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EVALUATION

Maternal Child Health Integrated Program Mozambique (2011-2015) End-Term Evaluation

July 2015

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MATERNAL CHILD HEALTH INTEGRATED PROGRAM MOZAMBIQUE (2011-2015) END-TERM EVALUATION

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The end-term evaluation covers MCHIP implementation period from April 2014 to June 2015

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AMOG	Mozambican Society of Obstetricians and Gynecology
ANC	Antenatal Care
APE	Agente Polivalente Elementar
CECAP	Cervical Cancer Program
CFR	Case Fatality Rate
DDS	District Directorate of Health
DOT	Direct Observed Therapy
DPS	Provincial Directorate of Health
EGPAF	Elizabeth Glaser Pediatric Aids Foundation
FHI	Family Health International
FP	Family Planning
GoM	Government of Mozambique
GPS	Global Positioning System
HAI	Health Alliance International
HIV	Human Immunodeficiency Virus
IHO	Integrated Health Office
IPT	Intermittent Preventive Therapy
ISCISA	Superior Health Sciences Institute
ITN	Insecticide Treated Net
IUD	Intra Uterine Device
JSI	John Snow International
LLIN	Long Lasting Insecticide Nets
MCH	Maternal Child Health
MCHIP	Maternal Child Health Integrated Program
MDG	Millennium Development Goals
MMI	Model Maternity Initiative
MNCH	Maternal Neonatal Child Health
MoH	Ministry of Health
ODK	Open Data Kit

PMR	Performance Monitoring Results
PMTCT	Prevention Mother to Child Transmission
PPH	Postpartum Hemorrhage
RH	Reproductive Health
SBM-R	Standard Based Monitoring and Reporting
SP	Sulfadoxine Pyrimethamine
STD	Sexually Transmitted Diseases
TA	Technical Assistance
ToT	Training of Trainers
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USG	United States Government
VIA	Visual Inspection with Acetic Acid
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

EXECUTIVE SUMMARY

The Maternal and Child Health Integrated Program (MCHIP) was implemented over the time-span of four years (April 2011-June 2015), its second phase in Mozambique. The program's overall objective was to scale-up key Maternal, Neonatal and Child Health (MNCH) interventions through an integrated approach aligned with the government of Mozambique's efforts to reduce maternal, neonatal and infant mortality.

This report captures the end-term evaluation assessment of MCHIP's performance and its contribution to the integrated health results framework. The findings are an important cornerstone to inform potential strategies for future similar programs.

To achieve the program's objectives, MCHIP assumed a humanized and women-centered methodology in the four program components: Enabling environment, Model Maternity Initiative (MMI), Family Planning (FP) and Cervical Cancer Program (CECAP). One hundred and fifty nine (159) health facilities of the country's 1,300 facilities received specific Technical Assistance (TA) in the period of 2011 to 2015.

The evaluation employed a mixed-method research design using both qualitative and quantitative methods: in-depth individual interviews were used to collect data from health staff and stakeholders, observations were made at health facilities and a survey instrument (questionnaire) using mobile technology was employed to collect demographic information from staff at health facilities. Statistics from the Health Management Information System (HMIS) were also used to quantify some findings. The evaluation covered 25 health facilities across three provinces [Maputo (city and province), Nampula and Manica]. The evaluation was guided by eleven evaluation questions, focusing mainly on assessing the relevance, effectiveness, efficiency, impact and sustainability of the MCHIP intervention.

MCHIP's implementation was constrained by macro-factors that were a minimum requirement for the successful intervention of the program:

- Human resources: Most of the health facilities are under-staffed making it impossible to effectively implement some of the humanization concepts.
- Infrastructure: Health facilities are often in dire need of refurbishment and fit-out of essential life-saving instruments.
- Transport: a shortage of ambulances and the absence of associated management and maintenance plans particularly for the purpose of inter-hospital transfers.

OVERALL CONCLUSIONS

There is notable progress with regard to the humanization process, cancer screening and treatment and family planning services in the health system of Mozambique in the Maternal Child Health (MCH) sector. Although there were some challenges encountered throughout MCHIP's implementation period (macro and program-related issues), almost all of the health personnel that participated in the study displayed awareness of the humanization process and what it entails. Cervical and breast cancer screening are part-and-parcel of integrated family planning services in the health facilities that received TA through MCHIP. Insecticide Treated Nets (ITNs) are distributed to all pregnant women during their first antenatal visit, while Direct Observed Therapy (DOT) is a familiar concept to the MCH personnel. Long-lasting FP methods such as post-partum Intra Uterine Device (IUD) and Implant have also been introduced as part of FP services. The Standard Based Monitoring and Reporting (SBM-R) system has been reinforced through updated standards and guidelines in the sectors that were MCHIP's focus, including an update of the national registers for data collection of relevant MCH indicators. Further, institutional strengthening of the MoH through additional personnel (via MCHIP's payroll) who were based at the ministry was an important step to bolstering the work undertaken in these components at the central level.

The effort however, is somewhat diminished due to the lack of a continuity plan for the interventions that were introduced. The desired results in some areas were not achieved [for example, the recognition (accreditation) process of model maternities where only 6 of 22 have been recognized to date, and the renovation process of infrastructure which was delayed due to various factors linked to the procurement process, making it impossible to finalize all projects planned during the program's intervention period], rendering it important that future programs take into account lessons learned from the previous intervention.

CONCLUSIONS WITH RESPECT TO THE KEY EVALUATION QUESTIONS

- Most of the MCHIP interventions were successfully introduced and the only key concern is that the sustainability of these interventions is at risk as no exit strategy was incorporated in the program design. Training, for instance, was quantity-driven and no evidence of a comprehensive follow-up package was integrated that could have guaranteed a capacitated resource-base (certified trainers) at the MoH that could potentially be tapped for future replications. There is a risk that this activity becomes a one-time intervention (implemented only when MCHIP existed) and is not sustained into the future, given the absence of a plan for continuity.
- Humanization is on the radar at the health facilities by the MCH personnel, and they are focused on reinforcing standards in the model maternities, antenatal and post partum services. These efforts

towards humanization are nevertheless mostly hampered by infrastructure factors (for example, lack of space compromising privacy, lack of running water, lack of toilets) and under-staffing.

- Humanization aspects have made it possible to improve services at the facility-level. Antenatal services have improved early detection of problem pregnancies and this has reduced inter-hospital transfer deaths in recent years. MCH personnel recognized that they have the know-how to treat problematic situations such as hemorrhage and sepsis.
- The concept of Intermittent Preventive Therapy (IPT) and DOT are well known and are being applied at health facilities. Women receive the ITNs during their first antenatal visit, but challenges faced by the majority of health facilities is the high demand of nets versus their limited supply, and the effective monitoring of net usage. Although a majority of MCH nurses know about DOT, it is not practiced by all health facilities due to various reasons (for example, refusal by some expectant women to take medication), and HIV-infected pregnant women receive Cotrimoxazole (CTX) Prophylaxis instead of Sulfadoxine Pyrimethamine (SP). Validating the correct home-administration of SP medication prescribed to women is a further challenge.
- The CECAP program has been successfully introduced in the health facilities that received MCHIP's TA. The number of screening and (simple) treatment interventions has significantly increased, which is a tremendous improvement upon the almost non-existent cancer screening and treatment situation in Mozambique's health sector in 2010. The impact of these interventions will become known in coming years. However, as the MCHIP program is concluding, continuity of the interventions is at risk as there is no clear indication of a CECAP continuity plan. Such a plan would enable the MoH to continue with, and sustain CECAP activities at the same pace as during the MCHIP TA.
- FP as a recruitment platform for cancer screening is now routine in some health facilities. It is important, nevertheless, to reiterate that the sustainability of these services is potentially compromised due to the absence of strong evidence of a continuity plan to enable the MoH to replicate activities upon completion of MCHIP's TA.
- Although the SBM-R was reinforced in all the health facilities through MCHIP's TA, it is not explicitly implemented by all health facilities. Those that are using the practice have improved their services markedly, and the humanization process is part-and-parcel of the facility. The key challenge is to maintain and enhance best practices demonstrated in those facilities using the SBM-R system, while re-emphasizing the need to adapt the system to those facilities that are not implementing it. This is because the data is important for improving service delivery at that level, especially if the entire team is involved.
- Post partum counseling starts early, during the antenatal care visits, and continues on through the delivery phase. Long-acting methods are well understood, but there is a fear of use, driven by a lack of information, fueled by taboos and myths on associated sterility effects.

RECOMMENDATIONS

1. Sustainability

- 1.1 The MoH's involvement and ownership: It is paramount that during the design of the program, donors and program implementing partners ensure that the involvement of the MoH is well captured and understood by all, and that the MoH takes an active lead through being involved in all the stages of the project. An exit strategy should be explicitly incorporated in the program document and clear strategies towards technical, organizational and financial sustainability delineated for implementation during the program years.
- 1.2 Monitoring and evaluation plan: A Monitoring and Evaluation Plan should be integrated within the program design and baseline data established from the project's beginning, accompanied by SMART objectives. All programs that will be implemented for more than three years should be subject to a mid-term evaluation in order to increase the likelihood that these programs achieve their objectives within the implementation period.

2. Infrastructure

- 2.1 Partners should consider financing Infrastructure (renovation of buildings) in conjunction with institutional capacity building to ensure the availability of necessities (such as water for instance) as this will boost the respectful care process for both staff and patients. In addition, supply of basic life-saving equipment (where such needs exist) should be integrated within future programs.
- 2.2 A completion plan (particularly for those facilities considered for renovation under MCHIP and never materialized) should be developed and integrated in future programs.

3. Staffing

- 3.1 Peer-to-peer learning facilitation: Due to the existence of few MCH nurses in the country, training should be made available to all MCH nurses and it should happen at the health facility (on-the-job training) where possible. More staff from a single health facility should be trained to facilitate peer-to-peer learning and ensure continuity of activities in the absence of their colleagues.
- 3.2 In-service training database: The program implementing partner should consult the MoH's in-service training database in order to get some insight on the existing expertise and skills at each health facility, thereby facilitating objective and effective selection of participants for future training services.
- 3.3 Ecosystem training approach: A novel training approach that considers ecosystem training of health facilities as opposed to isolated cases (at an individual or health facility level), via Hierarchical-based learning and Mesh-based learning is recommended.
- 3.4 Center of Excellence: To stimulate peer learning among health facilities, having a center of excellence (for instance, a recognized model maternity health facility) where health staff can visit, observe, learn

and be trained on the model maternity and SBM-R, will boost the uptake of standards and norms as routine practice.

- 3.5 Retention in a facility and further training: Trained staff should stay for at least 6 months in the health facility in which they were working at the time they received training. Additional training for health facility managers could reinforce their managerial skills in areas such as: Managerial functions, Analytical skills and Monitoring and Evaluation of interventions. Relevant training topics for different audiences (health staff at facilities, provincial and district directorates and the MoH) for the future could include: Cancer screening and treatment; Counseling on Long Acting methods; Neonatal resuscitation techniques; Stock control; Supervision techniques; Leadership and Management; Data management and analysis for decision making; Sustainable community engagement and Program development.
 - 3.6 Skills testing: Certification of the trainers should be incorporated as part of the training package and a budget should be set-aside for that purpose in order to guarantee quality in the future interventions.
 - 3.7 Supervision: Supervision needs to be incorporated in the training package by ensuring that all trained personnel are visited and observed in action after training completion. Doctors should be included in the training and assigned supervision roles to introduce peer learning. Monitoring of visits by trainers to verify and reinforce knowledge of the trainees should be mandatory and should occur within three months of training completion to provide support when most needed.
4. Program management
 - 4.1 Management tools: Proper management tools and techniques are needed for a successful program implementation: for instance, the use of program management reviews for detection of project problems (within them or beyond); identification of risks and development of contingency plans; and a staff management plan to maximize resource pools shared across several program components.
 - 4.2 Solution-focused approaches: Management should use proactive solution-focused approaches to solve problems that are likely to affect the program implementation including: a) frequent face-to-face meetings with key stakeholders to strategize on the way forward while minimizing delays and misunderstandings; b) regular monitoring of program implementation and milestones/deadlines which should involve the entire program implementation team.
 - 4.3 Local capacity-building: Some specific parts of the programs that require subcontracting could be implemented through local Non-Governmental Organizations (NGOs); this will increase the likelihood that their skills are reinforced and that the activities implemented through them are able to be sustained into the future.
 - 4.4 Synchronization and alignment of activities: All interventions of a program should be implemented around the core components, geographical areas and facilities that the technical assistance is being focused to maximize resources.

5. Active community engagement
 - 5.1 Community mobilization to use health facilities: Health committees at the community level should promote institutional births and sensitization of mothers to attend prenatal services at an early stage, thereby increasing the likelihood of deliveries taking place at health facilities in a controlled manner. In addition, active community engagement is needed to enforce behavioral changes in aspects such as male participation in the family planning process, usage of mosquito nets, visiting health facilities for information and when sick and planning for preventative activities at the district and provincial levels.
 - 5.2 Mobile clinics: Mobile clinics could be an important cervical and breast cancer recruitment platform particularly in remote rural areas.
6. Transport management
 - 6.1 Donors should reinforce the MoH's capacity in relation to ambulance management and vehicle restocking where possible to expedite the inter-hospital transfer process.
 - 6.2 Clear-cut guidelines with regard to ambulances' usage could improve the inter-hospital transfer process.
7. Guidelines for inter-hospital transfers
 - 7.1 Standardization of inter-hospital transfers including communication protocols are needed in order to facilitate the process for all involved.
 - 7.2 Collaboration as an ecosystem where a network-of-services concept is employed and takes into account the engagement of all health facilities allows for a more holistic and effective approach to referral challenges.
8. Data management
 - 8.1 Data should be used for local decision-making therefore local managers should be equipped with the skills and knowhow for Data Analytics (DA). A clear understanding of what data should be captured in health facilities and how this data capture should be performed requires attention.
 - 8.2 Novel digital technologies such as mobile technology should be introduced at local levels to speed up the data collection process, improve data quality and reduce data loss, thereby facilitating quality, data-driven and informed decision-making.
 - 8.3 Encourage the continued use of SBM-R by those facilities that are using the system diligently while enforcing the practice in those facilities that are not implementing through further skills upgrade where necessary.

9. Research

- 9.1 Further research is needed to better understand the impact of the interventions resulting from the MCH services that could provide much needed data and insights for improved decision-making. Obtaining baseline data on significant maternal, neonatal and infant indicators is essential before commencing interventions. Proper quantitative research and needs analysis should be undertaken using available data (from the MoH), which is representative of the country's 1,300 health facilities.

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1. EVALUATION PURPOSE AND QUESTIONS

The Maternal and Child Health Integrated Program (MCHIP) Mozambique was a multi-year program funded by the United States Agency for International Development (USAID), being implemented from April 2011 to June 2015. The program's overall objective was to scale up key Maternal, Neonatal and Child Health (MNCH) interventions through an integrated approach that aligns with the Government of Mozambique's efforts to achieve the Millennium Development Goals (MDG) 4 and 5¹.

An end-term evaluation was commissioned by USAID and the Ministry of Health (MoH) to assess MCHIP's performance and its contribution to the integrated health results framework. An additional goal of the evaluation was to provide insights into the use of mobile technology for quantitative data collection in order to increase the efficiency, transparency and accuracy of performance data. USAID intends to incorporate mobile technology into more and more evaluations, utilizing the mobile platform to organize, analyze and report data. The purpose of the evaluation was two-fold:

- a) To learn to what extent the program's objectives and goals have been achieved to date;
- b) To inform potential changes that can be made to enable the program to better meet its objectives.

The main audience of the evaluation report is the Integrated Health Office (IHO) of USAID/Mozambique, JHPIEGO and its partners, the MCHIP point of contact at the Health Bureau at USAID/Washington and the Government of Mozambique (GoM). The study was structured around eleven evaluation questions:

1. To what extent has the approach applied by MCHIP over the last year resulted in an expansion of MNCH/Family Planning (FP) and cervical cancer screening?
2. To what extent has the approach applied by MCHIP been effective at improving the quality of MNCH, Cancer Screening and Family planning Services?
3. To what extent has the model maternity initiative reduced the number of inter-hospital deaths due to hemorrhage, eclampsia, sepsis and obstructed labor?
4. To what extent has the approach applied by MCHIP been effective at improving the uptake of methods of malaria prevention in pregnant women, specifically the use of at least two doses of Sulfadoxine Pyrimethamine (SP) and the use of Insecticide Treated Nets (ITNs)?
5. To what extent are healthcare worker interactions with patients during cervical cancer screening and treatment conducted according to the WHO treatment model?

¹ Goal 4: Reduce child mortality; Goal 5: Improve maternal health by 2015.

See also http://www.who.int/pmnch/about/about_mdgs/en/

6. To what extent has the use of family planning programs as an entry point to cervical cancer screening compromised or reinforced the update in family planning? What are other realistic possibilities?
7. To what extent has Standard Based Monitoring and Reporting (SBM-R) led to improvement in services and health outcomes?
8. Is respectful care for women actually being implemented at model maternities (e.g. having a companion, choosing a position to have a baby, baby not left alone but stays with mother)?
9. Is strong (post partum family planning) counseling occurring in model maternities (i.e. offering Long Acting Methods [specifically Intra Uterine Device (IUD) and tubal ligation when possible])?
10. How effectively has MCHIP capacity-building (performed by MoH in 2011-2014) contributed to: achieving the program purpose and improving the capacity of health professionals from MoH, DPS and health personnel through technical skills to ensure sustainability of the program?
11. Are MCHIP Interventions (e.g. management of third stage labor, use of antibiotics, magnesium sulfate) correlating to post partum hemorrhage, sepsis, eclampsia etc., at MCHIP facilities?

This report is structured as follows: Chapter one is a short introduction presenting the evaluation's purpose, intended audience and evaluation questions. Chapter two provides background and context of Mozambique's Maternal Child Health (MCH), USAID/Mozambique program strategy, details of MCHIP's key components and a brief description of partners. Chapter three outlines the evaluation methodology through a detailed narrative of the participant selection process, data collection and analysis methods and methodological limitations. Chapter four first highlights the participants' demographic information and gender analysis, outlines MCHIP's strategic framework design, and concludes with regard to the key questions and some counsel for similar future programs.

2. PROJECT BACKGROUND

Maternal, neonatal and infant mortality rates are still below the MDG targets in Mozambique with the under-five mortality rate at 90 deaths per 1,000 live births in 2013 and the maternal mortality ratio at 480 per 100,000 live births in 2014. The institutional maternal mortality ratio (number per 100,000 live births) according to MoH² was: 416 (in 2009), 406 (in 2010), 511 (in 2011), 303 (in 2013) and 218 (2014) despite concerted efforts by the Government of Mozambique (GoM) and partners to address the problem. The MDG targets are 78 per 1,000 live births and 480 per 100,000 live births respectively (Lancet, 2014). According to the World Health Organization (2014), the main causes of maternal deaths based on regional estimates in Sub-Saharan Africa for 2013 are Hemorrhage (25%), Hypertension (16%), Unsafe abortion (10%) and Sepsis (10%). According to the same report, the leading causes of under-five deaths in 2012 were Neonatal [34% (Preterm (11%), Asphyxia (10%), Pneumonia (2%)), Malaria (18%), Pneumonia (12%), Diarrhea (9%), HIV/AIDS (6%) and Injuries (5%)]. Against this backdrop, the GoM, together with its partners, has developed an operational plan for accelerating the reduction of maternal, neonatal and infant mortality for the period October 2014 to December 2016. MCHIP is one of the partners collaborating with the GoM in this area.

MCHIP was awarded in 2008 and works in 35 countries to reduce maternal, neonatal and child mortality, thereby contributing towards the achievement of MDGs 4 and 5 (to reduce child mortality and improve maternal health by 2015). As the USAID Bureau's Global Health flagship for Maternal, Neonatal and Child Health (MNCH), MCHIP is guided by the following five interrelated principles:

1. Scaling up proven interventions
2. Maximizing resources through strategic integrated programming
3. Building on existing efforts of programs and partners
4. Focusing on global learning and
5. Taking global leadership role

2.1 Context of Mozambique's health system

The Government of Mozambique continues to make strides through the expansion of health services to the population. Specifically, the government has been paying close attention to the reduction of maternal, neonatal and infant mortality, with an operational plan (October 2014-December 2016)³, which has been developed to accelerate such outcomes. Information dissemination to the community with regard to

² MoH's National Health Information System – the Módulo Básico (2015)

³ Plano Operacional para Aceleração da redução da Mortalidade Materna, Neonatal e Infantil

available health services, and the posting of qualified personnel in rural areas are two of the visible efforts the government has embarked upon. An enabling environment, however, is a cornerstone for supporting the improvement and access of health services to the population. It is challenging nevertheless to introduce concepts and ideas that require the existence of minimum conditions that are currently lacking in most of the facilities. The following aspects are imperative for the successful implementation of a program and had an effect on MCHIP's implementation:

Human resources

Most health facilities are understaffed, which makes it difficult to implement some important procedures or new service provision techniques. There are only a handful of MCH nurses in most of the facilities, which leads to their overwork. Re-allocation of staff to different sectors or units, which in itself is a positive aspect, also introduces challenges when it occurs frequently or too quickly. Constant change in leadership or focal persons of a given program at the MoH or at the facility level can have serious impact on the program implementation, as relationships with stakeholders have to be re-established by replacement personnel.

Infrastructure and equipment

Some health facilities are in dire need of refurbishment and fit-out of essential life-saving instruments. For example, a maternity ward without a toilet for patients or running water impairs the humanization process for both health personnel and patients. Furthermore, the power supply is often not constant in some health facilities, particularly those located in rural areas.

Transport

There is shortage of available ambulances and in some instances, one ambulance is shared by all the health facilities in a district and may sometimes be used for other 'non emergencies'. Additionally, roads can often be in bad condition, which complicates the inter-hospital transfer process.

2.2 MCHIP Mozambique

The MCHIP program was implemented in two phases in Mozambique: the first phase took place from 2009 to 2010 and the second from 2011 to 2015. In the first phase (with a budget of US\$4.6 million) MCHIP provided technical support to the Ministry of Health (MoH) in implementing evidence-based innovative approaches to improve the quality of MNCH and Reproductive Health (RH) services including Family Planning (FP). In the second phase (with a budget of US\$32.8 million) MCHIP interventions were built on the successes and lessons learned from the first phase and focused on building a favorable national policy environment while supporting the MoH in two of the national priorities: 1) to scale up the Model Maternities

Initiative (MMI), including malaria in pregnancy and Prevention of Mother To Child Transmission (PMTCT) of HIV, and 2) the Cervical and Breast Cancer Prevention/Control Program (CECAP) in order to rapidly expand the implementation of high-impact MNCH/RH interventions. MCHIP also supported the provision of FP services through the MMI and CECAP initiatives. This evaluation focuses on the second phase of the program.

The overall goal of the program in Mozambique is aligned with MCHIP's global goal to reduce maternal, newborn and child mortality, while the program's strategic objective was to scale up high-impact interventions and increase the use of MNCH, Family Planning (FP) Reproductive Health (RH) and HIV services, as follows:

1. Strengthen the enabling environment for delivery of high impact interventions
2. Expand coverage of high impact MNCH interventions through the Model Maternity Initiative
3. Strengthen human resources for improved health services delivery
4. Expand cervical cancer prevention services
5. Improve preventive FP/RH service management and referral
6. Introduce safe and routine neonatal male circumcision services⁴
7. Develop and strengthen MoH and United States Government (USG) funded partners
8. Define, implement and monitor standards of care in key service areas.

To achieve these objectives, MCHIP assumed a humanized and women-centered methodology in the four program components: Enabling environment, Model Maternity, Family Planning and Cervical Cancer Program (CECAP). One hundred and fifty nine (159) health facilities from all the provinces in the country received specific Technical Assistance (TA) from 2011 to 2015 [refer to Annex I for detailed program Performance Monitoring Results (PMR)]. The TA consisted of the following:

Technical assistance to MoH at the national provincial, health facility and community levels involving:

- Support of policy and strategy development
- Update and rollout of national registers
- Human resource development through training and integrated training packages
- Strengthening quality improvement based on the Standards-Based Management and Recognition (SBM-R) approach
- Strengthening partnerships with other implementing partners for MNCH, RH and FP.

⁴ This objective was later removed as it was no longer the MoH's priority

Support for the Model Maternity Initiative involved:

- Supervision (linked to SBM-R) supporting the Provincial Health Directorates (DPS)
- Data management: collection, quality improvement and promotion of use for decision-making
- Site strengthening: improving infrastructure, supply of materials and equipment
- Active community engagement
- Training of staff

Family Planning interventions included:

- Integrating the FP services into the MMI and promoting demand
- Development of training and promotion materials
- Updating of national FP norms and guidelines and the development of supervision guidelines

CECAP main interventions were:

- Use of Visualization with Acetic Acid (VIA) and cryotherapy of early lesions as the prime methods for cervical cancer screening and treatment in a single visit approach at Basic Health Facilities
- Management of advanced cervical lesions through colposcopy, biopsy, cytology and LEEP (Loop Electrosurgical Excision Procedure) at Referral Health Facilities
- Promotion of breast cancer early detection through clinical and self-breast examination

Some of the program's targets were adjusted over the years (see Annex I for details).

2.3 Key Program Partners

One of MCHIP's key interventions under objective 7 was to identify relevant partnerships, based on organizational scope of work, geographical location and technical capability on MNCH and RH. Some of the relevant partners for MCHIP collaborative activities included:

- Ministry of health at national, provincial and district levels.
- USG-funded partners: ICAP (Columbia University), ITECH, Friends in Global Health, Health Alliance International (HAI), Elizabeth Glaser Pediatric Aids Foundation (EGPAF), Family Health International, Pathfinder, John Snow International (JSI), World Vision, World Relief, Food for the Hungry, CARE.
- Active MCHIP participation on the National Reproductive Health Commodity Security Task Force.
- Family Planning activities coordination with ESD/Pathfinder, UNFPA, WHO, and JSI, mainly through the MCH SWAP Technical Work Group.

- Other important partners for strategies and standards: WHO, UNFPA, World Bank, African Development Bank, DFID, UNITAID and the Global Fund.
- Disseminate best practices in MCHN/RH/FP with principal health professional Organizations: Mozambican Association of Obstetricians and Gynecologists (AMOG), Mozambican Association of Pediatricians (AMOP) and Mozambican Association of Midwives (APARMO).

3. METHODS AND LIMITATIONS

The evaluation employed a mixed-method approach to triangulate data. Quantitative data collecting methods, such as the use of a survey instrument, were administered through mobile technology [Open Data Kit (ODK)⁵ platform] whereas In-depth Individual Interviews (IDIs) and observations were the main qualitative data collection techniques used throughout the evaluation.

3.1 Research design

Exploratory research design was used for the purpose of the end-term evaluation because of its potential to facilitate the identification of key issues while providing quality information in a mixed research employing both qualitative and quantitative data collection methods. The design was able to provide a detailed understanding of MCHIP while focusing on the discovery of insights and tendencies that could define MCHIP's future trajectory such as alternative courses of action, best practices, opportunities, challenges and the identification of possible strategies for reinforcing (or overcoming future challenges) MCHIP's four components: Enabling Environment, Model Maternity, Family Planning and Cervical and Breast Cancer Prevention programs.

3.2 Sampling process for participating provinces

Data was collected from three provinces namely Maputo (city and province), Manica and Nampula. The selection was based on the following criteria:

- Geographical representation: As the MCHIP program was implemented in all provinces of Mozambique, the sample frame therefore included a list of all provinces in the Northern region (Niassa, Cabo Delgado, Nampula), the Central region (Tete, Sofala, Manica, Zambezia) and Southern Mozambique (Inhambane, Gaza, Maputo City, Maputo Province). A geographical representation across the regions was imperative to guarantee regional representation.
- Urban/Rural representation: The dynamics of Maputo City and Province were expected to be quite different from the other provinces, being the capital city of Mozambique; it was therefore important to include it in the sample and to determine if (and to what degree) being a capital city had any influence in the program implementation in comparison with the provinces.
- MCHIP TA representation: The MCHIP team provided technical assistance to the Model Maternity Initiative (MMI), Cervical and Breast Cancer Prevention/Control Program (CECAP) and Family

⁵ see opendatkit.org

Planning (FP) services. The selected provinces provided a good coverage of the technical assistance in MCHIP's main TA components.

- Type of health facilities: There was a need to have a good mix of different types of health facilities (Central Hospitals, General Hospitals, Provincial Hospitals, District Hospitals, Rural Hospitals and Health Centers); this was possible from the sampled provinces.

3.3 Sampling process for participating health facilities

A sample frame comprising of a list of all the participating health facilities in the MCHIP program was made available to the evaluation team (159 health facilities benefiting from MCHIP's TA) and only health facilities from the three selected provinces were considered for participation in the evaluation. 17 health facilities from Maputo City Province, 18 health facilities from Nampula Province and 13 health facilities from Manica Province participate in the MCHIP program. The following criteria were used to select the health facilities:

- Each hospital type in the province was to be well represented.
- All Model Maternities that had acquired the recognition status (accreditation) in the province needed to be included.
- All three key MCHIP interventions (MMI, CECAP, and FP) were to be represented (at least 50% of intensive packages).
- A spread among the self SBM-R scores of the health facilities, with at least the best-scoring health facilities included.
- Good geographical representation across the province.
- Coverage of different starting dates of support services by the MCHIP to the health facility within the program period (from April 2011 to June 2015).

A Web-based random service generator (<http://www.random.org/integer-sets/>) was used for random selection of a set of health facilities that fulfilled the criteria outlined above.

Table 1: Participating Health Facilities

Nampula Province	Manica Province	Maputo City Province
CS Meconta	CS 1º de Maio	CS 1º de Junho
CS Mossuril	CS Eduardo Mondlane	CS Albasine
CS 1º de Maio	CS Manica	CS Catembe
CS 25 de Setembro	CS Vanduzi	CS Dlavela
HC Nampula	HR Catandica	CS Inhaca
HD Nacala Porto	HR Chimoio	HC Maputo
HG Marere	HR Gondola	HG Chamanculo
HR Alua		HG José Macamo
HR Angoche		HG Mavalane

3.4 Sampling process for participating health personnel and stakeholders

The selection of health personnel from the sampled facilities was based on availability. The evaluation team communicated to the health facilities of the impending visit at least two days prior to the actual day of data collection through the health facility's director, and in the case of districts, through the district directors. Three international days coincided with the data collection: Midwives day, International Nurses' day and the city of Catandica day. Despite this, the MCH nurses and directors of the respective health facilities were there to meet the evaluation team. It was also noted that not all health facilities provide full services during the weekend, excepting emergency services. Therefore, prior notification was given to the relevant facilities that data collection would occur on a Saturday. The stakeholders' list was compiled by JHPIEGO and reviewed by USAID/Mozambique. Most of the suggested individuals were interviewed (see annex E for a complete list).

3.5 Data collection methods

A survey questionnaire was used to collect demographic information on the health personnel in the different health facilities via mobile technology. This made it possible to record the exact location and time of data collection. A Samsung Tab S 8.4" with GPS, a data communication facility (GPRS/3G/WiFi) and running ODK field data collection software was used for this purpose. The sequence of steps for administering the questionnaire using the selected mobile technology proceeded as follows: First, the technology was used to capture the geographic location and provide the coordinates. Second, the informed consent form was read orally to the participant, seeking permission to proceed. A section had been created in the survey to capture the signature digitally, before proceeding with further data collection. The collected data was immediately

sent to an online dashboard in the ODK system's server, which was password-secured and could only be accessed by the team leader and the key evaluation expert (see annex C for dashboard snapshot).

An in-depth interview was used to collect data from the health personnel in all facilities. This was a convenient method of data collection, given the busy schedule of health personnel, which in turn made it impossible to bring together individuals for focus group discussions. This interview process facilitated an open discussion without any fear of retribution. The interviews were recorded via digital audio recorders to facilitate subsequent transcription. The Portuguese language was used for data collection hence the original transcriptions are in Portuguese. However, some of the interviews with stakeholders were undertaken in English. The Portuguese transcripts were translated into English to facilitate further analysis by the evaluation team.

Figure 1: Audio recorders used during the interviews



The local medical doctor who was part of the team used the observation method to collect data. An observation guideline (see annex D) had been developed to confirm indicators that are monitored through the Standard Based Monitoring and Reporting (SBM-R). Only the Mozambican doctor from the group of the enumerators observed medical procedures in action and reviewed the relevant medical data.

Example of focus-areas during observation included:

- Hygiene practices in these facilities (maternity department, cervical screening area, family planning area)
- Infrastructure and general conditions
- The existence of flowcharts on the wall for cervical cancer prevention, FP or delivery process.
- Verification of record keeping, whether it was done properly and evidence of a sufficient (month-long) stock of cards that were/are used to register newborns and patients

- Verification of the existence of the necessary equipment to facilitate work, for instance stethoscope, thermometer, pregnancy tests, forceps, special scales for weighing (newborn) babies and mothers, malaria tablets and other relevant medication to treat delivery complications

Prior to data collection, training was held for the enumerators to:

- Introduce MCHIP to the enumerators and underline their role as data collectors during the program's evaluation
- Highlight the modus operandi of the data collection process, particularly the importance of upholding research standards and ethics during their engagement with human subjects,
- Provide a theoretical and real-time platform to practice in order to fully acquaint with the data collection tools (see annex B for full training report)

Quantitative data on key MNCH indicators gathered by JHPIEGO/MoH over the last years has been used in this evaluation to report on outcome trends in:

- a) Case for Fatality Rate (CFR) for Postpartum Hemorrhage (PPH), eclampsia and sepsis
- b) Fresh still birth rate (for example, mother admitted with a live baby)
- c) IPTp (at least two doses)
- d) ITN coverage (number of pregnant women who received ITN at ANC visit)

3.6 Data analysis method

A general inductive approach was used for qualitative analysis, which was undertaken by multiple coders who worked simultaneously and independently to create themes and categories. A meeting of the coders was held, where each coder was given a chance to present his/her coding results. Final themes and categories were agreed upon and were used in this report. SPSS was used for quantitative data analysis to generate descriptive statistics, cross-tabulations and correlation analysis. Excel was also used when necessary, to create graphs and tables.

Table 2: Summary of Data Analysis

Data collection	Data type	Tools for analysis	Output and purpose
Survey	Quantitative	Excel and SPSS	Descriptive statistics on social-demographic information of participants
National health statistics on FP, Cervical Cancer, MNCH	Quantitative	Excel and SPSS	Statistics on trends compared to indicators
Individual Interviews	Qualitative	Open coding	Themes and categories separately analyzed: 1) Interviews from health personnel 2) Interviews from the stakeholders and MoH
Observation	Qualitative	Open coding	Themes and categories-observation data separately analyzed

3.7 Methodological Strengths and Limitations

A mixed approach of both qualitative and quantitative data collection methods and analysis were used, triangulating data sources to enhance results validity. Despite this, the evaluation had the following methodological limitations:

- **Representativity:** The study is by-and-large qualitative and therefore the findings cannot be generalized to the whole population. However, the study findings will be a platform to provide detailed information that will facilitate further understanding of how MCHIP has contributed to the improvement of maternal child health, particularly in the main components of the intervention: Model Maternity Initiative, Cervical Cancer screening and treatment and Family Planning. To mitigate this limitation and ensure regional representation, Nampula was selected to represent the north, Manica to represent the center and Maputo to represent the south of Mozambique.
- **Quantitative Data:** The size (n) of the demographic data is small and the results from this survey cannot therefore represent the whole population. However, the data will provide a basis to understand the MCH sector in Mozambique. Secondary data (statistics) from the Ministry of Health was used to report on trends and the overall situation of particular interventions (where such data was available).
- **Interviewer Bias:** Most of the qualitative information was collected through interviews therefore there is potential for interviewer bias. This risk was anticipated prior to data collection and in order to mitigate it, an intensive three-day workshop was organized, where emphasis was placed on

reinforcing the enumerators' interviewing skills. In addition, multiple coders were used for data analysis.

The following technical and administrative issues were encountered during the evaluation process:

- Focus on health personnel: The study focused on evaluating the technical assistance at the health facilities. Information from the general population (beneficiaries of the health facilities services) would have been an important additional information source for validating data from the health personnel. As this was an exempt study with regard to Institutional Review Board (IRB) requirements, it was not possible to include the beneficiaries in this study, as this would have required a different set of procedures.
- Focus Group Discussions: Focus group discussion was identified as a data collection method for this evaluation. However, the reality on the ground proved that it was not a feasible data collection method due to the nature of hospital environments, which are very busy and which operate under emergency schedules. In-depth Individual Interviews and Observation were the main data collection methods used in the facilities.
- Holidays and weekends: Data collection was scheduled to take place on Saturdays and Sundays, under the working assumption that health facilities are open 24 hours, 7 days, with staff working different shifts. However, this plan needed to be revised and Sunday data collection was removed from the plan, as advised by key MCHIP stakeholders. The health facilities whose data collection coincided with a Saturday were informed in advance although only skeleton staff was typically available, mainly from the MCH. In addition, some important commemorations took place during the evaluation including Midwives' day, International Nurses' day and Catandica City's day, all of which had an influence on who was available to be interviewed.
- The evaluation team: Although there was a medical doctor in the team (South African), it was deemed necessary to include a Mozambican medical doctor for data collection through observation due to language and credibility concerns. Maraxis B.V. therefore engaged an extra team member for data collection activities, which was not anticipated.
- Mobile technology in data collection: There were no challenges with the ODK platform; nevertheless backup questionnaires were at hand in case of any eventualities.
- Permission to collect data from the Maputo Central Hospital: Despite the green light provided through the MoH to go ahead with the evaluation, it took seven weeks to gain approval from the Maputo Central Hospital to interview the MCH personnel in that health facility.

4. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

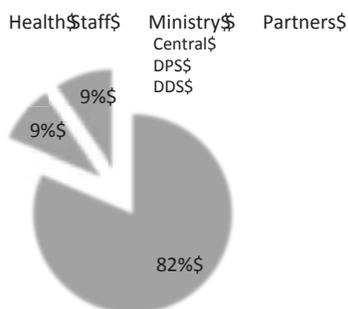
There is notable progress with regard to humanization in the service provision of the health facilities that were benefiting from the TA. This concept is reverberating to all the health facilities; for example, model maternity concepts are being replicated in health facilities that were not directly receiving MCHIP's TA. The humanization process can be implemented in both urban and rural set-ups, provided there is strong leadership to guide the process, a willingness of the team to learn and adapt to new routines (in essence a change of attitude) and last but not least, having the skills and know-how to do so. A case to note is that despite the infrastructural, staffing and equipment challenges in some of the rural and peri-urban facilities, the commitment, level of effort and attitude of the MCH personnel was exemplary.

On the other hand, from a program implementation perspective, the approach of some of the interventions could have been different to accelerate the implementation process while maintaining quality and guaranteeing sustainability. Some noteworthy examples include the certification/recognition process of model maternities (only 6 were recognized out of the target of 22), the infrastructure component that was stalled, and the training intervention that was implemented however, was weak in terms of monitoring (certification of trainers and supervision of practitioners).

4.1 Participants Demographic overview

One hundred and ninety four (194) interviews were conducted at various levels: Health personnel from the sampled health facilities, key MCHIP stakeholders and Ministry of Health (see annex E for a detailed list).

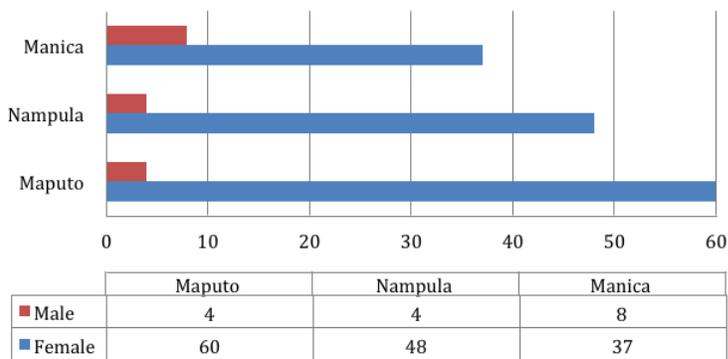
Figure 2: Interview participants



Source: Maraxis (2015): Data from 25 participating health facilities

25 health facilities out of 159 facilities that benefited from MCHIP’s TA were visited in the three provinces (Maputo, Manica and Nampula) of the 11 provinces in the country. The average age of the participants was 36.4 years and the youngest interviewee was 20 years, while the oldest was 73 years (a midwife). Ninety percent (90%) of participants from the facilities were female, while only 10% were male. The average number of patients that health personnel had provided consultations for in the last seven days prior to the interview was 165, while the minimum was 0 (some admitted to not having attended any patients during the last seven days due to various reasons) and the maximum total number of patients seen in the seven days prior to the interview was 900.

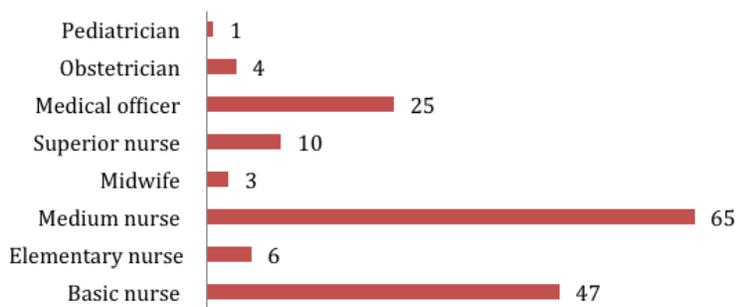
Figure 3: Gender desegregated participation per province



Source: Maraxis (2015): Data from 25 participating health facilities

Almost all of the function categories were represented, despite the fact that interviews were being conducted on an availability basis (that is, based upon work schedules and presence in the facility when the visit took place).

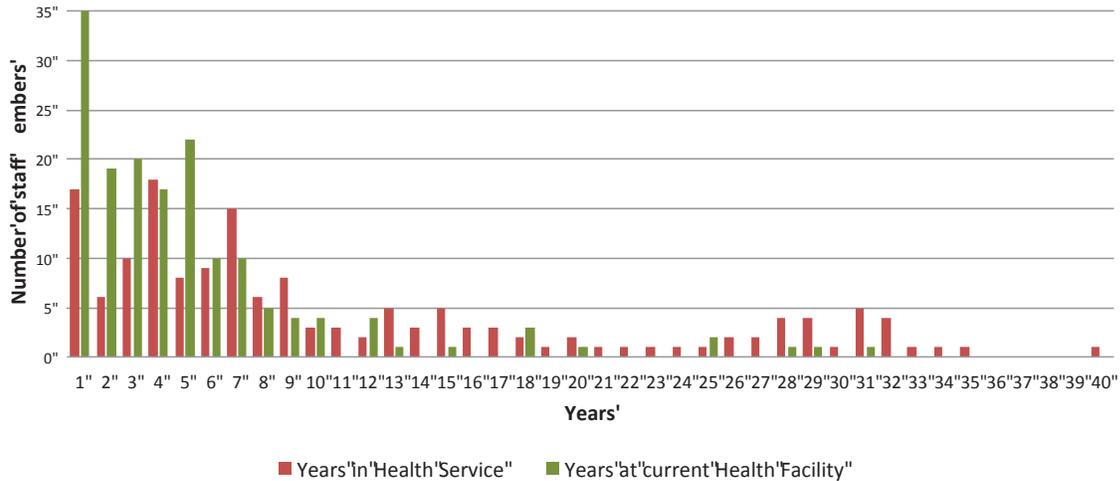
Figure 4: Frequency per function category



Source: Maraxis (2015): Data from 25 participating health facilities

A majority of the participants were found to have more than two years of experience in the provision of health services and most respondents had been working in their particular health facility for more than two years.

Figure 5: Number of years in health service and at current facility



Source: Maraxis (2015): Data from 25 participating health facilities

4.2 Gender analysis

Respondents from the MCH sector were represented by 90% female and 10% male respectively. This is not surprising as only female midwives are allowed to work in the MCH sector in Mozambique. Male gynecologists, obstetricians or general medical practitioners also work in the sector to reinforce the team when needed. Otherwise, the MCH sector is typically staffed by female nurses.

“Only female midwives are allowed to work in the maternity wards to align with the cultural beliefs and practices where child bearing is considered to be the women’s domain. The MoH does not allow male midwives. You cannot study to be a midwife if you are not female.”
Participating stakeholder

Figure 6: Gender break down: a) per function category

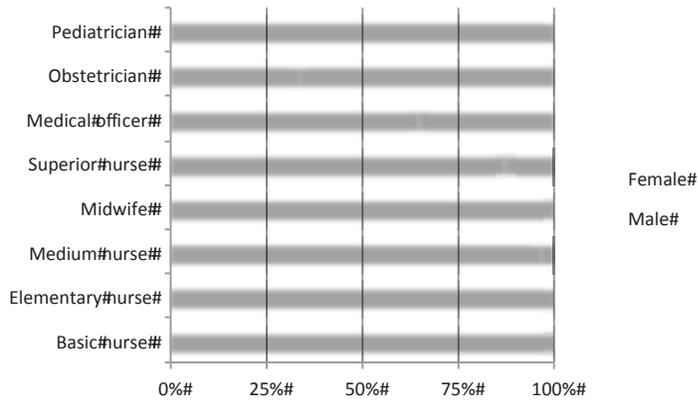


Figure 6: b) Number of years in health service and at current facility

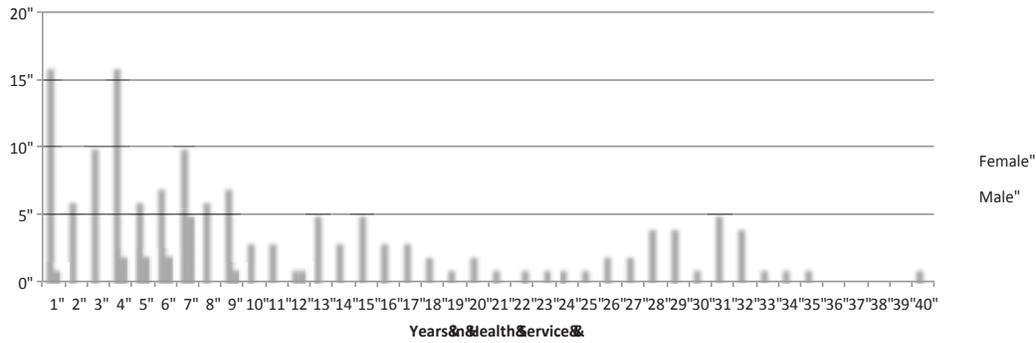
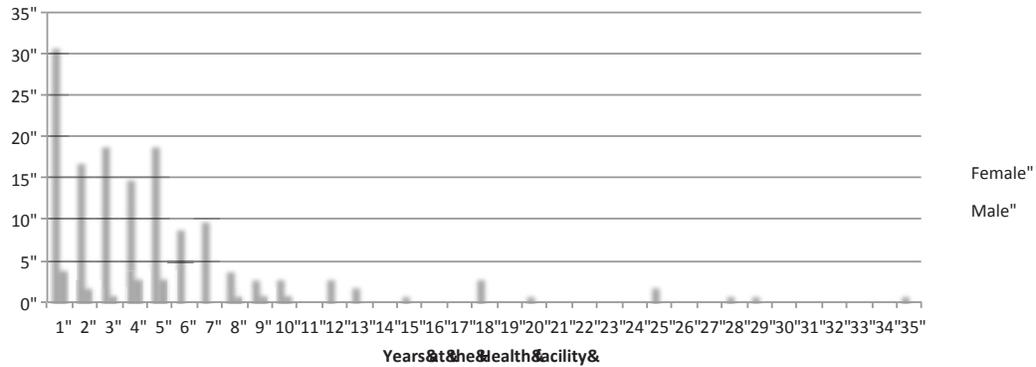


Figure 6: c) Number of years in health service and at current facility



Source: Maraxis (2015): Data from 25 participating health facilities

It was observed that in most cases, women attend the antenatal and FP services and it is rare to see male participation in this regard. A majority of the companions at the maternity wards are female (often-close female relatives). Male companions are in most cases not allowed in the maternity wards because of privacy issues, as some of the maternity wards are open spaces. Several health facilities are using incentives to promote active male participation in antenatal, postnatal and FP services, such as priority treatment when a woman attends with her husband. Despite this, male participation (as confirmed by the MCH respondents and observed by the evaluation team through the antenatal and FP queues) remains low.

4.3 MCHIP Program: objectives, targets, process and management

The MCHIP program suffered a slow start during the first program year, which had an impact on the attainment of some of the program's targets. Notable is the recognition process of the model maternities; of the targeted 22 recognitions, only six attained the level of being a recognized model maternity.

Despite training staff in the main components of interventions, technical sustainability is under jeopardy, as the training strategy employed did not incorporate sufficient supervision at all levels of training. Training was more quantity-driven as opposed to quality-driven, as there is no evidence supporting the efforts made to ensure a strong cadre of trainers (at the MoH level) involving an extensive certification process of trainers (that is, at the training of trainers level). In addition, most of the respondents at the facilities confirmed limited or a lack of supervision/follow-up since training (at the training of practitioners level).

"If it takes four years for accreditation of 6 maternities then I am wondering how long it would take a thousand plus maternities we have in the country. Accelerated implementation pace of such programs is crucial if creating impact is the goal." High level policy maker at MoH

In addition, some key performance indicators were not clearly defined leading to various interpretations of whether an objective was achieved or not [for example on the model maternity initiative, some stakeholders were convinced that the objective was attained because a majority of the health facilities had attained a score of 80% (internal) evaluation, and the process of humanization is well known. On the other hand, other stakeholders claimed that the objective was not achieved because in order to claim success, 22 maternities should have attained recognition as model maternities, which did not happen, and only six managed to get the recognition⁶ status].

⁶ Recognition process involved three stages: a) self evaluation and attaining a score of 80% b) Self evaluation and attaining 80% score threshold the second time and c) External evaluation that scored the facility 80% or above.

Some activities that could have been finished earlier were still being implemented during the final phase of the program; for example, flowcharts, registers and infrastructure construction upgrades were being finalized at the time of evaluation. Although the updates were finalized, the MCHIP team will never have the opportunity to test and confirm the effectiveness of the updates as the program has already concluded.

Last but not least, one of the most important functions of MCHIP was to reinforce the Ministry's Health Management Information System (HMIS) through updating and rolling-out of national registers. The HMIS (*modulo básico*) is now being populated by data collected using updated national registers. Despite this, some information that can be used by the ministry to help make informed decisions in certain areas (particularly with regard to in-service staff training) is missing⁷ (see annex I for the Performance Monitoring Report).

Process and management

Not all health facilities received the same level of technical assistance from MCHIP, and the support was either basic or intensive in any of the three components: model maternity, cancer screening and treatment and Family Planning.

Several of the community engagement interventions were implemented in geographical areas and health facilities that were not recipients of MCHIP's TA, and therefore did not contribute to the attainment of the program's stated objectives by reinforcing the selected health facilities. Although this is not bad as those facilities did benefit from a fortified community, the efforts still did not contribute to the attainment of results in the geographical areas within MCHIP's focus. This situation could have been corrected earlier in the program implementation if adequate monitoring tools had been employed.

The infrastructure component was also another area that suffered setbacks, consequently leading to under-achieved results. Planned rehabilitations (with a budget of US\$393,000) for Provincial Hospital Quelimane, Chamanculo General Hospital, Manjacaze Rural Hospital, Mandimba Central Hospital and Inhambane Provincial Hospital were not implemented due to procurement delays as the competitive process of public bidding had to be re-issued.

Conclusions

⁷ The evaluation team was informed that the national registers had been updated to collect such information, however, at the time of the evaluation this information was missing from the HMIS.

Despite the afore-mentioned issues, there is notable progress as far as humanization concept, cancer screening and treatment and family planning services in the health system of Mozambique are concerned. Although there were challenges encountered throughout the process (macro and project related issues), almost all of the health personnel interviewed are aware of the humanization process and what it entails. Cervical and breast cancer screening are part and parcel of integrated Family Planning services. Long-lasting FP methods such as post partum IUD, and Implants have been introduced. Further, the institutional strengthening of MoH through additional personnel (via MCHIP's payroll) who were based at the ministry was an important step towards bolstering the work undertaken in these components at a central level.

The effort however, is somewhat diminished due to the lack of a continuity plan for the interventions that were introduced. The desired results in some areas were not achieved, making it important that future programs take into account lessons learned from the previous intervention.

Recommendations

- *Proactive management style:* Use of tools such as program management reviews to facilitate for detection of project problems (within them or beyond); identification of risks and development of contingency plans; and a staff management plan to maximize resource pools shared across several program components. Contingency plans and solutions-focused approach for resolving bottlenecks that could be a threat to attainment of the program's objectives for instance, arranging face-to-face meetings with stakeholders in addition to use of email communication.
- *Synchronization of intervention with area of focus:* Ensure that all activities are synchronized and focus on the area of technical interventions to maximize resources.

4.4 Conclusions on Key Evaluation Questions

The following are some of the conclusions with respect to the key evaluation questions (see annex A for detailed findings).

- Most of the MCHIP interventions were successfully introduced and the only key concern is that the sustainability of these interventions is at risk as no exit strategy was incorporated in the program design. Training, for instance, was quantity-driven and no evidence of a comprehensive follow-up package was integrated that could have guaranteed a capacitated resource-base (certified trainers) at the MoH that could potentially be tapped for future replications. There is a risk that this activity becomes a one-time intervention (implemented only when MCHIP existed) and is not sustained into the future, given the absence of a plan for continuity.

- Humanization is on the radar at the health facilities by the MCH personnel, and they are focused on reinforcing standards in the model maternities, antenatal and post partum services. These efforts towards humanization are nevertheless mostly hampered by infrastructure factors (for example, lack of space compromising privacy, lack of running water, lack of toilets) and under-staffing.
- Humanization aspects have made it possible to improve services at the facility-level. Antenatal services have improved early detection of problem pregnancies and this has reduced inter-hospital transfer deaths in recent years. MCH personnel recognized that they have the know-how to treat problematic situations such as hemorrhage and sepsis.
- The concept of IPT and DOT are well known and are being applied at health facilities. Women receive the ITNs during their first antenatal visit, but challenges faced by the majority of health facilities is the high demand of nets versus their limited supply, and the effective monitoring of net usage. Although a majority of MCH nurses know about DOT, it is not practiced by all health facilities due to various reasons (for example, refusal of some expectant women to take medication), and HIV-infected pregnant women receive Cotrimoxazole (CTX) Prophylaxis instead of Sulfadoxine Pyrimethamine (SP). Validating the correct home-administration of SP medication prescribed to women is a further challenge.
- The CECAP program has been successfully introduced in the health facilities that received MCHIP's TA. The number of screening and (simple) treatment interventions has significantly increased, which is a tremendous improvement upon the almost non-existent cancer screening and treatment situation in Mozambique's health sector in 2010. The impact of these interventions will become known in coming years. However, as the MCHIP program is concluding, continuity of the interventions is at risk as there is no clear indication of a CECAP continuity plan. Such a plan would enable the MoH to continue with, and sustain CECAP activities at the same pace as during the MCHIP TA.
- FP as a recruitment platform for cancer screening is now routine in some health facilities. It is important, nevertheless, to re-iterate that the sustainability of these services is potentially compromised due to the absence of strong evidence of a continuity plan to enable the MoH to replicate activities upon completion of MCHIP's TA.
- Although the SBM-R was reinforced in all the health facilities through MCHIP's TA, it is not explicitly implemented by all health facilities. Those that are using the practice have improved their services markedly, and the humanization process is part-and-parcel of the facility. The key challenge is to maintain and enhance best practices demonstrated in those facilities using the SBM-R system, while re-emphasizing the need to adapt the system to those facilities that are not implementing it. This is because the data is important for improving service delivery at that level, especially if the entire team is involved.
- Post partum counseling starts early, during the antenatal care visits, and continues on through the delivery phase. Long-acting methods are well understood, but there is a fear of use, driven by a lack of information, fueled by taboos and myths on associated sterility effects.

4.5 Future Directions

The recommendations herein are derived from lessons learned and issues encountered whilst undertaking the MCHIP end-term evaluation.

MoH ownership key to sustainability

- It is imperative that the MoH is involved in all stages of a program's lifecycle (including end-of-life planning) contributing towards its design, geographical focus, priority areas, implementation monitoring and evaluation, given its experience with previous program interventions. This will lead to better-informed decision-making and control, which in turn avoids duplication of effort, improved outcomes and better utilization of available resources. It is important that during the design of the program the involvement of MoH is well captured for the entire lifecycle of the program.
- A program should not be seen as a standalone activity but as a contribution towards a larger system and in so doing, sustainability is supported because the whole system is reinforced when including all facilities in the prioritized areas. The managers of local facilities should champion all of the interventions.
- A Monitoring and Evaluation Plan should be integrated within program design, and baseline data established from the project beginning, accompanied by SMART⁸ goals and targets. The data should be fed into the HMIS on a regular (for example, monthly) basis, and the MoH should take the lead in ensuring that this information is up-to-date, complete, correct and available for use in improved decision-making.
- An exit strategy should be explicitly incorporated in all program plans and implementations should make use of strategies that guarantee financial, technical and organizational sustainability of the program's interventions by the MoH. The exit strategy should include an expansion plan (scaling up of successful programs) to replicate the project's best practices, and address important elements such as what, why, where, when to expand, with associated responsibilities and roles.

Infrastructural support

- In as much as technical assistance is crucial towards quality improvement of public health services, it must operate hand-in-hand with existing infrastructure. Funding for rehabilitation or construction of buildings and acquisition of essential equipment should, where possible, be incorporated into a

⁸ Specific, Measurable, Achievable, Realistic and Timely - SMART

program. For instance, it is not feasible to promote humanization where there are no toilets for patients, or no running water at a health facility. Continuous simultaneous support to infrastructure along with the institutional support is needed from all stakeholders involved.

Training

- Technical capacity is typically key to achieving an intervention program's goal and targets. A comprehensive training package that takes into account the certification process at the first tier level (Training of Trainers) and monitoring at the second tier level (training of practitioners) is fundamental for the technical sustainability of interventions introduced through the program. Such training cycle elements should not be overlooked in comprehensive package design (Training Needs Analysis, Planning and Design, Delivery and Support, Evaluation and Certification/validation).
- Trained staff should stay for at least six months in the health facility in which they were working at the time they received training. Staff relocation should not be allowed unless there is an associated exchange of a staff member to that facility with similar levels of expertise and/or skills.
- A mesh training approach as opposed to the traditional hierarchical training approach should be applied, with the aim of addressing issues of understaffing, ensuring that training takes place at the local level (on-the-job training) whilst being economical in terms of required resources.
- Additional training for health facility managers could reinforce their managerial skills in areas such as:
 - Managerial functions (Planning, Organizing, Staffing, Leading and Controlling);
 - Analytical skills to ensure that local managers have the know-how to use data for informed decision-making; and
 - Monitoring and Evaluation of interventions.
- When one or multiple staff members undergo training, it has flow-on consequences for other staff at their health facility, which is typically already understaffed. When training is delivered on-site, it saves resources in terms of time and costs and the application of the course can be adapted to the local situation, making it more practical and useful. When multiple persons at the health facility are trained, the impact of such training increases due to peer-learning opportunities.
- Relevant training topics for different audiences (for example, health staff and the MoH) for the future include:
 - Cancer screening and treatment (including usage and maintenance of equipment);
 - Counseling on Long Acting methods (IUD and tubal ligation);
 - Stock control;
 - Neonatal resuscitation techniques;

- How to do proper supervision;
- Leadership and Management (including proper planning, people management);
- Data management and analysis for decision making;
- Sustainable Community Engagement;
- Program development;

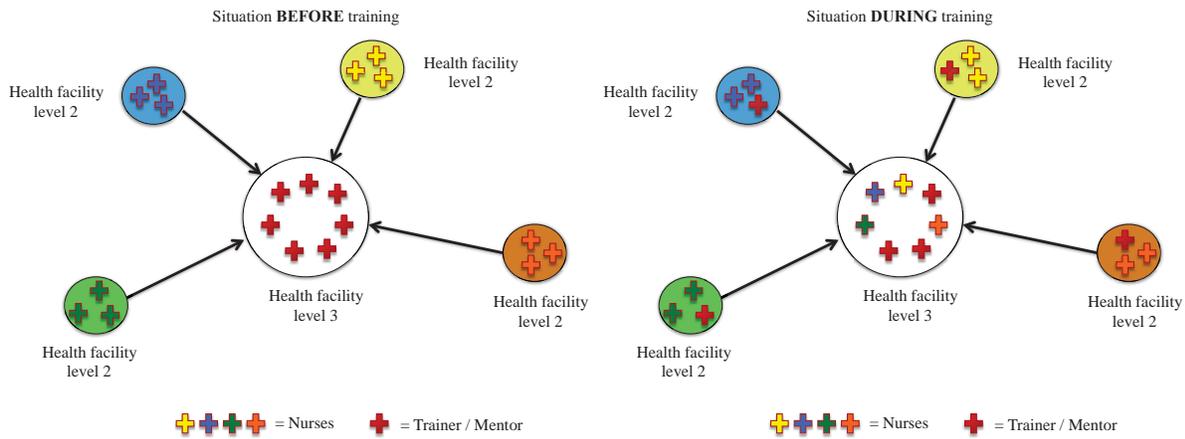
Current challenges for onsite training:

- Motivation to attend training is to a large extent driven by incentives (for instance per diem, visiting new sites). Therefore, staff might not be highly motivated to learn from their own local environment and there may be resistance to change, particularly to a training scheme that does not provide sufficient incentives.
- Conditions at the local facility might not be adequate for delivery of training due to factors such as space constraints and a lack of necessary equipment.

A novel training approach is required, that recognizes the different needs of facilities, and that is resourced with staff that allows training of multiple persons. At the same time, it should include important interventions such as supervision, yet should not disrupt already-constrained resources. The main idea being put forward is to consider the ecosystem training of health facilities as opposed to isolated cases (at an individual or health facility level). The concept is illustrated via hierarchical based learning and mesh based learning as follows:

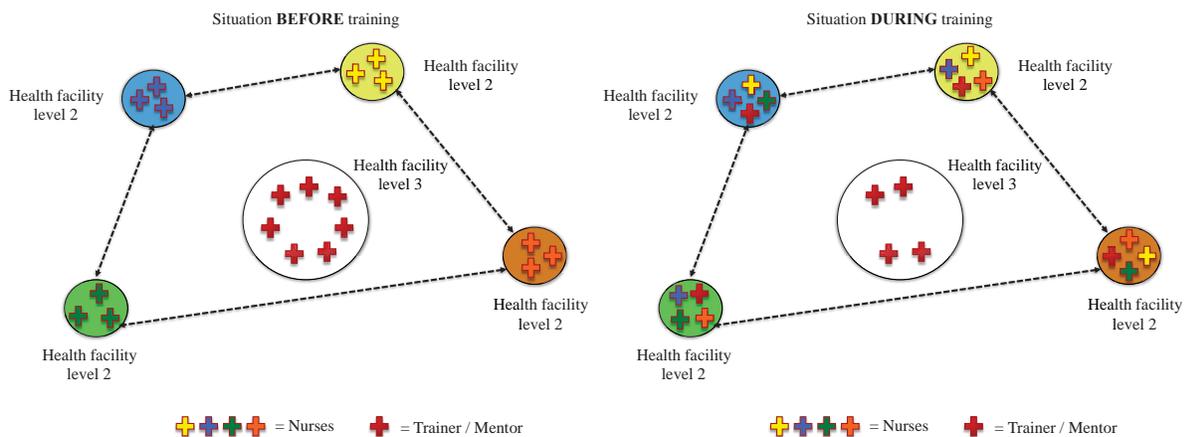
Hierarchical based learning: A trainer from a higher-level facility (for example level 3) conducts an on-site training for multiple staff in a lower level facility (level 2). To avoid any gaps at the higher-level facility resulting from staff that have left to train the level 2 staff, a staff-member from the low-level facility goes to the high-level facility for on-the-job training, benefitting from a new work environment and being mentored by senior staff. This mechanism also reinforces the collaboration between health facilities when well coordinated. The outlined scenario is depicted below:

Figure 7: Hierarchical training approach



Mesh based learning is based upon stimulating peer learning within the health facility or in a similar health facility in the neighborhood. A qualified trainer (for instance from a higher-level health facility) will conduct the training on-site at, for example, a level 2 health facility. Staff from neighboring health facilities possessing similar characteristics will be invited to participate. When there are multiple training sessions organized at the same time in different (type 2) health facilities with various trainers, staff can learn from each other while addressing the issue of staff shortages as depicted in the following diagrams:

Figure 8: Mesh based training approach



In both approaches, trainers can follow, observe and even provide on-site learning supervision. Using a staff exchange mechanism, and a well-designed training program, there is room for exchanged staff to work in these health facilities whilst avoiding prolonged staff absence due to training. Furthermore, in both approaches, the total travel time and cost (including per diem) will be lower when compared to sending all staff members to an external off-site training. This in turn makes it possible to train more people with a

smaller budget than typically required for traditional training approaches. As mentioned, there are still many practicalities to be resolved including “resisting” attitudes, but it will be worthwhile to pilot these concepts in a future program.

Supervision

- Develop a system and tools for supervision that moves away from “critically observing during short visits” to longer on-site engagements with mentoring and coaching. A system should be developed to track mentoring and coaching interventions and this information should be centrally accessible.
- Monitoring of visits by trainers should be incorporated as a mandatory activity within three months of the training, in order to observe the newly trained professionals in action, whilst providing support as necessary.

Program management/leadership

- The success of any given program depends on the capacity and the use of program management tools to steer the team in the right direction; it is therefore paramount that issues identified as being a bottleneck to achieving the program’s objectives are resolved as soon as possible. Interventions such as mid-term reviews, for example, are important undertakings as they can quickly identify issues that could be impediments to achieving program objectives/targets. Such recommendations may serve to assist the program team to adjust pace, focus or intervention area towards SMART targets. Multi-year programs to be implemented for a period of more than three years should have a mandatory mid-term evaluation, which serves to provide objective feedback and steering guidance to program stakeholders, those being implementers, funders and the MoH.
- Frequent face-to-face meetings with key stakeholders are important to avoid delays and misunderstandings. Such interactions should happen concurrently with other means of communication about the program (including quarterly reports, emails and the program’s website).
- Local organizations should be given a higher priority in tendering for subcontracts that implement specific parts of a program. Often, they are represented in the provinces because they have the capability needed to undertake certain interventions. This is one way of reinforcing the technical sustainability of interventions, because even when programs end, such local organizations could still continue to scale-up activities.

Data management

- The ‘traditional’ tools used for gathering data from health facilities (paper-based methods), which are often aggregated in multiple levels (district, provincial, central) are labor-intensive, introduce delays and in some cases, the quality of data may be compromised. A clear understanding of what data needs to be

captured in health facilities and how such data-capture should be conducted requires consideration. Such updated registers should be deployed in all health facilities, and deeper understanding is required on data integration spanning different sources and different systems (electronic and paper-based). Novel digital technologies such as mobile technology should be introduced at local levels to speed up data collection processes, improve data quality and reduce data loss in order to facilitate quality data-driven decision-making.

- Data should be used for local decision-making and therefore it is necessary to: a) determine what data combinations are relevant for the current context and the prioritized decisions; b) establish the feasibility (availability, accessibility, volume and cost) of sourcing the relevant decision data. In order to do this effectively, contextual insight is required at each level (health facility, district directorate, provincial directorate and central level), along with an understanding of the tailored information that is required by each level. Simple tools should be developed to aid with data collection, coupled with staff training on the subject.

Future research

- This evaluation focused exclusively on MCHIP interventions, and not on the broader interventions that are implemented in the health sector to facilitate the reduction of maternal, neonatal and infant mortality in Mozambique. Further research is needed to determine the impact of these concerted efforts, existing challenges and identification of best practices. The current data from individual health facilities indicate that the situation is the same, or not significantly improved (for instance in terms of mortality), despite the efforts of government and its partners. Key research questions for example for the future research could be: Why is this situation so? What needs to change in this sector to bring about a significant level of change?
- It is also recommend that stakeholders obtain baseline data on significant maternal, neonatal and infant indicators that could be monitored and controlled over time.
- Another area of interest is malaria in pregnancy, and reasons behind the low intake of preventive measures. It would be helpful to know the usage of the nets that are distributed during the prenatal care in order to provide informed insights on improving the IPT.

4.6 Summarizing recommendations

The recommendations are summarized in the following table, indicating where the stakeholders and the MoH are responsible for the given recommendation or where the responsibility is shared.

Table 3: Recommendations for future programs

Nr	Recommendations for future programs	Stakeholders	MoH
1	Sustainability		
1.1	During the design of the program, donors and implementing partners should ensure that the involvement of the MoH is well captured and understood by all. The MoH should take an active lead, being involved in all stages of the project. An exit strategy should be explicitly incorporated in the program document and clear strategies towards technical, organizational and financial sustainability delineated to be implemented during the program years.	✓	✓
1.2	A Monitoring and Evaluation Plan should be integrated within program design and baseline data established from the project's beginning, accompanied by SMART objectives. All programs that will be implemented for more than 3 years should be subject to mid-term evaluation.	✓	
2	Infrastructure		
2.1	Partners should consider financing infrastructure (renovation of buildings) in conjunction with institutional capacity building to ensure the availability of necessities. Supply of basic life-saving equipment (where such needs exist) should be integrated within future programs.	✓	
2.2	A completion plan (particularly for those facilities considered for renovation under MCHIP and never materialized) should be developed and integrated in future programs.	✓	
3	Staffing		
3.1	Peer-to-peer learning facilitation: training should be made available to all MCH nurses and it should happen at the health facility (on-the-job training) where possible. More staff from a single health facility should be trained to facilitate peer-to-peer learning and ensure continuity of activities in the absence of their colleagues.	✓	
3.2	In-service training database: The program-implementing partner should consult the MoH's in-service training database to get some insight of the existing expertise and skills at each health facility, thereby facilitating objective and effective selection of participants for future training services.	✓	✓
3.3	Ecosystem training approach: a novel training approach that considers ecosystem training of health facilities via Hierarchical-based learning and Mesh-based learning is recommended.		
3.4	Stimulate peer learning among health facilities via a center of excellence (for instance, a recognized model maternity health facility) where health staff can visit, observe, learn and be trained on the model maternity and SBM-R.	✓	✓
3.5	Retention in a facility: Trained staff should stay for at least 6 months in the health facility in which they were working at the time they received training.		
3.6	Additional training for health facility managers could reinforce their managerial skills in areas		

	such as: Managerial functions; Analytical skills and Monitoring and Evaluation of interventions.		✓
	Relevant training topics for different audiences (health staff at facilities, provincial and district directorates and the MoH) for the future could include: Cancer screening and treatment; Counseling on Long Acting methods; Neonatal resuscitation techniques; Stock control; Supervision techniques; Leadership and Management; Data management and analysis for decision making; Sustainable community engagement, and Program development.	✓	✓
3.7	Skills testing: certification of the trainers should be incorporated as part of the training package and a budget should be set-aside for that purpose in order to guarantee quality in the future interventions.		
3.8	Supervision needs to be incorporated in the training package by ensuring that all trained personnel are visited and observed in action after training completion. Doctors should be included in the training and assigned supervision roles to introduce peer learning. Monitoring of visits by trainers to verify and reinforce knowledge of the trainees should be mandatory and should occur within three months of training completion to provide support when most needed.	✓	✓

Nr	Recommendations for future programs	Stakeholders	MoH
4	Program management		
4.1	Management tools: Proper management tools and techniques are needed for a successful program implementation.	✓	
4.2	Solution-focused approaches: Management should use proactive solution focused approaches to solve problems that are likely to affect the program implementation including: a) frequent face-to-face meetings with key stakeholders to strategize on the way forward while minimizing delays and misunderstandings; b) regular monitoring of program implementation and milestones/deadlines which should involve the entire program implementation team.	✓	
4.3	Local capacity-building: Some specific parts of the programs that require subcontracting could be implemented through local NGOs; this will increase the likelihood that their skills are reinforced and that the activities implemented through them are able to be sustained into the future.	✓	
4.4	Synchronization and alignment of activities: All interventions of a program should be implemented around the core components, geographical areas and facilities that the technical assistance is being focused to maximize resources.		✓
5	Active community engagement		
5.1	Community mobilization to use health facilities services. Active community engagement is needed to enforce behavioral changes in various aspects such as male participation in the family planning process, the usage of mosquito nets, visiting health facilities for information and when sick and planning for preventative activities at the district and provincial levels.	✓	✓
5.2	Mobile clinics could be an important cervical and breast cancer recruitment platform particularly in remote rural areas.	✓	✓
6	Transport management		
6.1	Donors should reinforce the MoH's capacity in relation to ambulance management and vehicle restocking where possible to expedite the inter-hospital transfer process.	✓	✓
6.2	Clear-cut guidelines with regard to ambulances' usage could improve the inter-hospital transfer process.	✓	□□□✓

7	Inter-hospital transfers		
7.1	Standardization of inter-hospital transfers including communication protocols are needed in order to facilitate the process for all involved.	✓	✓
7.2	Collaboration as an ecosystem where a network-of-services concept is employed and takes into account the engagement of all health facilities allows for a more holistic and effective approach to referral challenges.	✓	✓
8	Data management		
8.1	Data should be used for local decision-making therefore, local managers should be equipped with the skills and knowhow for Data Analytics (DA). A clear understanding of what data (quality indicators) should be captured in health facilities and how this data capture should be performed requires attention.	✓	✓
8.2	Novel digital technologies such as mobile technology should be introduced at local levels to speed up the data collection process, improve data quality and reduce data loss, thereby facilitating quality, data-driven and informed decision-making.	✓	
8.3	Encourage the continued use of SBM-R by those facilities that are using the system diligently while enforcing the practice in those facilities that are not implementing through further skills upgrade where necessary.	✓	✓
9	Research		
9.1	Obtaining baseline data on significant maternal, neonatal and infant indicators is essential before commencing interventions. Proper quantitative study and analysis needs to be undertaken using all available data (from the MoH) which represents the country's 1,300 health facilities. Research is needed on: Maternal, neonatal, infant mortality and Malaria in Pregnancy.	✓	

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ANNEX A: ZOOMING INTO THE ELEVEN KEY QUESTIONS

Q1

To what extent has the approach applied by MCHIP over the last year resulted in an expansion of MNCH, Family Planning (FP) and cervical cancer screening?

Findings and discussions

MCHIP focused on four components, namely an enabling environment, model maternity, cervical cancer screening and treatment and Family Planning interventions. The approach that has been applied has resulted in incorporating these interventions as part of the offered services in the facilities.

Model Maternity: The concept and ideas of a model maternity are well known even in facilities that were not benefiting from the MCHIP TA package for this component. The Model Maternity Initiative raised standards and norms across the country, particularly in the area of humanization. The limitations of translating theory into practice were mainly related to infrastructure (some maternity wards were very small) and understaffing (very few nurses for the MCH unit) culminating in overwork of health personnel. In some instances, a nurse had to work in all the sections including the maternity as a midwife, while also providing prenatal and postnatal counseling. There were flow charts on the walls in the maternity wards as well as in the Family Planning section and partographs were filled-in accordingly. Despite the constrained ward space, family members of patients were often around and waiting outside at most of the visited facilities.

Cancer screening and treatment part and parcel of Family Planning counseling: Cervical and breast cancer screening (introduced through the MCHIP TA in the country), have been successfully incorporated into Family Planning services. Most health facilities are offering an integrated package whereby patients receive family planning counseling, HIV testing and treatment, cancer screening and treatment from one location (in essence, a one-stop shop). The following challenges are worth noting:

"We all need to be trained nurses and doctors at the same time in the new concepts to know what is going on or what is being introduced and avoid grave procedural mistakes. We lost a patient because of wrong treatment, and as a medical doctor, I was only called when it was too late, unfortunately we lost the patient." Medical doctor of a health facility

- *Training:* Only a few personnel were trained in this regard and if these specific persons are not in the health facility for one reason or another, the services cease to exist. The MCH nurses are not static and must rotate to several stations including maternity, prenatal care and family planning counseling. Moreover, if only one nurse is trained, this does not enable peer discussions and consolidation of ideas. Rather, due to busy schedules there is a risk of non-continuity in the case of transfer, illness, retirement or death. Further, if only one person is trained and for one reason or another, the person misunderstood a step during the training, the potential for implementing (and perpetuating) such mistakes is high. To make matters worse, there may be no one to challenge her/him, which then exacerbates the situation. These could be serious mistakes with the potential to lead to fatalities.
- *Supervision/monitoring:* Limited monitoring was undertaken on the trainees, and they were largely left on their own to implement. This therefore led to three general scenarios: those who went back to work and did not try to replicate (lost resources), those who were/are attempting to replicate but who have encountered difficulties due to lack of understanding one (or a few) aspects and, those who are confident and are implementing the interventions as they should be done. It is not possible to know the exact number in each of the categories because of lack of information from the program in this regard.
- *Cryotherapy treatment:* Some of the health facilities can only screen patients and refer them to the general or rural hospital for treatment, while others can only treat lesions that are less than 75%. More than 75% is referred to a bigger health facility with required equipment and capacities.

Family Planning: Long-lasting methods such as IUD post partum and implant (at the larger health facilities) were successfully introduced by MoH through MCHIPs technical assistance, however, adherence to these methods is still low (IUD was mentioned as the less preferred FP method by most of the respondents) due to myths and taboos; awareness-raising is still needed in this regard.

Intermittent Preventive Treatment in Pregnancy (IPTp): IPT is well known and being practiced at the health facilities, and there is a standard procedure with regard to malaria prevention in pregnancy. Mothers receive Insecticide Treated Nets (ITNs) during their first prenatal visits whereas treatment with Sulfadoxine Pyrimethamine (SP) is administered to pregnant women under the direct observation of health personnel during Antenatal Care (ANC) visits. Cotrimoxazole (CTX) prophylaxis instead of SP is administered to the pregnant women who are HIV positive. Some facilities are able to practice DOT, whilst others prescribe medication for the women to take at home. The challenge is asymmetric information (moral hazard), particularly with regard to not knowing exactly what happens to the nets and to the medication that is taken home.

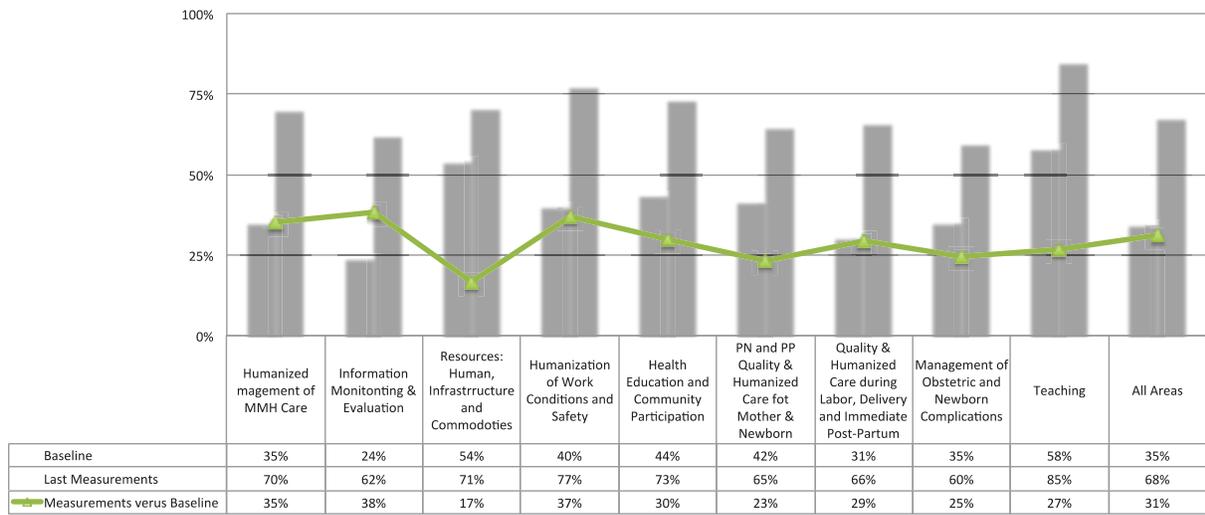
Standard and data indicators developed: These have been developed and introduced in the health facilities⁹. New indicators such as direct skin-to-skin contact between mother and child, and breastfeeding within the first hour of birth are widely adopted in the country and captured through the updated national registers. However, although some health facilities are using them as guidance towards quality improvement, others are not. Despite asking the same question to the various health personnel on SBM-R, it was evident some of them were not familiar with the system and regularly referenced their supervisors as the responsible people for data collection at the facility level.

Increase in Institutionalized births: Health committees have played a key role in creating awareness of the services provided by health facilities at the community level, and this has led to increased institutionalized births as opposed to some years back where a lot of births took place at home as asserted by the MCH nurses (increase by 22.6% since 2012 to 2014 of deliveries recorded in the visited facilities. Refer to Table 4 for explicit numbers). In addition to spreading the word about services, members of the health committee assisted with some simple chores such as organizing queues and establishing order amongst the patients, which was directly observed during the evaluation visits.

Data from the HMIS (*modulo básico*) of all the health facilities that were receiving MCHIP's TA indicate a significant improvement at all levels of humanization process. The (self-evaluation) scores of the SBM-R of the MCHIP supported health facilities show a clear improvement compared with the baseline (2009), despite the fact that the target of 22 recognized Model Maternities (external evaluated with SBM-R score over 80%) has not yet been achieved.

⁹ MoH, 2012, Iniciativa Maternidade modelo: Padrões do Desempenho dos serviços de Saúde Materna e Neonatal. MoH, 2013, Padrões Para Medição do desempenho de serviços de Saude and reprodutiva- Planeamento Familiar

Figure 9: Trends of MMI Quality and Humanization Standards Measurement



Source: MoH's National Health Information System (2015) – the Módulo Básico

Conclusions

MCHIP interventions are well known at the visited health facilities, particularly by the MCH staff, and some aspects introduced by the Model Maternity Initiative were notable in all the health facilities that were visited. In addition, MCHIP has also contributed to the improvement of buildings through rehabilitation of some of the existing health facilities (although not all of the planned rehabilitations were implemented).

The idea of humanization is well ingrained in the culture of the facilities and almost all the staff (even those that did not participate in the training) were able to talk about various aspects of the humanization process (such as having a companion during the delivery process, choosing from the various birth positions and explaining the medical procedures to the patients before commencing any diagnosis or treatment process). Cancer screening is part and parcel of the Family Planning services and FP as the recruitment platform in the health facilities has not been compromised in anyway, rather, there is an increase in the adherence of the FP services over the years.

However, the program implementation was impacted by understaffing and limited skill-levels, leading to overwork of some MCH nurses. For example, in some facilities only one nurse is stationed to attend to maternity, prenatal and post partum services. Despite the challenges of staffing, infrastructure and stock-out in some instances of the ITNs distributed during the ANC, some of the developed standards have become routine in the health facilities. The prime challenge is to sustain all of the ideas and interventions that have been introduced and which are currently being implemented at the health facilities.

Recommendations

- Substantial effort needs to be invested towards developing an *operational plan*, which clearly identifies the strategies that should be deployed to sustain the interventions that have been successfully introduced. The MoH should take the lead and drive the whole process to ensure that in the future, the strategies (funding strategy included) could be embedded into its long-term operational plan.
- *Supervision and constant monitoring* are mandatory for quality expansion of MNCH services. Re-allocation of staff to different sectors or units, which in itself is a positive aspect, also introduces challenges when it occurs frequently or too quickly. After being trained, staff members should stay for at least six months in that particular facility to consolidate their learning-by-doing. A change in the leadership or focal persons of a given program at the MoH (or at the facility level) can have significant impact on the program implementation, as relationships with stakeholders must be re-established by replacement personnel.

Q2

To what extent has the approach applied by MCHIP been effective at improving the quality of MNCH, Cancer Screening and Family planning services?

Findings and discussions

MCHIP used various approaches with the aim of improving the quality of MNCH services as follows:

Enabling environment: MCHIP and other partners worked with MoH to improve the enabling environment and policies linked to maternal child health in Mozambique. A good example is the development of an operational plan for the acceleration of Reduction of Maternal, neonatal and infant mortality (October 2014 - December 2016). Together with its partners, the MoH has strived to implement some of the strategies in the accelerated plan and as confirmed by information from HMIS (Figure 9 before), there have been improvements particularly with regard to MMI quality and humanization standards. In addition, MCHIP has worked with the MoH to reinforce the Health Management Information System (HMIS) and has developed standards for model maternity, cervical cancer screening and family planning. These materials can be seen in all of the health facilities and at strategic points on the walls to remind the staff of the relevant indicators and procedures of the humanization process. Those personnel who participated in MCHIP training received manuals for consultation at a later stage if need be. MCH staff (particularly those who were trained) confirmed that they have the capacity to treat most of the birth complications that occur and that the materials they received during the training are a good source of enforcing knowledge particularly when in doubt. Lastly, the MoH, via MCHIP's resources, obtained reinforcement by seconded personnel who were based at the Ministry's installations.

"Without having that extra muscle from the two MCHIP people that are based at the ministry, it is not likely that the program would have progressed as quickly as it did." High level policy maker at MoH

Strategic and administrative levels: It was noted that in most cases, personnel who manage the various health facilities have a medical professional background. It is understandable that the Ministry needs to utilize existing resources and make the best use of them. However, without proper managerial skills buttressing, there will always be a lacuna in one of the managerial functions leading to situations where some activities are not implemented, are unattended or not reported due to lack of competence or fear of retribution. A mixture of staff with different competencies is the ideal situation in the long-run, otherwise, investment in training for a complementary administrative, managerial and strategic skill is necessary and it requires a change of attitude at the MoH. A good example of a "common perception" is that only pharmacists can do drug logistics. However, medicine is a special type of commodity that needs proper attention and handling procedures that can best be undertaken by professional logisticians.

"When you turn a pharmacist into a logistician you lose a pharmacist and you don't gain a good logistician." Participating Stakeholder

Training of health personnel: MCHIP applied two-tier training to introduce new concepts with regard to the model maternity, cervix cancer screening and family planning services: a) training of trainers and b) training of health professionals. A majority of the interviewees admitted to have participated in the trainings that were promoted through MCHIP. The training used a combination of methodologies including lecture style (classroom setup) and practical lessons undertaken in real-life situations in a health facility with real patients. Although these training workshops took place, the following issues are important to note for future interventions:

- Training of trainers took place but there was no follow-up certification system in place (or at least no evidence that it took place). The Master trainers normally perform the supervision activity (certification) to evaluate the trainers in action and to provide feedback. A trainer is considered ready after organizing and implementing at least a minimum of two training interventions. These certified trainers could then be used in the future as resource persons to train new health personnel and also to hold refresher courses to the existing personnel.
- Supervision of trained health personnel: Although the health practitioners from MCH were trained, there was no strong follow-up supervision of the trained personnel by the "certified trainers". Monitoring at this level is intended to check whether the trainees are implementing accordingly and to correct errors (if any are observed).
- The certification of trainers and monitoring of trainees at their workstations are activities that need to be incorporated (as quality assurance) into the training package; it should be noted that this implies additional costs.

Development of training tools and guidelines: MCHIP developed a handful of materials that were used during the training, and each training participant received a training kit for subsequent consultation. Most of the health facilities had various materials and flow charts mounted on the maternity ward walls, post partum units on various themes and topics linked to MCHIP's intervention areas. Updating of the flowcharts was an ongoing activity for the MCHIP team at the time of the evaluation.

Community engagement: Save the Children implemented this component through reinforcing the existing and creating new health committees. Although there are differences in the way health communities are organized at different locations, the members are very active in some health facilities and often volunteer to undertake chores. It takes time to change behavior and significant changes are only observed after a few years. Nevertheless, there are already some notable positive effects (as confirmed by some of the stakeholders)¹⁰ for example, the creation of dedicated community emergency funds to arrange for health emergencies such as transportation. In addition, communication between health facilities and the community has been stimulated, providing a genuine channel for two-way communication with regard to challenges such as medication stock-out and long queues in the sun without adequate seating. In certain areas, the committees have devised solutions to solve local problems; one good example is the introduction of a scheduling mechanism for follow-up appointments, which avoids long queues.

However, it was also noted that the selection of communities and districts to support by MCHIP via Save the Children was not well aligned with the facilities benefiting from MCHIP's technical assistance, causing discrepancies between raising awareness and creating expectations that could not always be met by the health facilities. Nevertheless, active community engagement is a key driver, especially to reach out to remote areas. It is an effective way to improve some of the most important maternal health indicators in the community, (Family Planning, Preventive malaria

"We appreciate the knowledge transfer that we received from the MCHIP team, we would have loved to see them here to check on us and evaluate how we are doing with the knowledge. The last time we saw the team here in our health facility was in 2013. I had thought that the program had terminated as no information was forthcoming from anyone in this regard." Head MCH nurse in one of the health facilities.

¹⁰ The key evaluation questions did not cover the community engagement part, however this came up during interviews with stakeholders and the team in the field observed the involvement of the community in the amelioration of the services to the population at the health facilities.

treatment, CECAP) by educating the community and mobilizing them to come at early stages to health facilities.

Save the Children has developed guidelines on how to effectively setup and support community engagements, and interventions on the ground were linked to the MoH's *Agente Poivalent Elementar* (APE) which was initiated by the MoH in 2011 to train APEs paid by the government (often traditional midwives). The MoH highlighted that there are currently 3,041 APEs that have been appointed throughout the country.

Conclusions

The approach employed by MCHIP to introduce the concepts of the MMI, CECAP and FP was done through various strategies. Most of the interventions were successfully introduced, and show a positive effect over the last years for several indicators. There has been improvement in the quality of model maternity and humanization standards indicators (refer to Figure 9), cancer screening and treatment has been integrated into the one-stop shop services (family planning, HIV testing and treatment, other STDs screening and treatment and cervical and breast cancer screening and treatment) and the adherence of family planning is also on the increase. Although there are still some births that are taking place outside the health facilities, institutional births are on the rise. The only hiccup is that the sustainability of these interventions is at risk as no clear continuity strategy was incorporated during the planning of the program. Training, for instance, was quantity-driven and no comprehensive follow-up package was integrated, thereby risking this activity to be a one-time intervention (implemented only when MCHIP existed) and not sustained into the future in the absence of a continuity plan.

Recommendations

- *Certification process for trainers:* For future programs and training interventions, the certification process (particularly for trainers) should be incorporated from the beginning not to compromise quality. Trainers should be certified to train if they successfully organize and implement a minimum of two training interventions under the supervision of the master trainer. The MoH (through the program's facilitation) could then create a database of certified trainers who would be used as contact resource for future similar interventions. In addition, provisions should also be taken into account for refresher courses of certified trainers to maintain skill levels.
- *Supervision:* Monitoring of visits by trainers should be incorporated as a mandatory and comprehensive activity in order to observe the newly trained professionals in action while providing support as necessary.

- *Synchronization and alignment of activities:* Community engagement was implemented in places and communities of health facilities that were not receiving the TA for the MMI, CECAP and FP. Although the communities benefited from the knowledge, this intervention did not contribute to achieving the aggregate objective of the program and therefore a more a targeted engagement should be enforced in the future.
- Quality indicators: Proper baseline data for all indicators related to quality of MNCH, Cancer Screening and Family Planning services needs to be collected before the start of program activities and should be measured throughout the program lifecycle.

Q3

To what extent has the model maternity initiative reduced inter-hospital deaths due to hemorrhage, eclampsia, sepsis and obstructed labor?

Findings and discussions

Early detection of problems and risks: Humanization has been introduced at all stages of MCH particularly during the antenatal visits, delivery, postnatal and family planning services making it possible to identify problems during the early stages of pregnancy and providing remedies and precautionary measures. MCH nurses have been endowed with the skills to identify risky pregnancies, treat and advise patients who are likely to have complications therefore increasing the likelihood of saving both the mother and the baby during the critical periods of the pregnancy cycle.

It is worth noting that not all deliveries are taking place in the health facilities and there are still some women who are giving birth at home, particularly in rural areas. These pregnancies are therefore not monitored and if there is a potential problem, it is only noted when it is too late to save the lives of the mother and the baby.

*"It is difficult for me to call the ambulance because in most cases I do not have airtime in my phone."
Maternity head nurse*

Transportation: Transportation can be an issue, particularly when it relates to ambulances during emergencies at the health facilities. Some districts have one ambulance that attends all of the district's health facilities and in case of emergency, it is a challenge to get transportation on time and when needed. There is no budget allocation for telephone calls and in some cases nurses use their own resources to make calls. In addition to this constraint, road conditions in the districts are often not good, causing further delays. When referred patients are sent to the facility, they also encounter queues due to limited capacity (mainly due to understaffing) and must wait for attendance, complicating things further. Last but not least, it was noted that some health facilities only send the patient and the driver and it is up to the facility on the receiving end to "figure out" the problem before starting treatment.

Most interviewees confirmed that they are well prepared to treat the majority of problematic pregnancies but in eclampsia cases, patients are referred to a health facility with greater capability to treat this situation. If a death occurs during the inter-transfer process, this is registered as if it happened at the facility of origin.

“At times we receive unaccompanied patients and we have to figure out first what the problem is before starting the treatment.” Maternity head nurse

Table 4: Indicators on birth complications (only for the visited health facilities)

Indicator	2012	2013	2014
Total Number of Deliveries	71128	87405	87314
Total Number of Normal Deliveries	57436	72448	73552
Total Number of Live Births	69770	83952	86396
Total Number of Stillborn Babies	2230	3353	3148
Total Number of Post-Partum Hemorrhage cases	392	575	1018
Number of Post-Partum Hemorrhage deaths	8	27	25
Case Fatality Rate (%): Number of Post-Partum Hemorrhage cases/ Number of Post-Partum Hemorrhage deaths	1,0%	2,3%	1,4%
Total Number of Pre-Eclampsia	3162	3983	3121
Total Number of Eclampsia cases	610	735	819
Total Number of Eclampsia deaths	17	20	20
Total Number of Sepsis in pregnancy cases	203	229	188
Total Number of Sepsis in pregnancy deaths	19	10	8
Total Number of cases of Obstructed Labor	2182	2513	2382
Total Number of deaths from Obstructed Labor	2	3	1
Total Number of Deliveries with Active Management of the Third Stage of Labor	55907	70855	73719
Percentage of Deliveries with Active Management of the Third Stage of Labor	96,8%	97,8%	99,9%
Total Number of Deliveries with a Partograph completely filled in	30691	41798	43081
Percentage of Deliveries with a Partograph completely filled in	69,0%	68,8%	66,9%
Total Number of Severe Pre-Eclampsia and Eclampsia Women who received MgSO4	2731	2609	2052

Source: MoH's National Health Information System – the Módulo Básico

Conclusions

Humanization aspects have made it possible to improve services at the facility level. Antenatal services have improved early detection of problem pregnancies and this has reduced (though not significantly) inter-

hospital transfer deaths in recent years in the 25 health facilities that were participating in the evaluation. It can be noted in Table 4 that Case Fatality Rate (hemorrhage cases) increased from 1% in 2012 to 2.3% in 2013 and decreased slightly in 2014 to 1.4%. Deaths caused by Eclampsia have slightly increased and are currently more frequent than deaths caused by Sepsis that have decreased to more than half. Deaths caused by obstructed labor are less common and remain low. Health personnel confirmed to having the know-how to treat problematic situations such as hemorrhage and sepsis whereas eclampsia and other serious cases are referred to health facilities capable of intervening in this regard. Most of the interviewees admitted to having some knowledge gaps with regard to neonatal resuscitation techniques.

Continued active community engagement advocating for usage of health facilities (particularly attendance of antenatal consultations and giving birth at the health facilities) could facilitate early detection of complications and contribute further to reducing the incidence of death through pregnancy complications for both mother and baby.

Recommendations

- *Active community engagement:* Advocating for pregnant women to attend antenatal consultations at an early pregnancy stage could increase the likelihood that the delivery will take place at the health facility and in a controlled manner.
- *Transport management:* MoH and its partners should take stock of the transport (ambulance) situation in the provinces/districts and strategize on the way forward to acquiring more vehicles and drivers in addition to developing a clear-cut vehicle management system that includes car maintenance and repair.
- *Guidelines for inter-hospital transfers:* Standardization of inter-hospital transfers including communication protocols for unaccompanied transfers are needed in order to facilitate the process for all involved.
- *Ecosystem approach:* Collaboration as ecosystem of the health facilities will guarantee all health facilities are engaged and follow the same inter-transfer protocol allowing for a more holistic and effective approach to referral challenges.

Q4

To what extent has the approach applied by MCHIP been effective at improving the uptake of methods of malaria prevention in pregnant women, specifically use of at least two doses of Sulfadoxine Pyrimethamine (SP) and use of Insecticide Treated Nets (ITNs).

Findings and discussions

Intermittent Preventive Therapy (IPT): The IPT is well known and being implemented at the health facilities. During the first prenatal visit, mothers are given Insecticide Treated Nets (ITNs) when nets are available and when not available, they are given during the second visit or when nets are available. The MoH works with partners in this regard to ensure that there is sufficient stock. Challenges encountered in IPT are monitoring usage of the nets, high demand for nets and at times the situation of net stock-out. Although the nets are widely distributed, they have only been introduced within the past five years and many people still need to be educated on their proper usage.

Respondents at health facilities were aware of the two-dosage treatment, however not all health facilities practice the Direct Observed Therapy (DOT). The reason provided by those not using DOT is that some women do not consent to taking the medication, claiming they did not eat on their way to the health facility. In these cases, they are given Sulfadoxine Pyrimethamine (SP) to take at home, after eating, which is difficult to monitor. SP is generally always in stock (only a few health facilities admitted to have run out of stock, and then only once, but the situation did not last for long and was immediately resolved). The new WHO guidelines (adopted in fall 2014 in Mozambique) made it easier for nurses to provide SP to pregnant women even at a later stage of pregnancy, in the case of a late-term ANC visit.

"We cannot force anyone to take medication particularly when they claim they have not eaten. The least we can do is to prescribe and advise they take the medication at home as soon as they have eaten." MCH nurse at a health facility

Improvement of indicators: Apparently (as per data from visited health facilities) there is limited improvement of indicators with regard to malaria in pregnancy: The number of pregnant women receiving two dosage treatment remains low; of the 90% of women who receive antenatal care, only 60% get the 1st dosage and only 44% receive the 2nd dosage, due to various reasons including medication stock out and registration not being regularly updated. From the MCHIP-supported health facilities, a slight increase can be observed in the

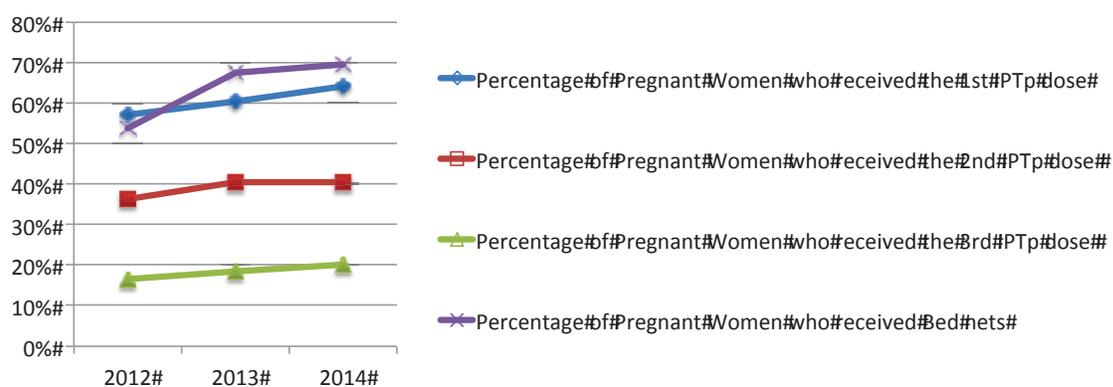
number of women that obtain at least 2 doses (40.6%, see table below), although this figure is still low. Better quality indicators are required, not only process indicators (for example, the number of distributed nets, or the number of nurses trained in malaria programs) but indicators such as the number of pregnant woman that have been infected by malaria and the number of children that contract malaria through congenital transmission as these data will also provide an indication of whether the IPT campaign is being effective or not

Table 5: Indicators for MNCH Antenatal Care (for the visited health facilities)

Indicator (averaged): MNCH Services - Antenatal Care	2012	2013	2014
Total Number of First Antenatal Care Visits	48544	61686	62938
Total Number of Following Antenatal Care Visits	111821	136156	132704
Total Number of Total Antenatal Visits (first and following visits)	160365	197842	195642
Total Number of Pregnant Women with at least 4 ANC Visits	24407	31941	31167
Total Number of Pregnant Women who received the 1st IPTp dose	27735	38976	39777
Percentage of Pregnant Women who received the 1st IPTp dose	57,2%	60,5%	64,4%
Total Number of Women who received the 2nd IPTp dose	17133	26371	25370
Percentage of Pregnant Women who received the 2nd IPTp dose	36,3%	40,7%	40,6%
Total Number of Pregnant Women who received the 3rd IPTp dose	10022	15566	17814
Percentage of Pregnant Women who received the 3rd IPTp dose	16,6%	18,6%	20,3%
Total Number of bed nets distributed (ANC) visits	33899	43969	45705
Percentage of Pregnant Women who received Bed nets	53,9%	67,5%	69,6%

Source: MoH's National Health Information System – the Módulo Básico

Figure 10: Indicators for MNCH Antenatal Care (for the visited health facilities)



Source: MoH's National Health Information System – the Módulo Básico

Conclusions

The concept of IPT and DOT are well known and being practiced at the health facilities. In all of the visited health facilities, women receive the ITNs during their first antenatal care and this is registered in their individual control card. It was also noted that some facilities are practicing DOT while others are not, yet they are very well aware of the concept. A challenge faced by the majority of health facilities is the high demand of nets in contrast to the limited supply and if a shortage occurs, those that were not able to receive a net on their the first visit are provided one when stock is reinforced. Attention is needed by health personnel to continue sensitizing women in the available preventive measures during antenatal care consultations such as net usage and SP intake.

Recommendations

- *Statistics:* Enforce the practice of registration during the process of the DOT treatment by ensuring that registers are checked by the head-of-unit by the end of each day. This will at least ensure updated information to assist effective managerial decision-making in this regard. Data on malaria needs to be regularly updated, and additional indicators or real cases of the disease in conjunction with the process indicators are needed; this should be incorporated in the national registers.
- *ITNs:* Demand in some health facilities is exceeding supply and extra nets should be provided to ensure that all women receive nets at their first ANC visit.
- *Behavioral change:* Active community engagement is needed to enforce behavioral changes (for example usage of nets and visiting a health facility in the early stages of pregnancy), planning for preventative activities requires district and provincial levels to, for instance, prioritize the distribution of medication and nets.
- *Research on Usage:* A profound study on the actual usage of nets during pregnancy and malaria in pregnancy could provide important data to facilitate greater understanding of net usage, thereby enabling improvement of the IPT program.

Q5

To what extent are health care worker interactions with patients during cervical cancer screening and treatment done according to the adoption and implementation of WHO treatment model?

Findings and discussions

Twenty-one (21) of the 25 health facilities visited provide services associated with CECAP. MCHIP provided the intensified¹¹ CECAP package to 6 of the 21 facilities while the other 15 obtained the basic package. There were no major observed differences (in data indicators) between those who received basic and intensive package from MCHIP because all the MCH nurses followed the same standardized procedures of screening and then treatment. The start of the CECAP support by MCHIP varied from 2010 through to 2014, but the majority of the interventions started in 2010 and 2011. A majority of the interviewed stakeholders rated the program positively and attributed the publicity boost that CECAP gained to active support by the first lady of Mozambique.

The WHO's "screen and treatment" model has been adhered to and implemented by the health facilities:

- Consent is requested before starting any screening and treatment procedure and different options are discussed using pamphlets to explain the procedures to the patients.
- Screening and treatment (if a test is positive) is performed during a single visit.
- In most cases, (confirmed via the observations undertaken by the evaluation team) the VIA test was implemented correctly, and if the test was positive, treatment was administered immediately for lesions less than 75%, otherwise serious lesions were referred to a larger health facility with the capability and expertise to treat serious cases.

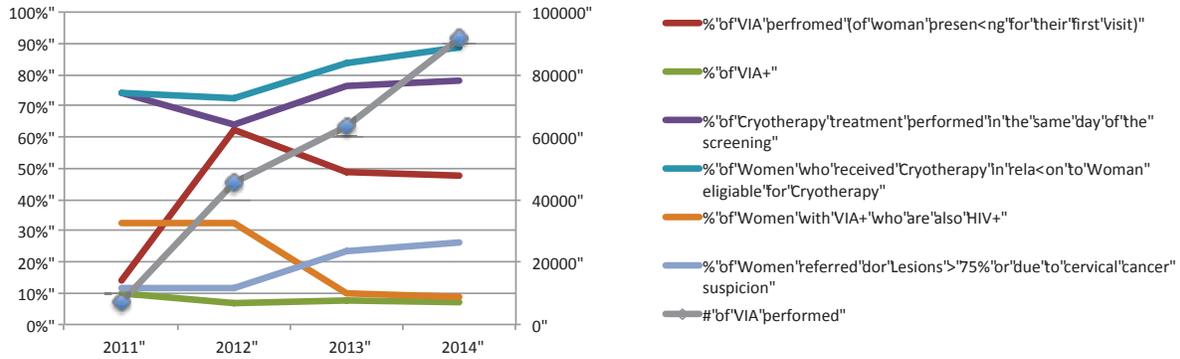
Relevant performance indicators (data from MoH obtained via JHPIEGO) that are listed in the table below, show that the situation has improved since 2012¹². More patients were screened and (VIA+) treated the same

¹¹ Intensified packages: Manica Province: CS 1º de Maio, Nampula Province: HC Nampula, CS 25 de Setembro, CS 1º de Maio, and Maputo City: CS Catembe; CS Inhaca.

¹² As there are only a few health facilities that received an intensive support package and several of these facilities also had severe challenges (trained nurses leaving the facilities, stock-out of CO2 gas with the consequence that no cryotherapy can be conducted), proper analyzing the difference between the basic and intensified support is not possible.

day. In Figure 11, which provides an overview of all health facilities participating in the CECAP program of MCHIP, the same trend towards an improved situation can be observed.

Figure 11: Cervical Cancer screening and treatment trends

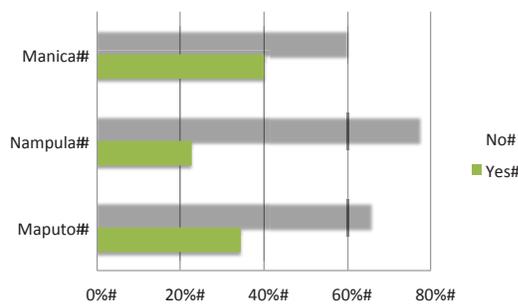


Source: MoH's National Health Information System – the Módulo Básico

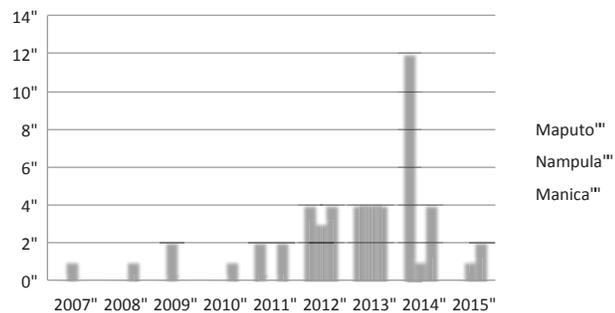
The following challenges were observed in relation to CECAP:

Only 33% of the interviewees (34% female and 19% male) claimed to having been trained by MCHIP in CECAP and the training actively took place from 2012 to 2014. In most of the health facilities visited, only one person had been trained. As the training is very specific, there is a danger of service discontinuity, when the trained individual is transferred, retires or ceases to work in the health sector.

Figure 12: a) Cervical cancer in-service training



b) Year of the training



Source: Maraxis (2015): Data from 25 participating health facilities

Minimal supervision took place to verify learning and enforcement of best practices by the trainees in the absence of peer consultation, given the fact that only a limited number of personnel were trained in this regard. A case was reported to the evaluation team of death caused by incorrect administration of the

"When a person is trained, and gets the procedure wrong, the whole hospital will follow the wrong procedure because she is the only one trained and is supposed to know how it should be done." District director

treatment. Most of the medical doctors felt isolated (because they were not included/invited to participate in the training) from the program. They felt that their services were only sought when there were problems to rectify with regard to treatment. There was no evidence of a plan for the maintenance of equipment which might create problems in the future, as equipment deteriorates and regular maintenance is important to ensure good operating condition at all times.

Table 6: Indicators for Cervical Cancer Screening and Treatment (for the visited health facilities)

Indicator Cancer screening and treatment	2012	2013	2014
Total Number of patients screened (cervical cancer)	8850	17008	15706
Total Number of patients VIA+	473	1099	1572
Total Number of patients VIA+ who underwent cryotherapy in the same day of the screening	158	505	679
Percentage of VIA+ Patients who receive cryotherapy in the Same Day of the Screening	21,3%	43,6%	54,4%
Total Number of patients VIA+ who underwent cryotherapy after the day of the screening	33	44	124
Percentage of Patients who receive cryotherapy	30,2%	47,5%	61,7%
Total Number of patients that were sent for referral (due to lesions being more than 75% of the cervix and suspicion of Cervical Cancer)	1453	641	585

Source: MoH's National Health Information System – the Módulo Básico

Conclusions

The CECAP program has been successfully introduced and the WHO treatment model is being enforced in the health facilities that were receiving MCHIP's TA and provided through family planning as an entry point. This is a tremendous improvement on the almost non-existent cancer screening and treatment situation in Mozambique's health sector in 2010. Since the re-invigoration of screening and treatment via MCHIP, the number of screening and (simple) treatment interventions has significantly increased, as noted in Table 6. The only significant decrease (more than half) is the total referral of patients with lesions more than 75% from 2012 to 2014 while the number of screened patients doubled. The impact of these interventions will become known in the coming years however, it seems likely that there will be a reduction in the number of cervical cancer cases due to early detection and treatment. The MCHIP program is concluding and continuity of the interventions is at risk; there was no evidence of a continuity plan to enable the MoH to implement the activities at the same pace as when MCHIP's TA was still active.

Recommendations

- *Training:* More people from a single health facility need to be trained in CECAP. Ideally, the training should be conducted at the health facility for multiple staff levels including doctors.

- *Supervision:* Supervision needs to be incorporated in the training package by visiting the health facility and observing the trained staff members in action. Doctors need to be included in the supervision to introduce peer learning.
- *Sustainability:* The MoH needs to prioritize CECAP, as the practice is already successfully introduced and implemented and promoted, to ensure that training is ongoing for staff members of a single health facility as well as plan for maintenance of equipment. The question remains how health facilities will be able to continue to offer CECAP services in the forthcoming period without ongoing support (training and funding for maintenance and new equipment) as was the case through MCHIP.
- The CECAP program is relatively new in Mozambique and information that could facilitate the understanding of the trends and impact in the future will aid the MoH to make well-informed decisions about the intervention.

Q6

To what extent has the use of family planning program as an entry point to cervical cancer screening compromised or reinforced the update in family planning? What are other realistic possibilities?

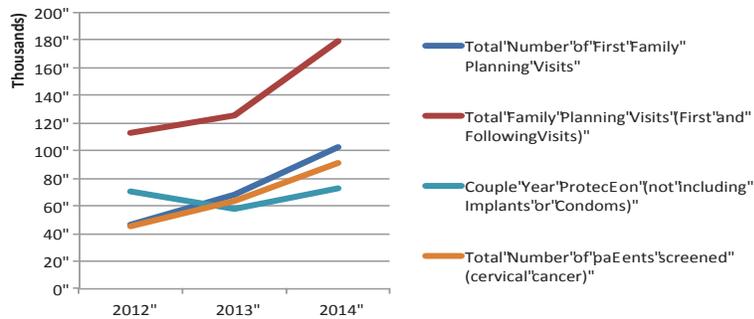
Findings and discussions

The family planning counseling platform is employing an integrated approach (one-stop-shop) for the provision of services to women attending these consultations. Patients are screened for HIV and other Sexually Transmitted Diseases (STDs) such as Syphilis, and also receive family planning services, breast cancer and cervical cancer screening and treatment from the same place in one single visit. This integration has been effective, particularly with regard to ensuring that patients get all the services they need, on the same day, in the same consultation, whilst minimizing stigma connected with HIV treatment¹³ particularly for HIV patients who do not have to go to an isolated unit to be tested and treated.

Cancer screening and treatment is now undertaken for women who would have otherwise not known about the disease. Conversely, the women who do not utilize Family Planning services in the health facilities are excluded. Understaffing has exacerbated the situation because the integrated package has resulted in more time and attention per patient leading to long queues and compromises in quality. This however, has not discouraged people from utilizing family planning services. On the contrary, there is a tendency towards an increase in total family planning visits and in the total number of cervical cancer patients screened. Another important issue to note is the constrained spaces from which most of these services are provided; they are typically small and cramped, leading to a less-conducive consulting environment for both health personnel and service recipients.

Figure 13: Family Planning and CECAP indicators

¹³ Patients were not eager to go for treatment when HIV screening and treatment was undertaken in a certain section due to stigma. This current set-up ensures that all the patients (HIV positive or negative) go to the same unit for consultation and treatment and it is not easy to identify who is HIV positive or negative, thereby safeguarding confidentiality of patient health status.



Source: MoH's National Health Information System – the Módulo Básico

Conclusions

Family Planning as a recruitment platform for cancer screening is now routine in some health facilities and incorporated as an integrated service. Family planning as an entry point for cervical cancer screen has been effective and has not compromised the intake of either Family Planning services or cancer screening and treatment. Data from the health facilities indicate an increase in the use of both FP services and cervical cancer screening and treatment over the years (see Figure 13).

Despite the benefits derived from integrated services to a patient, understaffing can cause frustration to both health personnel (where fatigue could tempt them to use short-cuts to clear the queues) and to patients, where long queues and waiting times could lead some to give-up. If additional services in an integrated package (or ideas) are introduced without supervision there can be a tendency to return to old habits.

Recommendations

- *Training:* The one-stop shop model is commendable and it facilitates improvements in terms of time saved and efficiency to the patient, who is attended at once. However, due to understaffing, services are often slower than expected. More staff needs to be trained to facilitate peer-to-peer learning and at the same time, reduce the queues particularly in health facilities where there is only one nurse who is responsible of the antenatal consultations, the maternity and the postnatal services.
- *Awareness-raising:* In order to ensure that other women (who do not go for postnatal or family planning consultations) are aware of these services, all of the health facility units should be actively involved in the recruitment process, ensuring that there are pamphlets to be handed to female patients and sensitization of the process undertaken. To ensure that this happens, all of the health personnel should be involved and should also understand the importance of being involved in the campaign. In addition, information should be disseminated far and wide through media or through word-of-mouth (through members of the health committees for example), giving talks at schools or private companies, and encouraging the sexually active female population to go for screening.

- *Mobile clinics:* Mobile clinics could also be an important recruitment platform, particularly in remote areas. In addition to providing other services to the community, cervical cancer screening and treatment could be included as part of the service package of mobile clinics.
- *Importance of an Exit strategy and Ownership by the MoH:* Clear strategies with regard to consolidation and continuation of services should be developed and implemented in the short-to-medium term, to avoid stoppage of activities a few months after MCHIP concludes; there was no evidence of a clear-cut strategy by the program to facilitate continuation of activities by the MoH. Under normal circumstances, an exit strategy should be part-and-parcel of a program implementation, driving strategies and approaches employed within a program life cycle. *Benchmarking* with comparable situations in other countries, such as Brazil, where all opportunities (e.g. vaccination, weighing of children and Family Planning) are successfully used as an entry-point for cancer screening could provide useful insights for Mozambique's program.
- *Research* to better understand the impact of the interventions resulting from these services could provide much needed data and insights for improved decision-making.

Q7

To what extent has the Standard Based Monitoring and Reporting (SBM-R) led to improvement in services and health outcomes?

Findings and discussions

The MCHIP team together with the MoH has established standards in all areas of intervention: Model Maternity, Family Planning, malaria and Cancer screening. These standards were communicated to all the health facilities that were receiving TA from MCHIP.

However, these standards are not strictly implemented by all facilities. It was noted that the Standard Based Monitoring and Reporting (SBM-R) system is well known by high-level staff and less popular with lower-level staff. Most high-level

"Self evaluation is an important exercise that is helping us discover our mistakes and take immediate remedial actions, it should be extended to other units too in addition to the units receiving the MCHIP technical assistance." District director

personnel are calling for replication of the best practices from this system to all sections of health facilities, as they see it to be an important tool that facilitates facility self-evaluation.

The SBM-R has led to improvement of the humanization of care (direct skin to skin contact, early breast feeding and a companion during labor), not only within the participating MCHIP health facilities, but the standards have also been widely adopted across the country.

The practice of data collection and self-assessment, as confirmed on the ground, is not standardized in execution. On the one hand, some health facilities admitted to having monthly meetings where results were communicated to all and discussions centered on areas requiring improvement. On the other hand, some facilities confirmed that only performance reports were prepared for district-level meetings. There seems to be a high likelihood that health facilities that are not routinely following the standards will drop back to old habits risking that the practice then becomes extinct.

Conclusions

Although the SBM-R is practiced widely, it is not explicitly implemented by all health facilities and in most cases, only high-level staff knows about the system. It is evident that in those health facilities that are using the practice and which have significantly improved their level of service, the humanization process is part and parcel of the facility. For example, some three facilities were in the process of inviting external evaluators to

initiate the accreditation/recognition process of the model maternity during the evaluation visits. Facilities that are not using the system have a different dynamism in regard to service provision and there is a tendency towards minimal adoption of new concepts in their routine. The key challenge is to maintain and enhance best practices in the facilities that are using SBM-R systems, while re-emphasizing the need to adapt the system to those facilities that are not implementing it, because the data is important for improving service delivery at that level, especially if the entire team is involved.

Recommendations

- *Reinforcement* of best practices in all facilities such that they are implemented. This can be done if facility directors, for example, are sensitized on the importance of not only compiling information for external reporting but also using collected data to ameliorate the services at the facility level. If the facility's management team understands the importance of the process, it will be simpler to mobilize everyone to rally behind the practice. This could be scaled-up to other areas, and in the long-run become part of institutional culture, where data could be translated into better decision-making and consequentially, service improvement for the community.
- *Centre of Excellence*: To stimulate peer learning among health facilities, having a center of excellence (a recognized model maternity health facility) where health staff can visit, observe, learn and be trained on the MMI and SBM-R, will boost the uptake of the standards and norms as routine practice.

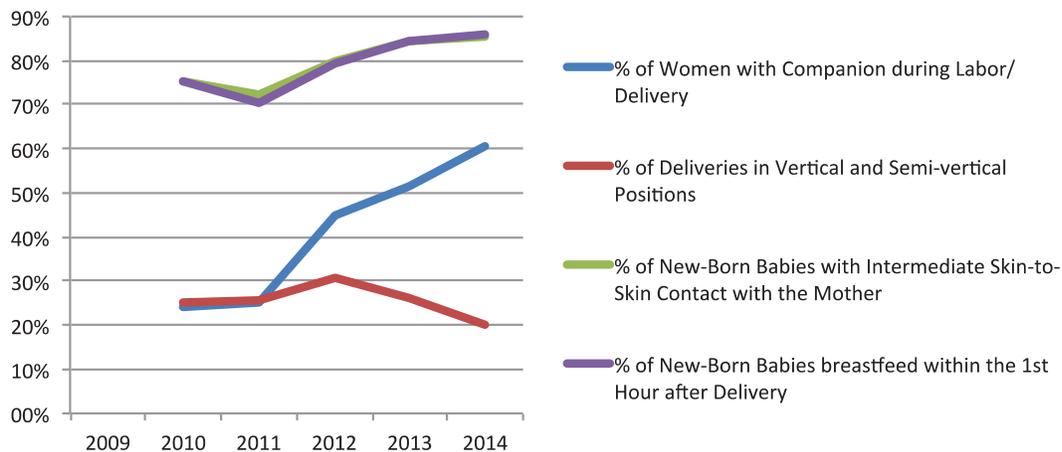
Q8

Is respectful care for women really implemented at model maternities (having a companion, choosing a position to have a baby, baby not left alone but stays with mother)?

Findings and discussions

Health personnel are aware of the humanization concept and the key aspects needed to promote and provide high quality services. Health facilities that are not part of the model maternity initiative receiving MCHIP's TA are also replicating the best practices. This is an important indicator that some concepts (such as babies staying with the mother, and skin-to-skin contact, filling of the partographs and women giving birth in the same bed where they were admitted), which do not depend on external factors (such as infrastructure or space), can easily be sustained if they are reinforced. It is a matter of changing staff's attitude and willingness to change the routine to incorporate humanization aspects in service provisioning. The graph below illustrates that these practices are improving on a year-by-year basis, with the exception of the percentage of deliveries in vertical and semi-vertical positions.

Figure 14: Trends in select respectful humanized care



Source: MoH's National Health Information System – the Módulo Básico

Six (6) maternities have been accredited (recognized) as having fulfilled the conditions that are important for a proper functionality of a model maternity. One of the accredited model maternities was visited and it was clear that it is certainly possible for a public health facility to provide impeccable and high caliber services.

The following best practices were notable to achieving desirable results:

- Dedicated and committed leadership;
- Professional attitude of the staff;
- Process ownership within the facility and
- A sense of belonging (team work) despite the role and functionality of the staff at that particular facility.



The personnel of the recognized model maternity initiative are aware of the challenges that remain, to maintain the status and (according to them) it requires hard work and dedication whilst ensuring that new persons are well coached and indoctrinated with the specific facility's culture.

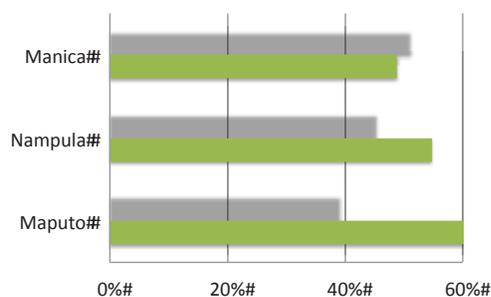
Humanization is also on the radar in both antenatal, postnatal and family planning consultations: Patients are provided an explanation of the procedures that will be undertaken, consent is sought before screening and treatment of breast and cervical cancer, health personnel do not unilaterally select family planning methods for women and instead, they highlight advantages and disadvantages of alternatives and the patient can make decisions. Respectful care for women however, faces the following challenges:

- Understaffing problems;
- Constrained space particularly in busy health facilities where demand is high and it is normal to see two to three women sharing a bed in the maternity ward. Further, some health facilities are in dire need of refurbishment and fit-out of essential life-saving instruments. For example, a maternity ward without a toilet for patients or running water does not help the humanization process for either health personnel or patients. Basic equipment is essential for saving lives; for example, maternity wards should be equipped with essential tools such as, forceps and ventouse (vacuum extractor), sterile scissors and disposable cord ties or clamps. Some roads are also in a poor condition, which complicates inter-hospital transfers. Furthermore, the power supply is often intermittent in some health facilities, particularly those located in rural areas. MoH leadership has a role to play in lobbying and advocating for solid infrastructure in the country.
- A lack of privacy (particularly in maternity wards where there are no curtains but open spaces) inhibits the invitation of companions, for instance, during delivery.

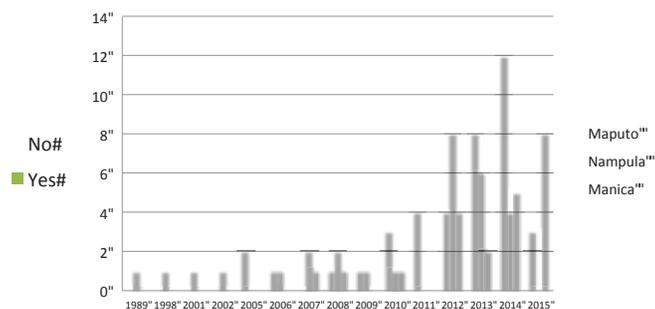
When respondents were asked what they preferred between a clean, good looking, spacious working place and increase in the number of staff, a majority preferred a clean, good looking and spacious working environment.

Fifty five percent (55%) of the respondents at the health facilities confirmed to have participated in an in-service training on Family Planning. Most of the training actively took place from 2012 to 2015.

Figure 15: a) In-service FP training



b) Year of the training



Source: Maraxis (2015): Data from participating health facilities

The following table highlights the key indicators of respectful care in the 25 participating health facilities. The data shows that there has been improvement in all of the indicators, with the exception of percentage births that were delivered in vertical/semi vertical position where there was a drop from 39.0% in 2012 to 12.3% in 2014 and a slight improvement in percentage of women with a companion during labor/delivery. On the other hand, there has been an increase in the number of newborns that were breastfed within one hour of birth.

Table 7: Indicators for respectful care (for the visited health facilities)

Indicator	2012	2013	2014
Total Number of Vertical/semi-vertical deliveries	15096	14121	5627
Percentage of total births that were delivered in vertical/semi-vertical position	39,0%	27,4%	12,3%
Total Number of Women with Companion during Labor/Delivery	18114	29705	30863
Percentage of Women with Companion during Labor/Delivery	55,7%	57,3%	57,3%
Total Number of Newborns with Immediate Skin-to-Skin Contact with the Mother	54729	67971	69590
Percentage of Newborns with Immediate Skin-to-Skin Contact with the Mother	85,4%	89,3%	88,0%
Total Number of Newborns who were breastfed within one hour after delivery	51591	64614	67632
Percentage of Newborns who were breastfed within one hour after delivery	83,9%	85,5%	86,7%

Source: MoH's National Health Information System – the Módulo Básico

Conclusions

Respectful care is being implemented in model maternities and there has been an improvement in the quality of model maternities and humanization standards. Humanization is on the radar and all personnel are

indoctrinated particularly in the model maternities, antenatal and family planning services. The efforts towards humanization are mostly hampered by infrastructure (for example, space compromising privacy, a lack of running water and a lack of toilets) and under-staffing.

Recommendations

- *Promotion of model maternities:* Model maternities are clearly “the way to go” and should be actively promoted. Learning visits should be organized, particularly for head nurses and other personnel (if budget permits) to learn from the recognized facilities, acting as a way to bolster their confidence and drive their ambition to achieve the same status.
- *Maternal Child Health nurses:* Training more nurses in order to address the understaffing issue. Some candidates could potentially be recruited from the districts, as they will have little concern with going back home and giving back to their communities. Another source of potential candidates is to provide cleaners/assistants with opportunities to further their education and to up-skill into being fully-fledged nurses. They could be recruited from the facilities they already work at.
- *Training:* Training should be made available to all MCH nurses and should be delivered at the health facility (on-the-job training) where possible. Supervision should be incorporated as an integral part of the training package.
- *Basic life-saving equipment* should be an integral part of a model maternity, along with sterilized scissors, forceps, ventouso (vacuum extractor) amongst other simple yet essential equipment.
- *Proper Infrastructure:* refurbishing buildings to ensure that necessities are available (such as water and continual power) will boost the respectful care process for both staff and patients.

Q9

Is strong (post partum family planning) counseling occurring in model maternities (i.e. offering Long Acting Methods [specifically Intra Uterine Device (IUD) and tubal ligation when possible])?

Findings and discussions

Family planning services are provided as an integrated package (one-stop-shop) with other interventions in the health facilities. Post Partum family planning (IUD post partum) has been introduced and is often practiced. Under normal circumstances, the MCH nurses provide advice on the available family planning methods, highlighting their advantages and disadvantages. The women make their choices based on the explanation. Long-acting reversible methods are available at these facilities including IUDs and Implants. Other family planning methods that are available include hormonal contraception such as “the pill” and injections, as well as irreversible methods such tubal ligation (at the larger health facilities).

Lactational amenorrhea method (LAM) is also promoted amongst the women, underscoring the importance of exclusive breast-feeding for the baby and the fact that it can also be a natural family planning method for women that have not resumed menstruation. Women are normally advised to combine this method with another, in order to be certain that they will not become pregnant.

IUD was indicated as the least-preferred family planning method amongst women because of the myths¹⁴ and taboos surrounding the technique, despite

the sensitization that takes place at health facilities. The total number of IUDs distributed in the whole country in 2014 was around 40,000 according to JSI statistics. Although the application of an IUD only takes around 10 minutes, nurses often have insufficient time to

“I had an IUD for the last 9 years but when I told my husband about it recently, that is when the problems started and he claimed he could feel it during intercourse and I was forced to remove it.”
MCH nurse

discuss the IUD option. They simply conduct the procedure directly after delivery, as they often need to immediately attend to other deliveries. Another important point to note is that in many cases, due to cultural practices, men do not participate or are not involved in family planning. An incentive method has been

¹⁴ Myths among husbands, fearing that their wives will never be able to become pregnant again, as well as among staff members: for example (according to a MoH staff member) a high member of central MoH staff spread the word 5 years ago that IUDs can cause HIV.

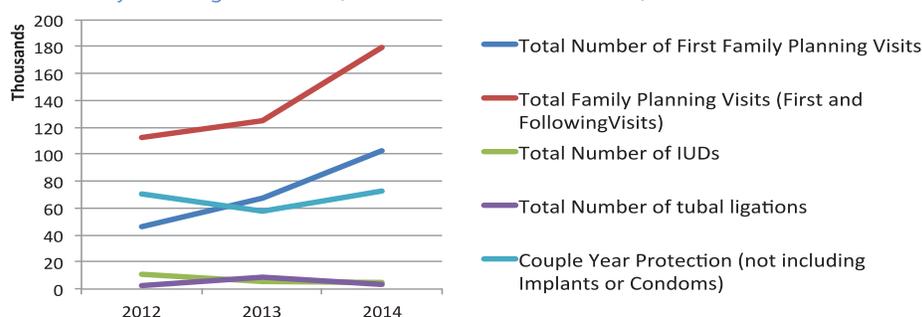
devised by several facilities to encourage male participation by ensuring that women who bring their husbands obtain priority treatment in queues. This has brought-about some change and women are increasingly bringing their husbands to clinics. However, due to challenges brought by asymmetric information (adverse selection), it is not possible to confirm that the male companions are their husbands (they could be their sons, uncles, brothers or even fathers) for the purpose of obtaining priority treatment.

Table 8: Family Planning Indicators (for the visited health facilities)

Family Planning Indicator	2012	2013	2014
Total Number of First Family Planning Visits	46284	67892	102583
Total Family Planning Visits (First and Following Visits)	112520	125080	179874
Total Number of IUDs	10584	5206	4851
Total Number of tubal ligations	2534	8977	3135
Couple Year Protection (not including Implants or Condoms)	70807	57791	72984

Source: MoH's National Health Information System – the Módulo Básico

Figure 16: Family Planning Indicators (for the visited health facilities)



Source: MoH's National Health Information System – the Módulo Básico

Conclusions

Family Planning counseling starts early at antenatal care in all health facilities, and is continuous and delivered to most women. It only stops, in most cases, when the baby has received all the vaccinations and is at an appropriate age to stop the growth monitoring process. As part of Post Partum counseling, Lactational Amenorrhea is promoted amongst women and the advice provided is to combine it with other FP methods. Health personnel only provide advice on available methods and they do not select FP methods for individual patients. Long-acting methods are understood, but there is a fear of use, driven by a lack of information, fueled by taboos and myths on associated sterility effects. Only a few men are involved in family planning services which stems from cultural beliefs that assigns sole responsibility for all childbearing activities to women.

Recommendations

- *Information:* Continuous campaigns through media, talks on the available FP methods so that the same information will be transmitted to all in a bid to minimize the fear spread through myths and taboos particularly with regard to long-acting methods.
- *Training:* Ensuring that all the MCH nurses are trained to properly administer IUDs and implants and understand these methods in order to communicate the correct messages to the population.
- *Male participation:* Encourage male participation in the family planning process. Members of health committees can play a very important role in this regard, however capacity-building interventions for them are necessary to ensure that the right message is communicated to the community. The support of local leaders (community leaders, local government leaders, community role models) is important for sensitizing the population, and local government needs to actively talk about family planning.

Q10

How effective has MCHIP capacity building done by MoH in 2011-2014 contributed to: achieve the program purpose and capacity of health professionals from MoH, DPS and health personnel with technical skills to ensure sustainability of the program?

Findings and discussions

MoH is not only concerned with the components that were receiving MCHIP's TA, namely, Model maternity initiative, CECAP and Family Planning, but also with scaling-up humanization to all services offered at the health facilities. Model maternity concepts are being replicated (to a certain extent) in all health facilities, even those that were not a part of MCHIP's TA. Cancer screening and treatment has been reinvigorated in the health services and has successfully been incorporated into routine procedures, patient health cards have been updated to include VIA as an important test within Family Planning services, and new long-acting family planning methods such as IUD post partum and Implant have also been introduced. Most nurses were quick to point out that they are in need of knowledge reinforcement in the area of newborn resuscitation techniques.

The training interventions took place as envisaged, but the technical sustainability of the interventions is at risk due to the following factors:

- *Participants' selection process:* Some of the personnel who participated in the training have not translated their knowledge into practice because they are involved in the administration of the health facilities. In some occasions, the same individuals are selected for different trainings multiple times while their colleagues have been left out. This has resulted in a handful of people being trained and this number cannot sustain the interventions in the medium to long-term.
- *Training design:* Certification process of the trainers who participated in the ToT was not comprehensively integrated into the training package. This resulted in the trainers being trained, but the most active and capable/skilled trainers were not identified, as this element was missing. These certified trainers could potentially have formed part of a cadre of skilled resources available to the MoH. In addition, no monitoring was undertaken of the personnel, who received training to assess their performance and to observe them in action. They were left on their own to implement the way they thought fit.
- *Ownership at the local levels:* Local managers should be consulted to provide opinions on priority areas and gaps that are important at a particular health facility, and to give their opinion on which participants

should participate in a given training, for example. The list of participants is prepared at the provincial directorate (DPS) level with minimal local manager involvement.

- *Ownership and accountability at central MoH level.* The MoH should be structured in a way that facilitates the effective and efficient implementation of programs, to ensure that scarce resources are put into good use as well as to guarantee the sustainability of introduced interventions, hand-in-hand with program partners.

Conclusions

The capacity building interventions (training of staff, technical assistance at different levels (central, DPS health facility level), support of policy and strategy development) that were undertaken by MCHP are not a small feat and should not be understated. Nevertheless, the technical sustainability of some of the interventions is ambiguous due to the lack of a continuity plan. Most of the knowledge that was transmitted to the health personnel is likely to be sustained if it is continuously put into practice, but only in the short-term as only a few staff-members were trained, mostly one nurse per facility in the smaller health centers. Training of trainers was also undertaken, but the approach was not comprehensive to create a human resource that could be tapped into the future because there is no evidence of a certification process and subsequent verification of learning through replications.

Recommendations

- *Needs assessment:* A training needs-assessment should be conducted for potential participants. One way to do this is to consult the electronic database (which should be updated regularly) of all the health personnel that is maintained by the MoH's training department. This database can provide useful insight into what training individuals have received, when it was conducted and if they should participate at that particular moment. The electronic database should be decentralized to allow authorized accessibility across the country.
- *Skills testing:* Certification of the trainers should be incorporated as part of the training package and a budget for this should be set aside. This has dual advantages in that a pool of experts is created that can be used as a resource by the MoH (or other partners) and at the same time, replications of the training (therefore training more personnel) are also done since the certification process involves real-time training under the supervision of the master trainer. In addition, at the health personnel's level, the trainer has an obligation to undertake monitoring visits (at least a minimum of one visit) to each of the trainees and observe them in action, noting the use of best practices and any errors, providing feedback. This has implications on the budget and should be considered in the plan. Quality should not be compromised because of the nature of interventions (public health) in question.

- *Staff retention and motivation:* Reallocation and promotion of staff that have been trained and supported through MCHIP interventions, has an impact on the effectiveness of the technical assistance, as well as the motivation of other staff. Programs should emphasize that trained and supported staff should stay for at least 6 months in their current position and facilities/departments (at the health facility, DPS, MoH department). Programs should be proactive in the planning of training and supporting sufficient people as staff retention is a challenge, either due to political or private reasons (for example nurses that get married soon after finishing their training cannot be posted far from their marital homes).

Q11

Are MCHIP Interventions (e.g. management of third stage labor, use of antibiotics, magnesium sulfate) correlating to post partum Hemorrhage, sepsis, ... at MCHIP facilities?

Findings and discussions

The relationship of MCHIP interventions on maternity services, management of third stage labor, use of antibiotics, and the provision of magnesium sulfate on cases of post partum hemorrhage, sepsis and eclampsia is best judged through the use of ideal quantitative data rather than qualitative data obtained through the interviews. Quantitative data from HMIS provides data from 2012, 2013 and 2014 of the health facilities that received TA through MCHIP¹⁵. The size of the data (n) is small and it is therefore not generalizable to the whole population. Nonetheless, it has enabled important insights for the purpose of understanding the phenomenon in the sampled facilities. Some of conclusions drawn from the data include:

a) CFR for PPH, eclampsia and sepsis

The active management of third stage labor is practiced everywhere and has increased to 99.9%. Usage of magnesium sulfate (given to women with severe-eclampsia or pre-eclampsia) has increased from 51% to 64%. The Case Fatality Rate (CFR) for Post Partum Hemorrhage (PPH)¹⁶ has dropped since 2013. Deaths caused by sepsis and eclampsia in pregnancy have dropped over the years.

Table 9: CFR for PPH, eclampsia and sepsis indicators

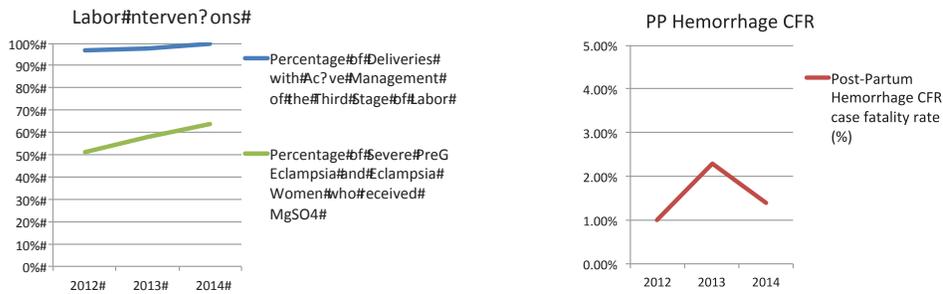
Indicator	2012	2013	2014
Percentage of Deliveries with Active Management of the Third Stage of Labor	96,8%	97,8%	99,9%
CFR case fatality rate (%) Number of Post-Partum Hemorrhage cases/ Number of Post-Partum Hemorrhage deaths (per year)	1,0%	2,3%	1,4%
Percentage of Severe Pre-Eclampsia and Eclampsia Women who received Magnesium Sulfate	51,2%	57,8%	64,0%

Source: MoH's National Health Information System – the Módulo Básico

¹⁵ Not all data for all indicators have been provided by JHPIEGO, and varies between 19 and 22 facilities and might differ per indicator.

¹⁶ CFR for PPH is the number of post-partum hemorrhage cases/number of Post-Partum Hemorrhage deaths

Figure 17: a) Labor interventions b) Partum CFR case fatality rate



Source: MoH's National Health Information System – the Módulo Básico

b) Fresh still birth rate still birth rate (mother admitted with alive baby)

The fresh stillbirth rate was 9.8% at the beginning of the program and has decreased by 10% during the MCHIP execution (2011-2015). The stillbirth rate was 8.1% between September 2012 to September 2013 and increased again to 11.6% by September 2014

c) IPTp (at least 2 doses)

The percentage of women who received the IPTp doses has risen slightly, the percentage of women who received a first dose increased from 57.2% to 64.4%, the percentage of women who received a second dose increased from 36.3 to 40.6 and the percentage of women who received a third dose rose from 16.6% to 20.3%. There is still lot of room for improvement, as this does not represent a significant improvement.

d) ITN coverage (number of pregnant women who received ITN at ANC visit)

The percentage of Pregnant Women who received bed nets has increased over the years from 53.5% to 69.9%. However, the challenge continues on usage monitoring.

A Pearson product-moment correlation coefficient (Pearson correlation) was computed to assess the relationship between some select variables. A two-tailed significance test was undertaken to assess whether there was any association between the variables. [Whether the population correlation coefficient is 0 and there is no association ($H_0: \rho=0$) or the population correlation coefficient is not 0 ($H_1: \rho \neq 0$) and there is association]. The selection of the variables from the dataset was based on a hypothesis of a presumed association that required testing.

Table 10: Correlations between variables

Variables	Results	Comments
Deaths in obstructed labor vs. eclampsia cases	$r=0.134$, $n=60$, $p=.300$	Deaths in obstructed labor and eclampsia cases do not have a statistically significant linear relationship ($P>.001$) The direction of the relationship is positive The strength of the relationship is weak $0.1<[r]<0.3$.
Eclampsia cases vs. still born births	$r=0.407$, $n=60$, $p=.001$	Eclampsia cases and still born births have a statistically significant ($p=0.01$) The direction of the relationship is positive and The strength of the relationship is moderate $0.3<[r]<0.5$
Antenatal visits (first and following visits)vs. IUDs performed on women	$r=0.237$, $n=51$, $p=.094$	Antenatal visits and IUDs do not have a statistically significant relationship ($p>.001$)
Maternal deaths vs. women who received the 2nd IPTp dose	$r=0.115$, $n=51$, $p=.420$	Maternal deaths and women who received 2nd IPT dose do not have a statistically significant relationship ($P>.001$)

Conclusions

There is a tendency for the improvement of indicators over the years, but not a very significant one.

Knowledge of the nature of a relationship between variables can improve decision-making processes, and strategies can be crafted to influence their effect towards positive results. The sample (n) is small and not applicable to the whole population because it is only drawn from the 25 facilities (2012, 2013 and 2014) that were part of the study. Nonetheless, the results have provided fundamental insights into the nature of the relationship. More data from other MCHIP-supported health facilities is needed (as well as data from health facilities that are not participating in MCHIP), in order to have a better statistical confidence in the correlation of the effect of MCHIP interventions.

Recommendations

- Further Research:** Proper analysis needs to be done using all data available from the MoH, not only from those that are part of the MCHIP, but data that is representative of all 1,300 health facilities. If the HMIS collects the appropriate information in this regard, then the study can be performed quickly and efficiently, as data sets generated from the system can be used for analysis. This therefore points again to national registers collecting appropriate information, in a timely manner from all facilities, which is then fed into the HMIS.

ANNEX B: TRAINING

Training Program

Table 11: Training program

22 April 2015	Intervention	Facilitator
0900-1000hrs	Presentation of MCHIP	Daan
1000-1020hrs	Short break	
1020-1100hrs	Role of Maraxis in relation to MCHIP	Daan
1100-1230hrs	Introduction to Research	Rotafina
1230-1330hrs	Lunch	
1330-1430hrs	Data collection methods and ethics	Rotafina
1430-1530hrs	Data collection tools (step by step)	Rotafina
1530-1615hrs	Short break	
1615-1700hrs	Data collection tools (cont.)	Rotafina
23-24 April 2015	Intervention	Facilitator
0900-1000hrs	Data collection tools	Daan
1000-1020hrs	Short break	
1020-1230hrs	Data collection tools	Rotafina
1230-1330hrs	Lunch	
1330-1530hrs	Discussions, practicing data collection	Daan/Rotafina
1530-1615hrs	Final touches, instruction for pilot training	Daan
25 April 2015	Intervention	Facilitator
0800-1300hrs	Pilot - Data collection Visit Health Facility	Team
1400-1500hrs	Lunch	
1500-1600hrs	Feedback and update from the pilot	Rotafina
1600-1700hrs	Sequence for data collection	Daan

First day sessions

MCHIP was introduced to the team: overall goal, specific objectives and the program components. This was important in order to ensure that all the enumerators were familiarized to the program and their role understood during the data collection intervention.

The two medical doctors in the team played a key role of explaining various medical terms that were frequently used during the data collection. Data collection standards and ethics were highlighted and emphasis given to their adherence: The importance of voluntary participation, upholding confidentiality and anonymity, what tools to use and when, how to conduct oneself when collecting data (administering a demographic questionnaire, an individual interview or focus group discussion).

The consent form and the demographic questionnaire were presented to the team in detail. The enumerators were also given an opportunity to practice demographic data collection using the mobile technology via the Open Data Kit platform.

Figure 18: Training workshop of the enumerators



Second day sessions

The individual interview and the focus group guides were introduced and reviewed expansively (question by question). Each enumerator was given an opportunity to simulate the real data collection intervention. The team critiqued the approach during the classroom set-up and the feedback was not meant only for the individual enumerator but for all to consider during the actual data collection.

Third day sessions

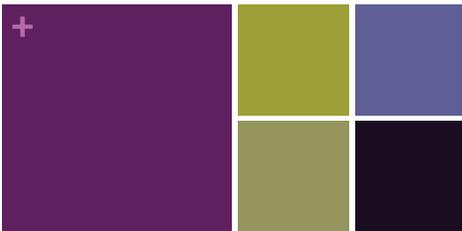
The enumerators who did not have the opportunity to practice during the previous day were given the opportunity to do so while receiving a peer assessment. Later in the afternoon, the enumerators visited the Bagamoio Health Centre in Maputo where they had the opportunity to pilot test the tools in an authentic environment. This important platform provided practical experience to enumerators prior to the actual data collection intervention.

Figure 19: Bagamoio's Health Centre staff and the Maraxis enumerators



Lessons learned from the pilot

- The importance of arriving early in the health facilities when everybody is busy (as the afternoons tend to be very quiet) to facilitate observing the surroundings by the medical doctor. While it could be challenging for the other enumerators to get interviews, information through observation is also important.
- Creation of rapport with the staff during the data collection by explaining the evaluation's purpose, reemphasizing the anonymity and confidentiality of the data treatment for upholding data collection standards and ethics. A majority of the respondents were anxious and nervous before the interview but when they realized that the questions were related to their day to day technical work, they warmed up to the process and provided as much information as they could.
- Backup data recording is essential in order to minimize any audio recording loss. In addition to the dedicated audio recorders, the tablets via the smart voice recorder application were also used as backup recorders during the data collection.



MCHIP End term Evaluation
Maraxis April-July 2015



+ Maternal Child Health Integrated Program (MCHIP)

✓ **MCHIP:** A program to support the Ministry of Health on Reproductive, Maternal and Neonatal Health .

✓ **Source of Finance:** USAID

✓ **Period of evaluation:** April 2011- June 2015



+ MCHIP overall objective

✓ Contribute to the reduction of Maternal Neonatal and Child Mortality in Mozambique through increased utilization of high impact quality Maternal Newborn Child Health and Reproductive Health (RP)/ Family Planning services (including HIV/PMTCT and Malaria)



+ Intervention Logic of MCHIP



✓ Support for MNH/FP services delivery

- ✓ Objective 2: Expand coverage of high impact MNCH interventions through model maternity initiative
- ✓ Objective 4: Expand cervical cancer prevention services
- ✓ Objective 5: Improve preventive FP/RH services, Management and referral
- ✓ Objective 6: Introduce, safe and routine neonatal male circumcision services- Dropped not a priority in Moz



+ Intervention Logic of MCHIP Cont'd

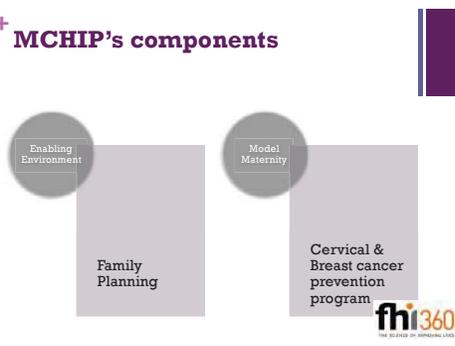


✓ Support for health system strengthening

- ✓ Objective 1: Strengthening enabling environment for delivery of high impact interventions.
- ✓ Objective 3: Strengthen human resources for health (pre and in service education)
- ✓ Objective 7: Strengthen MOH and USG partners to promote high impact MNCH interventions
- ✓ Objective 8: Define, implement and monitor standards of care in key service areas.



+ MCHIP's components



The diagram illustrates the components of MCHIP. It features four main elements: 'Enabling Environment' (top left), 'Model Maternity' (top right), 'Family Planning' (bottom left), and 'Cervical & Breast cancer prevention program' (bottom right). Each element is represented by a grey box, with the top two elements also having a circular icon above them.



+ Why is Maraxis team here?

To undertake an end term evaluation whose purpose is two-fold:

- To learn to what extent the program's objectives and goals have been achieved to date; and
- To inform potential changes that can be made to enable the program to better meet its objectives.



+ Your Role as enumerators

- Your Role will be **Data collection** from the health facilities
- Data collection shall be undertaken using mobile technology (demographics, recording...)
- The sample frame has been drawn from all the Health Facilities that received Support from MCHIP (9 health facility per province)
- MCHIP covered all the 11 Provinces in Mozambique however, data shall be collected from only 3 Provinces :
 - Nampula (Northern Region)
 - Manica (Central)
 - Maputo City (Southern region)



+ Research methodologies



+ Research defined and described

Research is the systematic approach to obtaining and confirming new and reliable knowledge"

- Systematic and orderly (following a series of steps)
- Purpose is new knowledge, which must be reliable

This is a general definition which applies to all disciplines



+ The Process of Research

- The process is initiated with a question or problem (**step 1**)
- Next, goals and objectives are formulated to deal with the question or problem (**step 2**)
- Then the research design is developed to achieve the objectives (**step 3**)
- Results are generated by conducting the research (**step 4**)
- Interpretation and analysis of results follow (**step 5**)



+ Overview Research Methodologies

- Qualitative Research
 - Ethnography, Case Study, Grounded Theory, Autobiography, Participatory Action Research, Phenomenology (each grounded in a specific discipline and philosophical assumptions)
- Quantitative Research
 - Survey methods, Experiments
- Mixed Methods
 - Draw from qualitative and quantitative methods



+ Nature of our MCHIP research

- Qualitative in nature therefore the following methods will be used for data collection
- Interviews (**enumerators**)
- Focus groups (**enumerators**)
- Participants observations (**Doctor**)
- Text and image analysis (documents, media data) - Team leader & key evaluation expert



+ Data collection Methods- Participants' observation

- Intensive, usually long term, examination of a social group, an organization, etc.
- Researcher becomes a participant in the lives of group members
 - Observes their behaviour and learns meaning systems (which are tied to language)
- Most closely associated with Ethnography, as developed in Classical Anthropology
- Now done in a variety of disciplines



+ Steps involved in Observation

- A. Gaining entry into the group
- B. Developing and maintaining rapport
- C. Developing a method for taking field notes
- D. Integrating data collection and data analysis



+ Observations steps expounded

<p>Gaining entry into the group</p> <ul style="list-style-type: none"> ■ Take into consideration the type of group <ul style="list-style-type: none"> ■ Formal organizations require formal entry, involves letter writing, permission requests, etc. ■ Informal groups – different strategy needed ■ Access may be gained through a gatekeeper (an individual with special status) ■ Want to involve key informants (those who are most knowledgeable about the group) <p>Developing and maintaining rapport</p> <ul style="list-style-type: none"> ■ Researcher must work hard to develop and maintain good relationships in the field <ul style="list-style-type: none"> ■ E.g., he must not become associated with one faction in a group or organization ■ Researcher could be blamed for problems that arise in the setting 	<p>Developing a method for taking field notes</p> <ul style="list-style-type: none"> ■ Include descriptions and interpretations of individuals, interactions and events <ul style="list-style-type: none"> ■ Distinguish descriptions from interpretations ■ Record time and location of observations, as well as key information (weather, events happening and their significance) ■ Keep theoretical memos – which are the tentative interpretations emerging and being assessed through further data collection <p>Integrating data collection & Analysis</p>
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+ Data collection methods- In-depth interviews

- In-depth interviews allow participants to describe their experiences and the meaning of events taking place in their lives
- Verbatim quotes capture the language and meaning expressed by participants
- Interviews are flexible and allow for probing
 - Interview method is quite diverse, adaptive



+ Data collection methods – Focus groups

- Interview format, but in a group setting
 - 6-12 participants with common experience
- Dates back to the 1940s – used to assess effectiveness of morale-boosting radio shows
 - 1970s onward – used by market researchers
 - 1980s onward – used by academics
- Transcript of discussion is the data
 - Plus accompanying notes
 - Use content analysis or grounded theory approach to analyze the data



+ Ethics During data collection



fhi360
THE INFLUENCE OF HUMANITY LIVES

+ Ten commandments of ethics

- Thou shalt NOT
 - Include in the study or continue working with a person who demonstrates resistance or discomfort relating to the study or to the research topic.
 - Attempt to convince a person to take part in the study, when this person is not in a position to respond adequately to the research question.
 - Fail to explain all relevant aspects of the study to the respondents before they agree to participate
 - Promise anonymity and confidentiality if it is likely that this promise will not be honoured

fhi360
THE INFLUENCE OF HUMANITY LIVES

+ Ten commandments Cont'd

- Fail to respect the respondent's privacy
- Deceive the respondent in any way
- Subject respondents to procedures that may entail physical or mental stress
- Include in the study techniques whose degree of safety is questionable
- Violate the professional research standards, for example by fabricating, falsifying, or concealing data
- Accept a contracted research project that violates ethical and/or professional standards

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THE INFLUENCE OF HUMANITY LIVES

+ Group exercise



- **How can we ensure that Ethics is observed during our data collection while using the ten Commandments of ethics???**

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THE INFLUENCE OF HUMANITY LIVES

+ Presentation of Tools to be used during data collection

- Informed consent form
- Interview guide
- Focus group discussion guide
- Survey (demographic Information)
- Transcription forms

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THE INFLUENCE OF HUMANITY LIVES

+ Role playing

Two volunteers to demonstrate how they will undertake a Focus group discussion.

One volunteer to demonstrate how they will conduct/undertake an interview if a Focus group quorum shall not be reached.

fhi360
THE INFLUENCE OF HUMANITY LIVES

+
Training tools for MCHIP
Day 2
fhi360
THE REACH OF IMPROVING LIVES
23/04/15

+
Face to Face interview

23/04/15

+
Individual Interview - Process

- Face to face Interviews
- Firstly, Read out the informed consent form
- This has been integrated as the first page in the tablets
- A space has been provided for signature


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THE REACH OF IMPROVING LIVES
23/04/15

+
Individual Interview- Demographic Form

- Start by filling out the Demographic Data



- This is also integrated in the Tablets


23/04/15

+
Individual interview guide

- After collecting the Demographic Information, we can proceed to interviews using the Interview Guide.



23/04/15

+
Let's practice.... Questions

- Tablets
- Paper versions


23/04/15

+ Focus group discussions



23/04/15

+ Focus group discussions

- ✍ You will be informed when to undertake the focus groups discussion.
- ✍ The same procedure starts: Informed consent forms read loudly
- ✍ The focus group participants have to loudly confirm that they are ready to start.

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THE BLEED OF APPROVAL LIVES

23/04/15

+ Focus groups

✍ After Informed consent form, start by filling in the demographic data for the individual participants.

Microsoft Word Document

✍ After everyone is covered, start with the focus group discussions by use of the focus group discussion guide

Microsoft Word Document

fhi360
THE BLEED OF APPROVAL LIVES

23/04/15

+ FGD guide

✍ Going through the guide

Discussions

fhi360
THE BLEED OF APPROVAL LIVES

23/04/15

+ Observation



23/04/15

+ Observation

✍ Only to be undertaken by Dr Candido as he is the only one who is allowed.

✍ Observation guide

Microsoft Word Document

fhi360
THE BLEED OF APPROVAL LIVES

23/04/15

+ **Discussions & Questions?**

- Questions or clarifications
- Practicing the use of Tabs in case of paper based Materials

Thank you!

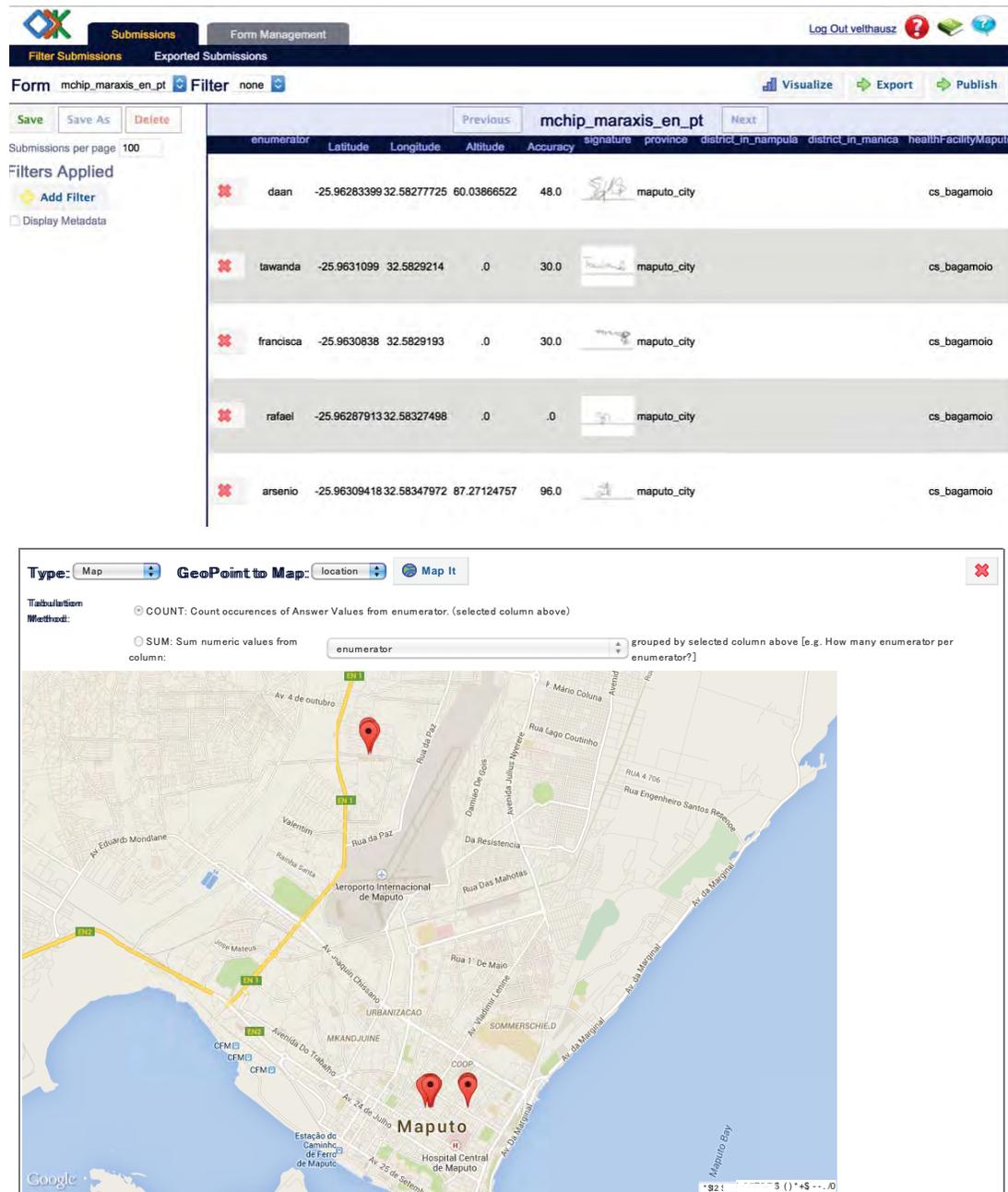


23/04/15

ANNEX C: DASH BOARD OPEN DATA KIT

The questionnaires uploaded via the Open data Kit were tested by viewing the online dashboard. Below are some screen shots from the dashboard highlighting some entries including the map with the GPS locations.

Figure 20: Screen shots of the ODK online dashboard



ANNEX D: EVALUATION TOOLS

Individual Interview Guide

Individual Interview: Health Personnel

Time	Actions
3 min	Before any intervention: Read the Oral consent form
	<p>Facilitator welcome, introduction and instructions to participant</p> <p>My name is _____ I am consultant from Maraxis undertaking an evaluation of Maternal Child Health Integrated program.</p> <p>Welcome and thank you for volunteering to take part in this interview. You have been asked to participate, as your point of view is important. I realize you are busy and I appreciate your time.</p> <p>Introduction: This interview is designed to assess your current thoughts and feelings about the Maternal & Child Health Integrated Program (MCHIP) whose overall objective is to contribute to the reduction of Maternal, Neonatal and Child Mortality in Mozambique through increased utilization of high impact maternal Newborn and Child Health and Reproductive Health/Family Planning services (including HIV/ Prevention of Mother to Child Transmission & Malaria. The interview will take a maximum of one hour thirty minutes. May we tape the discussion to facilitate its recollection?</p> <p>If yes, switch on the recorder!</p> <p>Anonymity: Despite being taped, I would like to assure you that the interview will be anonymous. The tapes shall be kept safely in a locked facility until the transcribed summary reports are completed. The transcribed summary reports of the interview will contain no information that would allow linkage to individual specific statements. You should try to answer and comment as accurately and truthfully as possible. If there are any questions or discussions that you do not wish to answer or participate in, you do not have to do so; however please try to answer and be as involved as possible.</p> <p>OK, let's begin.</p>
2 min	Warm up
	First, I'd like you without mentioning your name to introduce the work you do in this facility.
5 min	Introductory question
	<p>Can you please share your experience of the interventions introduced through the Maternal Child health Integrated Program (MCHIP) in this health facility.</p> <p>Guiding questions</p> <p>Note: The leading enumerator can ask follow-up questions to seek clarity on the leading question. Note the key questions in Red below should not be read aloud.</p>
30 min	Area 1: Provincial Level Technical Assistance
	<p>Evaluation question 1: To what extent has the approach applied by MCHIP over the last years resulted in an expansion of MNCH/FP and cervical cancer screening and treatment services?</p>
2 nd D ¹	1. What services are provided in this health facility linked to Maternal, Newborn and Child Health interventions?
2 nd D	2. What Family Planning interventions are taking place in this health facility (<i>ask if not mentioned while answering the previous question</i>)?
2 nd D	3. What services are provided here with regard to Cervical Cancer Prevention (<i>ask if not mentioned while answering</i>

	<p><i>the previous questions)?</i></p> <p>4. In your opinion, is the health facility better off in providing these services now than two years before? Why do you think these services have improved or deteriorated? What do you think has improved and what needs to be reinforced in the Maternal, Newborn & Child health, Family Planning and Cervical Cancer Prevention services in the future?</p> <p>Evaluation question 2: To what extent has the approach applied by MCHIP been effective at improving the quality of MNCH, Cancer Screening and Family Planning services?</p> <p><u>Let's talk about Maternal Newborn & Child health (MNCH) services</u></p>
2 nd D	<p>5. What specific Interventions have been introduced through MCHIP to improve Maternal, Newborn & Child (MNCH) health services in this health facility?</p> <p>6. What were the effects of the interventions?</p> <p>7. What in your opinion is being done differently with regard to Maternal, Newborn & Child Health services as opposed to before the Maternal Child Health Integrated Program?</p> <p>8. Can you cite some examples of results in Maternal, Newborn Child Health due to improvements brought about by MCHIP/program's interventions?</p>
2 nd D	<p><u>Let's talk about Cervical Cancer screening and treatment</u></p> <p>9. Does this health facility offer Cervical Cancer screening & treatment services during MNCH visits? (if No skip to question 15) If Yes ask the following questions: What types of training or capacity building interventions were provided to the staff in order to have the ability to implement the Cancer Screening?</p>
2 nd D	<p>10. When was Cervical Cancer screening and treatment services introduced in this facility?</p>
2 nd D	<p>11. What services have been introduced through the MCHIP to improve Cervical Cancer Screening in this health facility?</p>
2 nd D	<p>12. What were the effects of these services on Cervical Cancer screening in this facility?</p> <p>13. Can you cite some examples of results in Cervical Cancer Screening and treatment due to improvements brought about by MCHIP interventions?</p> <p>14. What should be done differently to improve Cervical Cancer screening and treatment in this health facility?</p>
2 nd D	<p><u>Lets talk about Family Planning services in this health facility</u></p> <p>15. What interventions have been introduced through the MCHIP to improve Family Planning services in this health facility?</p>
2 nd D	<p>16. Is Family Planning integrated and delivered with CECAP? Is Lactational Amenorrhea (exclusive breast feeding) promoted?</p> <p>17. What was the effect of these interventions?</p> <p>18. Can you cite some examples of results in Family Planning due to improvements brought about by MCHIP interventions?</p> <p>19. What should be improved in the future to upgrade Family Planning services in this health facility?</p> <p>Evaluation question 3: To what extent has the model maternity initiative reduced inter-hospital deaths due to hemorrhage, eclampsia, sepsis and obstructed labor?</p>
2 nd D	<p>20. Is this health facility part of the accredited Model Maternities? (If No, skip to question 23)</p> <p>21. Can you describe what new ways of doing things have been introduced through the Model Maternity Initiative?</p>
2 nd D	<p>22. In your opinion has the Model Maternity Initiative helped in identifying high-risk pregnancies (post partum hemorrhage, eclampsia, obstructed labor, sepsis)? If so how? Has this translated to improved outcomes?</p> <p>23. Do inter-hospital transfers happen often in this health facility due to deliveries and can you explain under what circumstances? Does this health facility use to transfer a patient during delivery to another health facility or does this health facility receive transfers from other health facilities?</p> <p>24. In your opinion, do you think that the Model Maternity Initiative is yielding positive results particularly during inter-hospital transfers? Can you provide concrete examples?</p> <p>25. What specific challenges do you face with inter-hospital transfers?</p> <p>26. How is information/statistics on deaths during inter-hospital record registered? Can we get this information and from who?</p>

	<p>Evaluation question 4: To what extent has the approach applied by MCHIP been effective at improving the uptake of methods of malaria prevention in pregnant women, specifically use of at least two doses of Sulfadoxine-Pyrimethamine (SP) and use of ITNs?</p> <p><i>Let's talk of Malaria prevention in pregnant women</i></p> <p>27. How are you treating malaria in pregnancy?</p> <p>28. What challenges are you facing with implementing the IPTp (Intermittent Preventive Treatment) for pregnant women?</p> <p>29. What steps do you take to ensure that they return for more than one dose?</p> <p>30. Do you practice Directly Observed Therapy (DOT) for all patients that receive sulfadoxine-Pyrimethamine? The staff have to watch the patients take an oral dose and record it. If so what challenges does DOT present?</p> <p>31. Has your facility experienced a shortage of the Sulfadoxine-Pyrimethamine at any point? If so what measures has the facility taken to overcome this hurdle?</p> <p>32. Do you administer Sulfadoxine-Pyrimethamine at the beginning of labor to all patients? To whom do you administer the drug? (How do you decide, do you access their patient records, or do you just ask the patient?)</p> <p>33. How would you change the IPTp program to make it more accessible to pregnant women?</p> <p>34. What challenges are you facing with implementing the Insecticide Treated Mosquito Nets (ITNs)?</p> <p>35. When and how do you provide Insecticide Treated Mosquito Nets (ITNs)?</p>
30 min	<p>Area 2: CECAP QA/QI</p>
	<p>Evaluation question 5: To what extent are health care worker interactions with patients during cervical cancer screening and treatment done according to the adaption and implementation of the WHO treatment model?</p> <p>36. Can you describe the process followed to administer Cervical Cancer Screening to a patient?</p> <p>37. Can you describe the process followed to administer Cervical Cancer Treatment to a patient?</p> <p>38. When do you ask for consent for treatment (Cryotherapy) before beginning the screening or after a lesion is found?</p> <p>Evaluation question 6: To what extent has the use of family planning program as an entry point to cervical cancer screening compromised or reinforced the uptake in family planning?</p> <p>39. How are patients for Cervical Cancer Screening recruited? Do they come here in this facility primarily for screening?</p> <p>40. Do you think the way the recruitment of patients for Cervical Cancer screening is done in this facility is efficient?</p> <p>41. In your opinion, how can patient for Cancer Screening recruitment be improved in the future?</p> <p>42. Is family planning used as entryway to CECAP?</p> <p>43. Is the Cervical Cancer screening done at the same time/place as the Family Planning services?</p> <p>44. Has the integration of CEPAP & FP had any effect on the Family Planning services provided in the facility?</p> <p>Evaluation question 7: To what extent has the Standard Based Monitoring and Reporting (SBM-R) led to improvement in services and health outcomes?</p> <p>45. How do you monitor the MNCH, Family Planning and Cervical Cancer treatment services provided in this health facility and how is this reported and to who?</p> <p>46. Are you using the Standard Based Monitoring and Reporting (SBM-R)?</p> <p>47. How are the SBM-R results communicated internally and externally? Is everybody in the health facility aware of the scores?</p> <p>48. What personal challenges did you overcome to improve the SBM-R score?</p> <p>49. Do you feel that SBM-R improved services and health outcomes? If so, how?</p> <p>Evaluation question 8: Is respectful care for women really implemented at model maternities (having a companion, choosing a position to have a baby, baby not left alone but stays with mother)?</p> <p>50. Can you describe interactions and practices that take place with the patient in this health facility when a woman in labor walks in the front door till the time they leave with their newborn baby/ies?</p> <p>51. Do patients request to give birth in certain positions. What do you do if a woman does ask about alternative</p>

	<p>alternative birthing position? Does this pose any challenges to staff?</p> <p>52. Do patients request for a delivery companion? Does having a companion during delivery pose any challenges for the medical staff?</p> <p>53. Do you inform patients of their option to deliver in the more traditional vertical/semi vertical position?</p> <p>54. Do you inform patients of the benefits of having a companion present?</p> <p>Evaluation question 9: Is strong (Post Partum Family Planning) counseling occurring in model maternities? (i.e. offering Long Acting methods (specifically IUD and tubal ligation when possible) counseling)</p> <p>55. What advice is given to new mothers after delivering their child regarding FP and exclusive breastfeeding?</p> <p>56. Can you describe other Post Partum services that are provided to the new mothers in this health facility?</p> <p>57. When is the first Post Partum Family Planning / Reproductive health topic discussed with the new mother? Is the partner involved in this process?</p> <p>58. How do you choose what contraceptive methods to recommend? (condoms, Intra Uterine Device (IUD), Tubal ligation, contraceptive pill, ...)</p> <p>59. What contraceptive methods are least favored by the mothers and why?</p> <p>60. How well is Lactational amenorrhea (exclusive breast feeding) understood by patients?</p> <p>61. How well is Long Lasting Methods (tubal ligation and IUD) understood by patients?</p>
15 min	Area 3: Sustainability
2nd D	<p>Evaluation question 10: How effective has MCHIP capacity building done by MoH in 2011-2014 contributed to: achieve the program purpose & capacity of health professionals from MoH, DPS and health personnel with technical skills to ensure sustainability of the program?</p> <p>62. Have you or any of your colleagues participated in any training under the MCHIP 2011-2014? <i>(If No, skip to question 66)</i></p> <p>63. Was the training voluntary (if so why did you select a particular course) or mandatory (if so by whom)?</p> <p>64. What training was it and was it sufficient?</p> <p>65. How was this training you are describing done/implemented (on-job training, workshop, training of trainers...?)</p> <p>66. Has it contributed to the improvement of your work skills in this health facility? If so can you explain how and what improvements?</p> <p>67. Do you think that the training activities and interventions were useful for the health facility or the effort should have been focused elsewhere?</p> <p>68. If given another chance to be trained in the future, what area would you like to be reemphasized or to be covered? How would you like to be trained in the future?</p> <p>69. Are you aware of any health community committees, composed of religious leaders, traditional healers, and other members of the community? If yes can you detail what they do with respect with this health facility?</p> <p>Evaluation question 11: Are MCHIP interventions (ex. Active management of third stage labor, use of antibiotics, magnesium sulphate) correlating with improved outcome (ex. Reduced complications due to post partum Hemorrhage, sepsis, eclampsia etc) at MCHIP facilities?</p> <p>70. Can you describe how MCHIP interventions have affected this health facility in regard to post partum Hemorrhage, sepsis, and eclampsia?</p> <p>71. What challenges do you face when dealing with these patients (post partum Hemorrhage, sepsis, eclampsia, malaria) in pregnancy?</p> <p>72. Can you describe how MCHIP interventions have affected this health facility in regard to fresh stillbirths?</p> <p>73. Are there any changes that you observed since the introduction of MCHIP interventions in relation to the complications mentioned above?</p>
3 min	Concluding question
	<p>74. Of all the things we've discussed today, what would you say are the most important issues you would like to express about this Maternal Child Health Integrated Program?</p>

2 min	Conclusion
	<p>Thank you for participating. This has been a very successful discussion.</p> <p>Your opinions will be a valuable asset to the study.</p> <p>We hope you have found the discussion interesting.</p> <p>If there is anything you are unhappy with or wish to complain about, please contact the Dr. Daan Velthausz or Dr. Rotafina Donco (872678414 or 825796070) or speak to me later.</p> <p>I would like to remind you that any comments featuring in this report will be anonymous.</p> <p>Please, prepare the transcribed summaries based on the taped conversation of the interview. To be submitted to the team leader within the same day that the Interview took place !</p>

Observation Checklist

Observation Guidelines

Observations
<p>If consent is given (by the director or responsible person) relevant pictures will be taken to back up the findings.</p>
<p>Professional+Attitude+staff+</p> <ul style="list-style-type: none">Confirming the reason for consultationResponding to user concernsRespect for privacy and confidentialityOrganization of tools and equipment
<p>MNCH+</p> <ul style="list-style-type: none">Number of rooms where consulting takes placeChairs for patientsAvailability & usage of dedicated scales to weigh the babyAvailability & usage of scales to weigh the pregnant motherGrowth chartsAvailability & usage of tape measure for the measuring the pregnant mother (to determine how old the foetus is stational age: fundal height, belly circumference, baby length, baby head circumference)Availability & usage of tape measure for measuring the babyAvailability & usage of dipsticks (urine stick measurements) for proteinurea, haematuriaEvidence of HIV testing / testsAccess to a fridge (with reliable electricity) to store vaccinations.Safe disposals of needles, vaccine viles, medical materials, etcMalaria-in-Preganancy testing, infant testingWitness Directly Observed Therapy (DOT) for Intermitent Preventitive Therapy for Malaria-in-Preganancy (IPTp), (evidence thereof).
<p>FP+counseling+</p> <ul style="list-style-type: none">Charts, teaching aids for nutrition, i.e. for exclusive breast feedingPamphlets to take awayAvailability & usage pregnancy testsChairs for partners / any men attending FP?Evidence of Record keeping (on time regularly, where do they store it, proper filing cabinet)Check for other services that they include (breast cancer, (woman) abuse cases)STI testing: Syphilis, Gonorrhea, Chlamydia, etcFreely available condoms
<p>CECAP+</p> <ul style="list-style-type: none">Availability and number of stirrups (Gynecological Examination Tables/footrests)Availability and number of speculumsAvailability and usage of sterilization techniques (autoclave, ...)Evidence of record keeping (on time regularly, where do they store it, proper filing cabinet)Is it a sterile environment? Are gloves being used? What are the staff wearing?Follow procedures as described in the flow charts?Availability of kit for pelvic exam materialAvailability of disinfecting materialAvailability of needles and syringesInformation provisioning with regard to Cervical Cancer Nature; risk factors; prevention modes; importance of the VIA test; Treatment by cryotherapyDemonstration of screening for breast cancer by self examinationStatic and dynamic inspection of the breasts, Check is done in three positions; Methodical palpation of the breasts; Quadrants and nipple; Glands axillary and supraclavicularEvaluates presence of ITS; Checks discharge of existence and cervicitisPresence of ulcers, polyps warts and cervical CA;Identifies squamous cell junction and the area around it; Inspecting the cervix

Explanation of test results: information on next steps, necessary time for next control;
Preparation of cryotherapy procedure: Checks situation of possible pregnancy; Uses correct technique;
Performs post cryotherapy procedures; Provides post cryotherapy advice
Responds to doubts raised by the patient

Post Partum Family Planning

Availability and usage of IUD (intrauterine device), are stock numbers available.
Evidence of Tubal ligation
Educational material for Lactational Amenorrhea (breast feeding) Models, charts, pamphlets etc
Condoms availability for everyone i.e. in the waiting room?
Age of babies (accompanying the pregnant mother that comes in).

SBM-R

Evidence of Record keeping (on time regularly, where do they store it, proper filing cabinet)
Are they filling forms during shift, or after their shift?
Available stationary, forms, etc. tables, desks etc. to write on

Respectful care

Evidence of early breastfeeding (in the labor/delivery room)
Evidence of Kangaroo care method
Observe vertical/semi vertical delivery position
Are there curtains separating birthing mothers for privacy?
Are rooms closed?
Are the rooms clean? How often do they clean the rooms?
Is there lighting?
Is there ventilation?
Does the staff wash hands between patients attendance? Are they using gloves regularly?

Active management of third stage labor, use of antibiotics, magnesium sulphate

Usage of partographs; are they completed correctly? Are they used in a timely manner? (every 30 mins fetal heart rate monitoring) Are the partographs being filled out after delivery?
Number of beds to patient ratio
Number of doctors to patient ratio
Number of nurses to patient ratio
Number of doctors per shift
Stock of drugs used, Magnesium sulfate (MGSO₄), Oxytocin, Misoprostol, antimalarials etc. are the drugs closeby & how & where are they stored ?
Evidence of drugs used; Magnesium sulfate (MGSO₄), Oxytocin, Misoprostol, antimalarials
Manual maneuvers (using hands to pull, massage uterus), evidence of Active management of third stage labor (AMTSL)
Does the laborward has an adjoining Operating Room (OR) (in case of Caesarian-sections or complications) or do they have to rush the patients in the case of an emergency across the hospital?
Quality/standard of OR room (Hygiene, facilities, etc)
Is an Anesthesiologist on hand?
Availability of (bedside/mobile) ultrasound devices

Individual Interview guide / Stakeholders

	<p>services in Mozambique?</p> <p>7. How effective do you feel that the MCHIP approach has been at improving MNCH?</p> <p>8. How were the interventions introduced, if given another chance what would MCHIP team do differently?</p> <p><i>Let's talk about Cervical Cancer screening and treatment</i></p> <p>9. What is your view with regard to Cervical Cancer screening treatment in Mozambique?</p> <p>10. What specific activities did MCHIP introduce in the health facilities of Mozambique?</p> <p>11. How effective do you feel the MCHIP approach has been at screening and treating Cervical Cancer?</p> <p>12. What in your opinion should be done differently to improve Cervical Cancer screening and treatment in Mozambique?</p> <p><i>Lets talk about Family Planning services</i></p> <p>13. What specific interventions have been introduced through the MCHIP to improve Family Planning services in Mozambique?</p> <p>14. What was the effect of these interventions?</p> <p>15. What in your opinion is being done differently as opposed to before the intervention of the Maternal Child Health Integrated Program?</p> <p>16. Can you cite some examples of results in Family Planning due to improvements brought about by MCHIP interventions?</p> <p>17. What should be improved in the future to upgrade Family Planning services in Mozambique?</p> <p>Evaluation question 3: To what extent has the Model Maternity Initiative reduced inter-hospital deaths due to hemorrhage, eclampsia, sepsis and obstructed labor?</p> <p>18. Why was Model Maternity initiative introduced in Mozambique?</p> <p>19. What exactly does the program support within this model?</p> <p>20. In your opinion has the Model Maternity Initiative helped in identifying high-risk pregnancies (post partum hemorrhage, eclampsia, obstructed labor, sepsis)? If so how? Has this translated to improved outcomes?</p> <p>21. How is data collected on the Model Maternity initiative?</p> <p>22. In your opinion, do you think that the Model Maternity Initiative is yielding positive results particularly during inter-hospital transfers? Can you provide concrete examples?</p> <p>23. What specific challenges has the program faced with this Model Maternity Initiative, and with inter-hospital transfers for obstetric emergency?</p> <p>24. How is information/statistics on deaths during inter-hospital record registered? Can we get this information and from who?</p> <p>Evaluation question 4: To what extent has the approach applied by MCHIP been effective at improving the uptake of methods of malaria prevention in pregnant women, specifically use of at least two doses of Sulfadoxine-Pyrimethamine (SP) and use of ITNs?</p> <p><i>Let's talk about Malaria prevention in pregnant women</i></p> <p>25. What challenges are facing with implementing the IPTp (Intermittent Preventive Treatment) for pregnant women?</p> <p>26. How would you change the IPTp program to make it more accessible to pregnant women?</p>
30 min	<p>Area 2: CECAP QA/QI</p>
	<p>Evaluation question 5: To what extent are health care worker interactions with patients during cervical cancer screening and treatment done according to the adaption and implementation of the WHO treatment model?</p> <p>27. What support has been provided to health facilities through the program for promotion/facilitation of Cervical Cancer Screening & treatment in Mozambique?</p> <p>28. How has been the uptake of the cancer screening and treatment in Mozambique, are there success and challenges you can highlight?</p> <p>Evaluation question 6: To what extent has the use of family planning program as an entry point to cervical cancer screening compromised or reinforced the uptake in family planning?</p> <p>29. Do you think introducing CECAP through existing services for instance Family Planning or through integrated</p>

Individual Interview guide / Stakeholders

	<p>outpatient facilities is a viable way of combating the disease in Mozambique?</p> <p>30. What is your opinion with regard to using Family Planning program as an entry point to cervical screening? Additional probing questions if not answered through the question above: Has the family planning program been compromised or been reinforced by the introduction of cancer screening through the family planning?</p> <p>31. What would be the ideal way to encourage more cervical cancer screening in this facility given your experience?</p> <p>Evaluation question 7: To what extent has the Standard Based Monitoring and Reporting (SBM-R) led to improvement in services and health outcomes?</p> <p>32. How was the Standard Based Monitoring & Reporting introduced through the MCHIP? 33. Do you feel that SBM-R improved services and health outcomes? If so, how? 34. Has this been an effective way or much needs to be done in this regard? 35. In what ways has SBM-R (specifically) been crucial to MCHIP accomplishments? 36. Are there any (spill-over) effects to other non-MCHIP participating health facilities? If so, do you know why?</p> <p>Evaluation question 8: Is respectful care for women really implemented at model maternities (having a companion, choosing a position to have a baby, baby not left alone but stays with mother)?</p> <p>37. How has the program emphasized the respectful care aspect for women at model maternities? 38. Moving forward, how should MCHIP further ensure that women can 1) choose their birthing position, 2) have a birth companion, and 3) have their infants placed directly with them as soon after delivery as possible?</p> <p>Evaluation question 9: Is strong (Post Partum Family Planning) counseling occurring in model maternities? (i.e. offering Long Acting methods (specifically IUD and tubal ligation when possible) counseling)</p> <p>39. What Post Partum Family Planning counseling takes place in this facility? 40. What are the main challenges implementing the Post Partum Family Planning counseling and how do you think they can be overcome?</p>
15 min	<p>Area 3: Sustainability</p>
2 nd	<p>Evaluation question 10: How effective has MCHIP capacity building done by MoH in 2011-2014 contributed to: achieve the program purpose & capacity health professionals from MoH, DPS and health personnel with technical skills to ensure sustainability of the program?</p> <p>41. Can you please describe how the training is undertaken in the health facilities, who provides these trainings, how they are organized?</p> <p>42. For central level only: The program is implemented at the national level. What were the criteria used to determine which health facilities would participate?</p> <p>43. Do you think the program has done enough in terms of capacity building and training of the health facilities?</p> <p>44. Some of the activities are just taking place now, for example finalization of the flow charts, training materials, why were they not undertaken at an earlier stage of the program?</p> <p>45. What is the importance of the health committees in the Mozambican system? What exactly is the role of MCHIP with regard to these health committees? Did they exist before MCHIP or they are a new creation under the program?</p> <p>46. Have the MCHIP interventions been adopted and scaled-up at the national level?</p> <p>Evaluation question 11: MCHIP interventions (evaluation question 10): Are MCHIP interventions (ex. Active management of third stage labor, use of antibiotics, magnesium sulphate) correlating with improved outcome (ex. Reduced complications due to post partum Hemorrhage, sepsis, eclampsia etc) at MCHIP facilities?</p> <p>47. In general, how have MCHIP interventions affected health facilities in Mozambique with regard to post partum Hemorrhage, sepsis, and eclampsia? (Is this in all the health facilities or in only health facilities that are benefiting from MCHIP's interventions?- probing question if not answered)</p> <p>48. How has the Program integrated Malaria in all its interventions?</p> <p>49. What challenges has MCHIP observed that health facilities face when dealing with the patients of post partum Hemorrhage, sepsis, eclampsia & malaria in pregnancy?</p> <p>50. Are there any changes since the introduction of MCHIP interventions in relation to the complications such as post</p>

Individual Interview guide / (Stakeholders)

	<p>partum hemorrhage, sepsis, eclampsia, Malaria) in pregnancy? How is this monitored?</p> <p>51. Can you describe how MCHIP interventions have affected this health facility in regard to fresh stillbirths?</p>
3 min	<p>Concluding question</p>
	<p>52. Of all the things we've discussed today, what would you say are the most important issues you would like to express about this Maternal Child Health Integrated Program?</p>
2 min	<p>Conclusion</p>
	<p>Thank you for participating. This has been a very successful discussion.</p> <p>Your opinions will be a valuable asset to the study.</p> <p>We hope you have found the discussion interesting.</p> <p>If there is anything you are unhappy with or wish to complain about, please contact the Dr. Daan Velthausz or Dr. Rotafina Donco (872678414 or 825796070) or speak to me later.</p> <p>I would like to remind you that any comments featuring in this report will be anonymous.</p> <p>Please, prepare the transcribed summaries based on the taped conversation of the interview. To be submitted to the team leader within the same day that the Interview took place !</p>

ANNEX E: INTERVIEW LIST AND SCHEDULE OF VISITED HEALTH FACILITIES

In the table below the health staff interviews per visited health facility are listed. The total number of conducted interviews with health staff was 158.

Table 12: Interview list per visited health facility

Date 2015	Health facility Maputo City and Province	Nr of Int.	Date 2015	Health facility Nampula Province	Nr of Int.	Date 2015	Health facility Manica Province	Nr of Int.
29 April	HG José Macamo	9	12 May	HC Nampula	6	25 May	HP Chimoio	12
30 April	HG Chamanculo	12	13 May	CS 25 de Setembro	10	26 May	CS 1º de Maio	9
2 May	HG Mavalane	8	14 May	HG Marrere	5	27 May	CS Eduardo Mondlane	6
4 May	CS 1º Junho	8	15 May	CS 1º de Maio	5	28 May	HR Gondola	6
5 May	CS Ndlavela	6	16 May	CS Meconta	3	29 May	CS Manica	7
6 May	CS Albasinhe	5	18 May	HR Angoche	6	30 May	CS Vanduzi	4
7 May	CS Catembe	3	19 May	CS Mossuril	2	1 Jun	CS Catandica	2
3 Jun	HC Maputo	10	20 May	HD Nacala Porto	9			
4 Jun	CS Inhaca	1	21 May	HR Alua	4			
Total		62			50			46

Interviews with the key stakeholders (conducted between 4 May and 4 June 2015) included representatives of different departments within the Ministry of Health at central level, at Provincial level (Director Provincial de Saúde (DPS)), Medical Provincial chiefs) and at District level (District Director, District Medical Chiefs, District Head Nurse), as well as representatives of John Snow Inc (JSI), United Nations Population Fund (UNFPA), Mozambican Association of Obstetricians and Gynecologists (AMOG), Superior Training Institute in Maputo (ISCISA), Pathfinder project, the Clinical directors of the assessed health facilities and the implementing partners: JHPIEGO and Save the Children, and members from the USAID MCH staff. The World Health Organization (WHO) had declined to participate.

Table 13: Interviews with the key stakeholders

Organization	Interviewee
Ministry of Health	Dr. Francisco Mbofana Dr. Quinhas Fernandes Dr. Lidia Chongo Dr. Maria Benigna Matsinhe Olga Sigaúque Dr. Ussene Isse Gizela Azambuja Anete Dinis Teresa Mapasse Dr. Baltazar Candrinho
DPS Nampula	Dr. Munira Abubakar Bin Abudou Isabel Flores Mwanga (DPS MCH Head) Aurelio Ambrosio (Meconta district) Nilton Luis Napoleão (Angoche district) Eduardo (Nacala porto district) Solinho (Mossoril district)
DPS Manica	Dr. Jaquettas (Provincial medical chief)
DPS Matola	Flomena Lameira (Head nurse)
UNFPA	Dr. Arsenia Rosada Nhandale
ISCISA	Dr. Mouzinho Saide Asuncion
JSI (Deliver project)	Dr. Tim Rosche
PathFinder (ESD project)	Dr. Riaz Mobaracaly
AMOG	Dr. Nafissa Bique
JHPIEGO	Debora Bossemeyer Dr. Eric Ramírez-Ferrero Maria de Luz Vaz Kathryn Smock Ernestina David Mario Samucidine
Save the Children	Marla Smith Catarina Regina
USAID	Lilia Jamisse Juno Lawrence Jaffer Argentina Wate Domingas Buque Antonieta Manhica

ANNEX F: GUIDELINE TABLE OF ALL SOURCES OF INFORMATION

Besides the primary data sources, interviews of health staff at the visited health facilities, observations at the visited health facilities and Interviews stakeholders (see annex E). Additional sources of information that have been used for the evaluation study, see the table below.

Table 14: Secondary Sources of information

Secondary Sources of information
Community component guides
Flow charts
IEC Materials
Indicator data sources (MoH, JHPIEGO)
MCHIP conducted studies
MCHIP Implementation plan
MCHIP Presentations
MCHIP project agreement (award and proposal)
MCHIP Quarterly reports (2012, 2013, 2014, 2015)
MCHIP Technical Briefs
MCHIP Year Plan (2011, 2012, 2013, 2014)
MNCH and SRH Training Manuals
MNCH National Documents Developed with MCHIP Support
MoH Strategy document 2014-2019 (Plano Estratégico do Sector da Saúde, PESS 2014-2019)
Open Data Kit Documentation, Software
SBM-R Standards
Scene setters (for the visited health facilities) generated by JHPIEGO
Scientific articles
Stakeholder document (WHO, AMOG, JSI)

ANNEX G: LIST OF EVALUATION TEAM MEMBERS

The Maraxis team that conducted the evaluation study consisted of the members listed in Table 15 below.

Table 15: Maraxis Evaluation team

Name	Role
Dr. Daan Velthausz	Team leader
Dr. Rotafina Donco	Key evaluation expert
Rafael Candido	Medical Doctor
Abdul Chothia	Medical Doctor
Luciano Castigo	Enumerator
Nhire Tawanda	Enumerator
Arsenio Subuana	Enumerator
Fransica Sande	Enumerator / Interpreter
Josina Chinrida	Translator
Haje Antonio	Logistics

ANNEX H: ALL CONFLICTS OF INTEREST

There has been no conflict of interest in the Maraxis evaluation team conducting this evaluation study.

Name: Dr. Daan Velthausz, CEO Maraxis B.V.

Signature:

A handwritten signature in black ink, appearing to read 'Daan', written over a horizontal line.

Date: 31 July 2015

ANNEX I: PERFORMANCE DATA

Table 16: Performance Monitoring Plan (PMP) indicators

Expected results	Target set (in 2011) ¹⁷	Life of Project Targets	Life of Project Results march 2015
Objective 1			
Number of (national) policies drafted with USG support*	26	21	20 ¹⁸
Percent of target health facilities utilizing updated/ revised MOH forms and registers	80% (98) of 122 MMI HF 80% (78) of 96 CECAP HF	80% (98) of 122 MMI HF 80% (78) of 96 CECAP HF	100% (125/125) for MMI and 100% (129/129) for CECAP
Percent of target health facilities analyzing and displaying data	37 (30%) of 122 IMM HF, 29 (30%) of 96 CECAP HF	37 (30%) of 122 IMM HF, 29 (30%) of 96 CECAP HF	-- 19
Number of CHC with action plans based on prioritized solutions to addressing MNCH issues in these respective communities	150	150	108
Number of community groups developed and implementing action plans addressing MNCH issues with MCHIP support	150	150	267
Percentage of communities using data for decision making to improve MNCH	60%	60%	94.1%
Objective 2			
Direct Obstetric Case Fatality Rate**	1.0%	Reduced 10% from baseline in all MMI facilities	1,5%
Number and Percentage of MCHIP-supported health facilities demonstrating improved compliance with quality standards at least 50% compared to base line	61 (50%) of 122 MMI HF	61 (50%) of 122 MMI HF	67,2% (84/125)

¹⁷ USAID (8-2011) Maternal Child Health Integrated Program (MCHIP) Mozambique Associate Award, Annex 5: MCHIP PMP Indicator Matrix

¹⁸ TORs – Community Health Committees /TORs – Co-Management Committees /National Malaria Policy /National Malaria Plan – 2012-2016 /National Malaria MandE Plan – 2012 – 2016 / National Norms for Well-Child and At-Risk Child / National SRH Policy / Graded Recognition Process for MMI and CECAP / FP Supervision Guide / Guidelines for Integration of FP into Other Services / National Strategy for Prevention of PPH in the Community / Guide for National Health Weeks / National Norms for Delivery and Newborn Care and Obstetric and Neonatal Complications / National Norms for Prenatal, Postpartum and Postnatal Care/ National FP Norms /Acceleration Plan to Increase Utilization of FP Services and Modern Methods of Contraception 2014-2017 /National Plan for Elimination of Vertical Transmission of HIV /Operational Plan to Accelerate the Reduction of Maternal, Neonatal, and Child Mortality / RMNCH Flowcharts /National Community Mobilization Manual

¹⁹ MCHIP worked with health facility staff and management during MandE and MMI TA visits to build capacity for data analysis and use of data for decision-making. However, the project did not have a systematic way of recording which health facilities have met this indicator on a quarterly basis. MCSP will include a different data quality/use indicator in the future to avoid this challenge.

Expected results	Target set (in 2011) ²⁰	Life of Project Targets	Life of Project Results march 2015
Number and percentage of health facilities that reach 80% achievement of all standards	26 (21.3% of 122 MMI HF)	26 (21.3% of 122 MMI HF)	30.4% (38/125)
Number and percentage of pregnant women receiving at least two doses of IPTp in USG-assisted health facilities*****	46,7% (75,312 / 159,156)	MCHIP Intensive HFs: 80% Other MMI HFs: 40%	54.4%
Number of postpartum/newborn visits within 3 days of birth in USG-assisted programs*	72,653	MCHIP Intensive HFs: 80% Other MMI HFs: 40% EOP: 258,325	294,365
Number of antenatal (ANC) care visits by skilled providers from USG-assisted facilities*	506,294	MCHIP Intensive HFs: 582,922 Other MMI HFs: 1,082,569 EOP: 1,665,491	2,580,190
Number of deliveries with a skilled birth attendant (SBA) in USG-assisted programs*	163,633	EOP: 1,033,304 MCHIP Intensive HFs: 465,632 Other MMI HFs: 567,671	751,852
Percentage of women receiving active management of the third stage of labor (AMSTL) through USG-supported programs	98.0% (141,565/ 141,747)	MCHIP Intensive HFs: 80% Other MMI HFs: 40%	95,2%
Number and percentage of women with pre-eclampsia/ eclampsia treated with MgSO4 per protocol	60%	MCHIP Intensive HFs: 80% Other MMI HFs: 40%	53% (14,965/28,209)
Percentage of health facilities with at least one provider trained and equipped for neonatal resuscitation****	100% (124/124)	61 (50%) of 122 MMI HF	100% (125/125)
Fresh Stillbirth Rate	6.0%	Reduced 10% from baseline in all MMI facilities	9,8%*
Percentage of deliveries with partograph completely filled	75%	MCHIP Intensive HFs: 80% Other MMI HFs: 40%	67%
Percentage of newborns with skin-to-skin contact immediately after birth	86%	MCHIP Intensive HFs: 80% Other MMI HFs: 40%	85,5%

²⁰ USAID (8-2011) Maternal Child Health Integrated Program (MCHIP) Mozambique Associate Award, Annex 5: MCHIP PMP Indicator Matrix

Expected results	Target set (in 2011) ²¹	Life of Project Targets	Life of Project Results march 2015
Percentage of newborns breastfed within one hour of birth	86%	MCHIP Intensive HF: 80% Other MMI HF: 40%	85,3%
Percent of pregnant women and children who slept under LLIN night before	--	Not in LOP PMP	Not in LOP PMP
Percent of household with a pregnant woman and/or child less than 5 years of age with at least one ITN	--	Not in LOP PMP	Not in LOP PMP
Number of services outlet providing counseling and testing according to national and international standards (for pregnant women) ^{***}	124	Not in LOP PMP	125
Number and percentage of pregnant women who received HIV counseling and testing for PMTCT and received their test results ^{***}	98 %	MCHIP Intensive HF: 80% Other MMI HF: 40% EOP: 832,745	87,2% (888,087/1,017,465)
Number of HIV-positive pregnant women who received antiretroviral therapy to reduce risk of mother-to-child transmission	28,926	Total: 107,924 (54% of all ANC1 clients, assuming 12% HIV prevalence)	107,361
Number and percentage of KMC sites established/operational, by type of facility	34	34 (MMI HF with intensive MCHIP support)	33 (97%)
Proportion of babies who graduated from KMC ²²	30%	60%	92,9%
Number of Individuals reached through USG-funded community health activities (HIV/AIDS, Malaria, FP/RH)	460,000	1,108,253	1,360,265
Number of Community Health Agents trained in providing MCH/FP including PFP/CECAP prevention messages at community level	200	310	792
Number of Community support Groups Developed and Supported with assistance from USG	0	330	309 ²³

²¹ USAID (8-2011) Maternal Child Health Integrated Program (MCHIP) Mozambique Associate Award, Annex 5: MCHIP PMP Indicator Matrix

²² The current HMIS registers do not collect this information; with MCHIP support, the new registers have been revised to collect this data. It is expected that the new registers will be rolled out in the next year.

²³ A total of 47 CMCs were formed in non-intensive focus areas and 33 CMCs were formed in intensive-focus areas. The 33 intensive-focus CMCs were provided with ongoing support through the life of the project.

Expected results	Target set (in 2011) ²⁴	Life of Project Targets	Life of Project Results march 2015
Objective 3			
Number of health workers who successfully complete an in-service training program	1,440	1,500 ^{*****}	5,353
Total number of health workers trained to deliver ART services, according to national and/ or international standards (includes PMTCT+)*	0	60 trainers	566
Number of people trained in maternal/newborn health through USG-supported programs*	480	940 ^{*****}	1,923
Number of people trained in malaria treatment or prevention with USG funds*	0	940 ^{*****}	2,005
Number of people trained in child health and nutrition through USG-supported health area programs*	0	100	751
Number of people trained in strategic information (includes MandE, surveillance, and/ or HMIS)**	660	940 ^{*****}	1,755
Total number of individuals trained to provide cervical cancer prevention practices at primary level (VIA and cryotherapy) and at the referral level (colposcopy, biopsy and LEEP)*	0	239	708
Objective 4			
Number and percentage of MCHIP-supported health facilities demonstrating improvement of SBM-R standards at least 50% compared to base line	48/129 (37.2%)	48 (50%) of 96 CECAP HF	6,9% (9/129) ²⁵
Number and percentage of health facilities that reach 80% achievement of all CECAP standards	15 (12%)	33 (34%) of 96 CECAP HF	5,4% (7/129)
Total number of service outlets providing HIV-related palliative care ²⁶	129	96 (33 with intensive MCHIP support)	134
Number of women who received VIA screening	56,901	112,586 (57% of women to be reached at sites with intensive MCHIP support)	206,101

²⁴ USAID (8-2011) Maternal Child Health Integrated Program (MCHIP) Mozambique Associate Award, Annex 5: MCHIP PMP Indicator Matrix

²⁵ CECAP facilities are initiating the SBM-R quality improvement process and few facilities have completed multiple internal measurements

²⁶ Cervical cancer screening and treatment fall under PEPFAR's definition of "HIV-related palliative care"

Expected results	Target set (in 2011) ²⁷	Life of Project Targets	Life of Project Results march 2015
Number of women with positive VIA result	4,792	Estimated 8% positive VIA results	15,963
Percentage of women screened with VIA with a positive result	8%	Estimated 8% positive VIA results	7.7%
Number of screened women with VIA positive results treated with cryotherapy on the same day as screening	2,959	Estimated 80% of all VIA + results	9,174
Percentage of eligible cervical cancer screened women with VIA positive results receiving immediate cryotherapy	80% (2,959/3699)	MCHIP Intensive HF: 80% Other CECAP HF: 40%	57% cumulative
Number of VIA positive women receiving LEEP for treatment of large lesions	--	--	--
Percentage of VIA+ women receiving LEEP or colposcopy for treatment of large lesions	--	1% of VIA+ women)	--
Objective 5			
Number of MCHIP-supported service delivery points providing integrated FP counseling or services**	143	33 health facilities with intensive MCHIP support (34% of the total sites in the MOH expansion plan)	143
Couple Year Protection (CYP) in USG-supported programs	175,000	TBD after baseline in CECAP HF	644,598
Number and percentage of MCHIP-supported health facilities demonstrating improved compliance with FP/RH standards	--	33 (34%) of 96 CECAP HF	-- ²⁸
Number of people trained in FP/RH, including PFP*****	0	940	1,353
Number of women who received integrated package of FP counseling and cervical and breast cancer screening	546,000	137,280	2,197,181
Objective 7			
Number of target partners staff trained in state-of-the-art community mobilization tools/methods/approaches	40	204	307

²⁷ USAID (8-2011) Maternal Child Health Integrated Program (MCHIP) Mozambique Associate Award, Annex 5: MCHIP PMP Indicator Matrix

²⁸ FP standards will be implemented starting in the MCSP bridge period.

Expected results	Target set (in 2011) ²⁹	Life of Project Targets	Life of Project Results march 2015
Number of target partners trained in modular integrated in-service training package for MNCH and SRH	0	-	31
Objective 8			
Number of target technical areas for which performance standards have been developed and approved	2	6	6 ³⁰
Number of staff trained in quality of care standards and guidelines	0	100	1,079

Sources: USAID (2011), MCHIP (6-2011), MCHIP (8-2011), MCHIP (6-2015)

* Investing in People/Operational Plan Indicator

** WHO EmONC Indicator

*** PEPFAR indicator

**** USAID Mission PMP indicator

²⁹ USAID (8-2011) Maternal Child Health Integrated Program (MCHIP) Mozambique Associate Award, Annex 5: MCHIP PMP Indicator Matrix

³⁰ IMCI /Nutrition / TB / MMI /CECAP /FP

ANNEX J: STATEMENT OF WORK

Performance Evaluation of USAID’s Maternal and Child Health Integrated Program (MCHIP) in Mozambique.
Scope of Work

Anticipated Period of Performance: March 12, 2015 - July 31, 2015

mSTAR Program Background

Mobile Solutions Technical Assistance and Research (mSTAR) is a strategic investment by The U.S. Agency for International Development (USAID) to advance mobile solutions and close the gaps that hold back access and uptake of mobile technology. The project supports broad-based coordinated action by a range of market stakeholders — including governments, donors, mobile service providers, and their customers. mSTAR is designed to initiate and support game-changing interventions to support mobile money, mobile access, and mobile data collection and dissemination.

MCHIP Background and Development Context

MCHIP (Maternal and Child Health Integrated Program) is USAID’s flagship global program for maternal, newborn and child health (MNCH). MCHIP is currently being implemented in over 40 countries and focuses its efforts on the reduction of maternal, newborn and child morbidity and mortality, contributing to the achievement of Millennium Development Goals 4 (reduce mortality of children under five), 5 (reduce maternal mortality), and 6 (combat HIV/AIDS, malaria, and other diseases). In Mozambique, the project is being implemented at a national level, with model maternities in all provinces.

The overall strategic approach of the Global MCHIP program is guided by five interrelated principles:

- expand interventions of proven effectiveness
- maximize resources through proven strategies
- base interventions on existing efforts of programs and partners
- focus on program learning
- assume global leadership role

The MCHIP Associate Award, which began in April 2011, builds on the first phase of MCHIP support in Mozambique (2009 – 2010), during which MCHIP provided technical support to the Ministry of Health (MoH) in implementing evidence-based approaches to improve the quality of Maternal and Neonatal / Reproductive Health (MNH/RH) services, including family planning (FP). The MCHIP Associate Award focuses

on building an enabling environment while supporting the MoH in two national priorities: 1) to scale up the Model Maternities Initiative (MMI), including malaria in pregnancy and prevention of mother to child transmission of HIV (PMTCT), and 2) to scale up integrated FP and the Cervical and Breast Cancer Prevention/Control Program (CECAP) in order to rapidly expand the implementation of high-impact MNH/RH interventions. MCHIP also supports the provision of FP services through the MMI and CECAP initiatives, which are integrated within the framework of the Integrated Services Package (IPS).

Key challenges affecting the implementation of MCHIP in Mozambique include:

- No change in maternal mortality rate from 2003 to 2011 (408 MMR)
- Lack of funding nationally for Maternal Health
- Lack of Technical Assistance at provincial level from MCHIP and Weak MOH uptake of interventions

Objective of Services

The overall aim of this evaluation is to assess MCHIP/Mozambique's performance and its contributions to the USAID/Mozambique Integrated Health Office's results framework using mobile data collection methods when possible.

The MCHIP/Mozambique Associate award is scheduled to end in fiscal year (FY) 2015. Thus, this performance evaluation is meant to serve a dual purpose: (1) to learn to what extent the program's objectives and goals have been achieved to date; and (2) to inform potential changes that can be made to enable the program to better meet its objectives.

An additional goal, in terms of evaluation process, is to use mobile technology, when possible and appropriate, to increase the efficiency, transparency and accuracy of performance data, and to take advantage of multiple data sources (pictures, videos, GPS data). Electronically collected data will ultimately feed into a platform that is being developed simultaneously with this evaluation. Moving forward, USAID intends to incorporate mobile technology into more and more evaluations, utilizing the new platform to organize, analyze, and report data. The MCHIP Evaluation will be one of the first evaluations to feed into the new platform and will help contribute to the platform's development.

Scope of Work

Maraxis will focus on the ten key questions as listed below and all the data collection questionnaires and interview guides will be designed in such a way as to collect the relevant information that will help answer the particular key questions for the evaluation:

1. To what extent has the approach applied by MCHIP over the last year resulted in an expansion of MNCH/Family Planning (FP) and cervical cancer screening?
2. To what extent has the approach applied by MCHIP been effective at improving the quality of MNCH, Cancer Screening and Family planning Services?
3. To what extent has the model maternity initiative reduced the number of inter-hospital deaths due to hemorrhage, eclampsia, sepsis and obstructed labor?
4. To what extent has the approach applied by MCHIP been effective at improving the uptake of methods of malaria prevention in pregnant women, specifically the use of at least two doses of Sulfadoxine Pyrimethamine (SP) and the use of Insecticide Treated Nets (ITNs)?
5. To what extent are healthcare worker interactions with patients during cervical cancer screening and treatment conducted according to the WHO treatment model?
6. To what extent has the use of family planning programs as an entry point to cervical cancer screening compromised or reinforced the update in family planning? What are other realistic possibilities?
7. To what extent has Standard Based Monitoring and Reporting (SBM-R) led to improvement in services and health outcomes?
8. Is respectful care for women actually being implemented at model maternities (e.g. having a companion, choosing a position to have a baby, baby not left alone but stays with mother)?
9. Is strong (post partum family planning) counseling occurring in model maternities (i.e. offering Long Acting Methods [specifically Intra Uterine Device (IUD) and tubal ligation when possible])?
10. How effectively has MCHIP capacity-building (performed by MoH in 2011-2014) contributed to: achieving the program purpose and improving the capacity of health professionals from MoH, DPS and health personnel through technical skills to ensure sustainability of the program?
11. Are MCHIP Interventions (e.g. management of third stage labor, use of antibiotics, magnesium sulfate) correlating to post partum Hemorrhage, sepsis, eclampsia etc. at MCHIP facilities?

The following intervention sequence is proposed for optimal results:

1. Preparation and inception phase:

As part of this phase, Maraxis will hold the first meeting with USAID/FHI's team to ensure that expectations are interpreted in the same way by the both teams. During the meeting, the liaison structures will be deliberated and any other information that USAID staff deems necessary to be taken into consideration during the evaluation will also be highlighted. During this meeting, Maraxis will iron out issues while setting the platform for the data collection process.

In addition, during this phase, Maraxis will finalize mapping of the list of the interviewees and their schedule and incorporate the results in the inception report. The final inception report will integrate the workplan, methodology plan, data collection tools, and the list of the interviewees and the schedule.

Sample frame

Maraxis will complete the evaluation in three provinces at multiple (at least seven) sites per province. Maraxis suggests the following provinces: Nampula, Manica and Maputo City. This selection is a good model of fit that enhances representativity across regions while ensuring that it will be possible to get homogenous data because of similar technical assistance that the provinces have received through MCHIP. At least one province needs to be selected from the Northern region (Niassa, Cabo Delgado, Nampula), Central region (Tete, Sofala, Manica, Zambezia) and Southern Mozambique (Inhambane, Gaza, Maputo City, Maputo Province). Furthermore, different types of health facilities need to be well represented - more than one of each type is preferred - and the focus of the Technical Assistance at the selected facilities should cover all possible (technical assistance) areas. As the dynamics of Maputo City province will be expected to be quite different from the other provinces, given the fact that it is the capital city of Mozambique, it will be good to include it in the sample frame to identify the dynamics in the city compared to the other parts of the provinces. Maraxis will also conduct the evaluation in Nampula Province, to represent the Northern province, and in Manica to represent the Central province.

Maraxis will coordinate with MCHIP Program team, and any other relevant organizations recommended by USAID and FHI 360, to ensure that the selected participants (staff) are informed on the time of the interviews and the dates. To get a complete picture, beneficiaries (the general public) opinion is very relevant. Therefore, in addition to the identified relevant staff and key stakeholders, including the government officials, Maraxis will include a "random selection" of beneficiaries in the evaluation.

As part of the preparation, Maraxis' team leader or senior expert will engage with the team on the ground and, where needed, visit the selected sites (from the sample frame) in each of the three provinces to assess the local conditions and make necessary preparations and adjustments.

After initial briefing and the desk review, issues will become clear on the appropriate interventions in regard to data collection methods. However, for qualitative data, Maraxis will use face to face interviews, observation, and focus group discussions, where possible. Quantitative survey data will be collected on mobiles (through a software provided by FHI 360) from the general public/and or the health personnel. Maraxis will develop the following tools for data collection, as appropriate, after understanding the situation on the ground based on the briefing meeting and desk review: Interview guides and survey questionnaire

aligned to the ten questions, consent forms to participate in the research, individual interview guides for the stakeholders (donors, implementers and health personnel), focus group discussion guides (where appropriate, for health personnel or general public), survey instrument (questionnaire for the beneficiaries and health personnel), and a transcription summaries template, particularly for the qualitative data.

Maraxis will liaise with FHI 360 to validate and test the data collection software provided by FHI 360 on the tablets that will be used for data collection in the field. Most of the tools will be prepared traditionally and transferred onto the mobiles using the available software. In addition to additional back-up devices, extensive testing and training with the team members, Maraxis will ensure that there are back-up solutions in place (e.g. paper based). During the preparation phase and prior to using it in the training and actual data gathering, the technical ICT data gathering solutions will be extensively tested (both from technical and usability perspectives) in the field, before use in training and actual data gathering.

Maraxis will follow ethical guidelines during data collection (eg. people will not be referred to through the use of their names and will be requested to participate on a voluntary basis). Prior to participation, a consent form will be read aloud to the potential participants to confirm their willingness to participate.

By the end of the preparation phase, Maraxis will produce an inception report outlining the in-depth evaluation process that will be used and the exact tools and questions for primary data collection. The inception report will delineate a comprehensive methodology for the evaluation and will identify the local enumerators to support the evaluation.

Maraxis will record all of the interviews on digital audio recorders, which will be transcribed within the same day and forwarded to the team leader. Maraxis will apply existing advanced software that can transcribe the audio taped conversations word for word (where possible, depending on the spoken languages and available language recognition). To ensure quality, both Maraxis' enumerators and supervisors will verify the transcribed version to confirm that all data has been transcribed correctly.

2. Desk review:

Maraxis will review all relevant program documents to understand, in detail, the program's background and current status. Examples of these data sources are: MCHIP/Mozambique documentation (eg. quarterly reports, financial reports, work plans, program deliverables, PMP, etc.), facility-level baseline data, and data from registers.

This stage will be a stepping-stone from which information for the relevant data collection templates (interview guides, survey instruments) will be obtained. Maraxis will then develop data collection tools, to include: Oral consent forms (stakeholders, participants), individual interview guides (for different stakeholders), data transcription templates. Maraxis will include all data collection tools as annexes to the inception report.

Maraxis' medical technical expert will assist in the formulation of questions, in order to be able to answer the ten key questions defined above.

3. Training:

Maraxis will hold a three day workshop for their to present to the group the overall objective of the impending work and the processes to be used and to test the tablets (software) using an existing target group in one of the provinces where the evaluation will take place. Maraxis will invite observers (e.g. from the MCHIP program staff and USAID/Mozambique staff) to attend the training. The training will follow the below schedule:

- First day: Scope of Project. introduction to research (what research entails, the different methods of research, ethics in research, the reasons for this type of approach), and relevant health related topics.
- Second day: Specific data collection tools to be used for data collection and a pilot exercise in the classroom set-up.
- Third day: Pilot Testing of the field visit so the team can practice, or experience, the real data collection process. This is an important way to iron out any issues ahead of time. This will significantly improve the quality of the data collection.

4. Primary data collection:

During this phase, Maraxis will collect data using the designed templates for individual interviews for the different stakeholders. Maraxis' methodology will consider the program design, implementation, progress towards outcomes and impact (primary and secondary data), and learnings from the implementation period of the program. Maraxis' evaluation methodology will employ a mixed method approach, using both qualitative and quantitative data collection. Data triangulation, possible through collecting information using various methods, will be used to enhance validity and credibility of the findings. Maraxis will carefully document the process. Maraxis' data collection methods will include individual interviews, observations, and videos/photos. In addition to the primary data, available data at facility level, data from registers and Ministry of Health will be gathered during the site visits and will be included in the data analysis. Digital recorders will be used for all the interviews. Maraxis will use its own mobile devices (tablets, smartphones with GPS functionality and data communication facility (GPRS/3G/WiFi)) installed with software that will be provided by

FHI 360 for capturing quantitative data through surveys. This quantitative data will be uploaded via the Internet (either directly or as soon as there is network connectivity). This allows the team leader to monitor quality and progress and to intervene directly if needed. Each team will have a spare tablet/mobile device in case it is needed. Additionally, each enumerator will have a paper-based back-up version. Copies of all raw data collected (audio recordings, photo's, data entries) will be backed-up via a laptop (per team) and mandatory memory sticks (per team member).

Maraxis will mobilize four enumerators for the data collection exercise. Where possible, Maraxis will collect data via mobile devices (tablets) with dedicated software. Maraxis has a network of local consultants who have been involved in similar assignments in the past and their intent is to work with enumerators who understand the local languages. However, provisions will be made to engage a local interpreter, if necessary, given the many local languages spoken in the provinces. The key languages for data collection will be Portuguese and English.

For the fieldwork, Maraxis will assemble teams of enumerators and an interpreter, to be led by a supervisor (Maraxis key staff Dr. Velthausz or Dr. Donco). Maraxis will have a "Team 1" to work with the Maputo City sites and "Team 2" to work with the Nampula province sites. The most experienced enumerators will team together and finalize the data collection in the Manica province' sites. After all evaluation sites have been identified, Maraxis will develop the schedule and order of events for data collection (eg. travel path, availability of accommodation facilities). This schedule will organized and vetted during the pre-site visit. The teams may be accompanied by the observers - MCHIP program staff and USAID/Mozambique staff – when possible. However, these visits should be kept to a minimum to avoid influencing responses.

Maraxis will use audio recorders for data transcription to ensure that relevant quotes and summaries are retained to highlight best practices that will be included in the evaluation report. All digital files will also be submitted to FHI 360 and USAID at the end of the evaluation. The interviews will be face to face and conducted as outlined in the inception report.

For Portuguese and local languages, Maraxis will provide translation by qualified translators.

5. Data analysis:

Maraxis will use an inductive approach, since the evaluation is mainly qualitative. Therefore, Maraxis will employ frameworks will facilitate grouping the data and looking for relationships. The consultants will use transcribed summaries to aid in the analytical process. Maraxis will use interpretive technique, particularly color-coding, to establish common themes and categories.

On the other hand, for the quantitative data, Maraxis will use SPSS for data analysis. Various tests will be used, including descriptive analysis, cross tabulations, correlations, etc.

Mobile data collection will help ensure accurate data and the enumerators will do a thorough job of submitting/uploading/storing the captured data. (This process will be highlighted in the training for evaluation personnel.)

Methodological Strengths and Limitations

Maraxis will employ both qualitative and quantitative data analysis in the evaluation. The creation of themes and categories for qualitative data will aid in its analysis. Maraxis will use SPSS to analyze quantitative data.

The following are relevant limitations of the evaluation:

- **Validity and credibility:** Maraxis' qualitative approach will help establish a clear understanding of the case. While the data obtained through this method cannot be representative of the whole population, it will provide a clear understanding of the phenomenon in each particular province. In order to enhance validity and credibility of the data, Maraxis will triangulate the data through the use of various data collection and analysis methods.
- **Language limitation:** In order to address an issue arising from the many languages spoken in Mozambique, Maraxis will select enumerators from the provinces of evaluation implementation and local translators will be engaged where necessary.
- **Representativity:** The evaluation is primarily qualitative, resulting in conclusions that are not generalizable. However, the findings will be key to understanding MCHIP's contribution to the development of Maternal and Child health in Mozambique. To mitigate this limitation, Maraxis will include at least one province in each of the regions (North, Central, and South) in the evaluation. Maraxis has selected Nampula, Manica and Maputo city provinces for the evaluation, as explained above.

6. Reporting and presenting:

Maraxis will hold a learning workshop, at which they will present the key, initial findings to USAID management and other key stakeholders. Suggestions and feedback from this presentation will be incorporated into the final report.

Maraxis will adhere to the following organization for the final report: Executive summary; Table of Contents; Acronyms; Introduction; Background and purpose; Evaluation methods; Results, Conclusions, and Recommendations; Discussion of the results, Conclusions and Recommendations; Issues; Future Direction;

References; Annexes that will contain three key examples of best practices from the programme; and Report Appendices.

Maraxis will submit the final version of the evaluation report to FHI 360 and USAID/Mozambique in hard copy as well as electronically. The report format should be restricted to Microsoft products. The subcontractor will incorporate FHI 360's and USAID/Mozambique's comments and submit the final report in electronic format (Microsoft Word), as well as printed and bound copies (five copies in English). Maraxis will submit one copy of the final report, either electronic or hard copy, to the Development Experience Clearinghouse at <http://dec.usaid.gov> or M/CIO/KM, RRB M01, USAID, Washington DC 20523. The final evaluation report will conform to the Criteria to Ensure the Quality of the Evaluation Report found in the USAID Evaluation Policy. This evaluation will not conclude until FHI 360 and USAID/Mozambique has confirmed, in writing, that the report has met all quality criteria.

Deliverables	Due Date
D1: Workplan	March 19, 2015
D2: Methodology Plan	March 25, 2015
D3: Data Collection Tools (Interview Guides, Survey Questionnaire)	March 25, 2015
D4: Training Workshop	April 24, 2015
D5: List of Interviewees and Schedule	April 24, 2015
D6: Interim Briefing #1 (in-country)	May 6, 2015
D7: Interim Briefing #2 (in-country)	June 2, 2015
D8: Preliminary Draft Evaluation Report	July 2, 2015
D9: PowerPoint Presentations Summarizing Main Findings and Recommendations	July 2, 2015
D10: Debriefing with USAID, with PowerPoint	July 5, 2015
D11: Debriefing with Partners, with PowerPoint	July 5, 2015
D12: Draft Evaluation Report	July 20, 2015
D13: Final disposition Plan for audio recorders and tablets	July 31, 2015
D14: Final Evaluation Report	July 31, 2015

Maraxis will be compensated for their services, in full per the above fixed payment schedule, only upon delivery of acceptable deliverables, reviewed by FHI 360.

Duration and Location

The anticipated period of performance for this work is expected to begin on March 12, 2015 and conclude by July 31, 2015, on which date the Final Evaluation Report shall be finalized. The work under this scope will be completed by Maraxis in Mozambique.

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