers working in the pilot districts who are members of private associations and trained by MCHIP, by topic	Numerator: number of providers members of associations who MCHIP has trained = 206	93.21
	Denominator: number of providers overall working in the health facilities in pilot districts = 221	
Number of pregnant women reached by CA's home visits	In the three demonstration districts	6845
Number of women who present with danger signs accompanied by an AC to a CSB	In the three demonstration districts	615
Number of newborns receiving post-partum visits by community agents	In the three demonstration districts	2329
Number of recently delivered women followed by AC	In the three demonstration districts	2455
Number of newborns presenting with danger signs accompanied by an AC to a CSB	In the three demonstration districts	94
Percentage of women giving birth who received AMTSL	Numerator: number of women giving births who received AMTSL = 6211	76.37%
	Denominator: number of women giving birth at the health centers = 8132	
Percent of newborns that receive essential newborn care	Numerator: number of newborns that who receive essential newborn care = 6657	84.82%
	Denominator: number of newborns at the health centers= 7848	
Number of successful newborns resuscitations	Number of newborns resuscitations successfully completed at the health centers	1109
Percent of PE/E cases who receive magnesium sulfate	Numerator: number of cases of PE/E who receive Magnesium Sulfate = 10	55.56%
	Denominator: total number of PE/E cases = 18	
Number of postnatal consultations within two days	Number of postnatal consultations within two days of birth in the CSBs or at home	2,920
Number of women with obstetric complications at the health facilities	Number of women who present with obstetrical complications in CSBs	775

Source: MCHIP data collection.

1.1 JRISE INDICATORS DURING THE LIFE OF THE PROJECT	
JRISE INDICATORS	RESULT
Number of studies	3 (QoC study, PPH Fénérive Est, KAP survey in cord care)
JPI COV 8: Number of pre-service schools in which MCHIP worked in the previous year	13
MCHIP Coverage: Total number of regions in the country in which MCHIP worked over the life of the project	19 regions
Total number of regions in the country	22 regions
JPI COV 3: Percentage of regions in which MCHIP worked over the life of the project	86.36%
MCHIP Coverage: Total population in the districts covered with MCHIP support over the life of the project to date	1,785,027
Number of districts covered with MCHIP support over the life of the project to date: Essential newborn care interventions, uterotonic in third stage by SBA, Kangaroo Mother Care (facility-based), postnatal care interventions for newborns	64 districts in MNH
Number of districts covered with MCHIP support over the life of the project to date: Kangaroo Mother Care (community-based)	5 districts in MNH with AC
Number of districts covered with MCHIP support over the life of the project to date: PPH prevention: Misoprostol for home birth	2 districts (Fénérive Est and Vohehar)
Total number of districts covered with MCHIP support over the life of the project to date	66 districts
MCHIP Coverage: Total number of districts in the country	119
Number of health facilities supported by MCHIP over the life of the project to date: Uterotonic in third stage by SBA, essential newborn care interventions (e.g., immediate drying, skin to skin care, immediate breastfeeding), Helping Babies Breathe newborn resuscitation, Kangaroo Mother Care (facility-based), postnatal care interventions for newborns	392 health facilities in MNH

Source: MCHIP data collection.

Annex 2: Success Stories

MCHIP MADAGASCAR SUCCESS STORY: SAVING THE LIFE OF A MOTHER

By Raeliarisoa Andriatsarafara and Fanja Ralaiarifenina

Njara Noeline was just 30 years old when she experienced bleeding for two weeks following the birth of her second child. Living in the fokontany of Antsiranambato in the commune of Ampasimbe Manasatrana and pregnant with her third child, she was afraid the same experience could lead to her death.

Community agent (CA) Clairette noticed Njara and her pregnancy in the market one day and set up a meeting so they could discuss best practices and care. In November of 2012, Clairette had been trained by USAID's Maternal and Child Health Integrated Project (MCHIP) to use misoprostol (or Famonjy, as it is called locally) for the prevention of postpartum hemorrhage, particularly for women who deliver at home. At that time, MCHIP had recently begun a pilot program to introduce misoprostol to women through CAs. Clairette Tesaka was eager to use the knowledge she had gained as a result of the training to educate Njara about the risks of bleeding during childbirth and how it can be prevented.



AC Tesaka Clairette with baby Jean Francky and his parents (Njara far right)

During their initial meeting in the September 2013, Njara told Clairette that she was seven months pregnant. Because Njara met the program criteria in terms of age and gestation (32 weeks or more), Clairette informed Njara about the MCHIP misoprostol program. Clairette reminded Njara of the importance of giving birth in a facility so that in the event of complications, a skilled health provider would be on hand to provide lifesaving interventions. She then told Njara about the danger signs to look out for in childbirth, the elements of essential newborn care and the importance of having misoprostol on hand in the case of postpartum bleeding in the event that a woman is not able to give birth at a health facility. Using the information she learned during her training with MCHIP, Clairette explained that misoprostol can be used to prevent or reduce blood loss after childbirth, helping a woman maintain her strength and subsequently safely deliver the placenta.

Remembering her previous experience with blood loss post-childbirth, Njara was enthusiastic to take part in the MCHIP program. After providing informed consent, she received three misoprostol tablets to have on hand in the case of an emergency where she could not make it to a health facility. She put the misoprostol in a safe place where she would not lose it.

On a crisp night in October, Njara went into labor and with the help of a *matrone*, or traditional birth attendant, she gave birth to a healthy boy and named him Jean Francky. Knowing that Njara had not yet delivered the placenta, the *matrone* palpated her belly to make sure that there was not a second baby. After the palpation, Njara remembered to take her misoprostol tablets with a full glass of water. Soon after she took the medicine, she delivered the placenta. Using a napkin to monitor blood loss, Njara determined that she had not lost a lot of blood. The following day, the small amount of bleeding had fully stopped.

Njara was very happy that she was able to have misoprostol on hand for her pregnancy. She felt relief to know that it was there in the case of an emergency. She told Clairette that she wants to make sure that she has misoprostol for her next pregnancy and also recommends it to her friends and family in preparation their childbirth. Though the MCHIP project currently supplies misoprostol for free to pregnant women, Njara said she would purchase it for up to 6,000 MGA (about \$3 USD).

According to Clariette, the MCHIP PPH project has achieved the following positive results:

- Encourages *matrones* to educate women on postpartum hemorrhage and the necessity of having misoprostol on hand during pregnancy
- Strengthens cooperation between community health workers and midwives
- Increases trust by the community and pregnant women in the CAs
- Reinforces a CA as a leader in their fokontany



Njara, her husband, and Herinarivo Jean Francky

MCHIP MADAGASCAR SUCCESS STORY: SAVING THE LIFE OF ANOTHER MOTHER

By Raeliarisoa Andriatsarafara and Fanja Ralairifenina

Marovato I village, located within the Ambodimanga 2 commune of Fénérive Est District, is more than five kilometers from the nearest health facility. There is no road to go by car; you have to walk on foot through the forests, mountains and rivers.

Ginette, a 35 year old woman who was pregnant with her third child, lives in Marovato. Early in the evening of November 25, 2013, after Ginette went to work, she realized that she was going into labor and went to the *matrone* who lives a kilometer from the village to give birth. The delivery went well and her little boy, named Elando, was born without any difficulty. However, 20 minutes after the childbirth, the placenta had still not been delivered and the *matrone* did not know what to do. Fortunately, Ginette remembered that Famonjy had been offered by community agent (CA) Gertrude Razafindrafano and that she had given Ginette the medicine earlier during the 32nd week of pregnancy. Ginette asked the person who accompanied her delivery to give her Famonjy with a glass of water. A few moments after ingesting Famonjy, the placenta was delivered. Ginette's delivery ended well, thanks to the availability of Famonjy, the trained CA, and the MCHIP project.



CA Gertrude Razafindrafano during follow-up supervision, 1 April 2014

CA Gertrude Razafindrafano works in the same village as Ginette. She received training by MCHIP on a number of topics: maternal and newborn health, prevention of postpartum hemorrhage, and distribution of misoprostol (called Famonjy in Madagascar). Misoprostol protects against excessive bleeding after childbirth, particularly for women who deliver at home and do not have access to a health center.

Now, the *matrone* always asks pregnant women who she plans to deliver where they have already received the Famonjy from a CA. If not, the *matrone* asks them to procure it. When they come to give birth, she reminds them to take Famonjy after delivery but before the placenta comes out, and especially after palpating the abdomen of the woman to make sure there is no second baby.

Annex 3: List of Presentations at International Conferences and Publications

- **Presentations**

- International Federation of Gynecology and Obstetrics 2012: Postpartum Hemorrhage (PPH) Prevention and Management: Quality of Care in Madagascar
- International Federation of Gynecology and Obstetrics 2012: Pre-eclampsia and Eclampsia (PE/E) Prevention and Management: Quality of Care in Madagascar
- Global Maternal Health Conference 2013, Arusha Tanzania: Improvements in Quality of services through timely post-training support
- Country director meeting: From Pilot to Coverage: Taking MNH Best Practices to Scale
- Country director meeting: New Technical Areas for Jhpiego: Use of CHX 7.1% in newborn infection prevention
- African Regional meeting on interventions for Impact in Essential and Obstetric Newborn Care , Addis Ababa, Ethiopia, February 2011
- February 2014, Maputo: Post partum Hemorrhage Implementation Workshop

- **Posters**

- Africa Regional Meeting on Interventions for Impact in Essential Obstetric and Newborn Care: Pathway to implementing PPH and PE/E management at scale
- Global Maternal Health Conference 2013, Arusha, Tanzania: Innovation to Improve Maternal Health in Remote Areas of Madagascar
- Global Neonatal Health, Johannesburg: Neonatal Health in Madagascar

- **Publications**

- E. Bazant, J.P. Rakotovao, J.R. Rasolofomanana, V. Tripathi, P. Gomez, R. Favero, S. Moffson. Quality of care to prevent and treat postpartum hemorrhage and pre-eclampsia/eclampsia: An observational assessment in Madagascar's hospitals. *Médecine et Santé Tropicales*. Volume 23, Number 2, 168–175, Avril-Mai-Juin 2013, Article original.
- Quality of Care of the Prevention and Management of Common Maternal and Newborn Complications in Health Facilities in Madagascar. MCHIP 2011.
- Prevention of postpartum hemorrhage in health facilities and at home in Fénérive Est district, Madagascar: Increasing access to evidence-based interventions. MCHIP 2013.

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

TITLE	STATUS	VERSION	LANGUAGE
MNH FOR HEALTH CARE PROVIDERS			
Curriculum de formation en SMN des AS pour Formateur French	Formatted	Word	French
Curriculum de formation en SMN des AS pour Participant	Formatted	Word	French
Guide de suivi formatif des AS	Formatted	Word	French
Grille d'évaluation de compétence des AS	Formatted	Word	French
Job aid sur le PHPP	Formatted	A4	French
Job aid sur la Réanimation du NN	Formatted	A4	French
Job aid sur la Prise en charge de la Pré-eclampsie et de l'Eclampsie	Formatted	A4	French
Affiches algorithme sur le PHPP	Formatted	A2	French
Affiches algorithme sur la Réanimation du NN	Formatted	A2	French
Affiches algorithme sur la Prise en charge de la Pré-eclampsie et de l'Eclampsie	Formatted	A2	French
Fiche de rapport mensuel des activités des AS	Formatted	Word	French
Fiche de rapport trimestriel des activités des AS par les Coordo MCHIP	Formatted	Word	French
Registre Accouchements	Formatted	02 feuillets 25/56	French
Registre Post-partum	Formatted	02 feuillets 25/56	French
MNH FOR COMMUNITY AGENTS			
Curriculum de formation en SMN des AC pour Formateur	Formatted	Word	French
Curriculum de formation en SMN des AC pour Participant	Formatted	Word	French
Guide de suivi formatif des AC	Formatted	Word	French
Grille d'évaluation de compétence des AC	Formatted	Word	French
Fiche de rapport mensuel des activités des AC	Formatted	Word	French
Fiche de rapport trimestriel des activités des AC par les Coordo MCHIP	Formatted	Word	French
PPH REFERENCE DOCUMENTS			
Introductory Program to Increase Uterotonic Coverage for Prevention of Postpartum Hemorrhage at Births in Health Facilities and at Home in Fénérive Est District, Madagascar	Formatted	PDF	English
Programme préliminaire pour augmenter l'utilisation des utéro toniques dans la prévention de l'hémorragie du post-partum dans les formations sanitaires et à domicile dans le District de Fénérive Est, Madagascar—Protocole	Formatted	PDF	French
Brief PPH—Prévention de l'hémorragie du post-partum dans les formations sanitaires et a domicile dans le district de Fénérive Est, Madagascar Méthodologie de mise en œuvre	Formatted	PDF	French

TITLE	STATUS	VERSION	LANGUAGE
PPH FOR HEALTH CARE PROVIDERS			
Formation des agents de santé dans le cadre du programme de prévention de l'hémorragie post partum—Cahier du Formateur	Formatted	PDF	French
Formation des agents de santé dans le cadre du programme de prévention de l'hémorragie post partum—Cahier du Participant	Formatted	PDF	French
Formation des agents de santé dans le cadre du programme de prévention de l'hémorragie post partum—Carnet du Participant	Formatted	PDF	French
Fiche de rapport mensuel des activités des agents de santé en PHPP	Not formatted	Word	French
Fiche de rapport trimestriel des activités des agents de santé en PHPP par les Coordo MCHIP	Not formatted	Word	French
PPH FOR COMMUNITY AGENTS			
Tetikasa fiarovana amin'ny fahaverezan-dra be loatra aorian'ny fiterahana—Fampiofanana ireo mpanentana eny anivon'ny fiarahamonina—Bokin' ny mpampiofona	Formatted	PDF	Malagasy
Fisy fanadihadiana aorian'ny fiterahana	Formatted	PDF	Malagasy
Guide de suivi formatif des AC en PHPP			
Curriculum de formation en Envoi rapport par SMS pour les AC formés en PHPP, pour Formateur	Not formatted	Word	Malagasy
Curriculum de formation en Envoi rapport par SMS pour les AC formés en PHPP, pour Participant	Not formatted	Word	Malagasy
Fiche de rapport mensuel des activités des AC	Not formatted	Word	French
Fiche de rapport trimestriel des activités des AC par les Coordo MCHIP	Not formatted	Word	French
ENQUETE QUALITE			
Etude sur la qualité des soins de santé maternelle et néonatale—Formulaire d'information supplémentaire	Not formatted	Excel	French
Liste des clientes	Not formatted	Excel	French
Liste des agents de santé en smne	Not formatted	Excel	French
Inventaire d'établissement de SMN—Inventaire pharmaceutique	Not formatted	Excel	French
Inventaire d'établissement de SMN—Inventaire consultations prénatales	Not formatted	Excel	French
Inventaire d'établissement de SMN—Inventaire salles de travail et accouchement	Not formatted	Excel	French
Inventaire d'établissement de SMN—Inventaire général d'établissement	Not formatted	Excel	French
Revue des archives SMNE—Examen du registre SMNE	Not formatted	Excel	French
Examen archives SMNE—Examen charte individuelle des clientes	Not formatted	Excel	French
Observation de soins de consultation prénatale	Not formatted	Excel	French
Observation des consultations prénatales	Not formatted	Excel	French
Pour la simulation: La liste de vérification sur la réanimation du nouveau-né	Not formatted	Excel	French

TITLE	STATUS	VERSION	LANGUAGE
Interview et tests des connaissances des agents de santé– Questions sur les connaissances en santé neonatale	Not formatted	Excel	French
Interview et tests des connaissances des agents de santé– Connaissances en santé maternelle	Not formatted	Excel	French
Interview et tests des connaissances des agents de santé– Interview sur l'éducation, l'expérience et les conditions de travail	Not formatted	Excel	French
Interview et tests des connaissances des agents de santé	Not formatted	Excel	French

