



Ministério da Saúde

Maternal and Child Health Integrated Program



MOZAMBIQUE:
Final Report of Field Supported Activities:
May 2009 through January 2011

March 2011

ACRONYMS

| | |
|----------------|---|
| AMTSL | Active Management of the Third Stage of Labor |
| BL | Baseline |
| CS/RH | Child Survival and Reproductive Health |
| CECAP | Cervical and Breast Cancer Prevention and Control Program |
| DHS | Demographic and Health Survey |
| EMNC | Essential Maternal and Newborn Care |
| EmONC | Emergency Obstetric and Newborn Care |
| FP | Family Planning |
| GOM | Government of Mozambique |
| ICAP | International Center for AIDS Care and Treatment |
| INE | National Statistics Institute |
| INSIDA | National Survey on HIV/AIDS Prevalence and Behaviors |
| IPT | Intermittent Preventive Treatment for Malaria |
| IMCI | Integrated Management of Childhood Illness |
| ISCISA | Higher Health Science Institute |
| LEEP | Loop Electrosurgical Excision Procedure |
| M&E | Monitoring and Evaluation |
| MDG | Millennium Development Goal |
| MCH | Maternal and Child Health |
| MCHIP | Maternal and Child Health Integrated Program |
| MICS | Multiple Indicator Cluster Survey (done by UNICEF) |
| MIP | Malaria in Pregnancy |
| MMI | Model Maternity Initiative |
| MNCH | Maternal, Newborn and Child Health |
| MOH | Ministry of Health |
| PE/E | Pre-Eclampsia/Eclampsia |
| PIR | Program Intermediate Result |
| PMTCT | Prevention of Mather-to-Child Transmission |

| | |
|---------------|--|
| PPFP | Postpartum Family Planning |
| PSI | Population Services International |
| RH | Reproductive Health |
| SBM-R | Standards-Based Management <i>and</i> Recognition |
| SO | Strategic Objective |
| SVA | Single Visit Approach |
| 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 |
| WHO | World Health Organization |

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For a project such as MCHIP to be a success, the efforts of many are necessary. We regret that we cannot thank everyone individually for their invaluable support, but we would like to mention a few of the most prominent and important people in this great undertaking. The MCHIP/Jhpiego team would like to thank the national Ministry of Health, Provincial and District Health Directorates and public health facilities. Their remarkable collaboration is what galvanized support for the improvement of technical quality and humanized health care, with positive implications for all Mozambicans—women, men and their children. In particular, MCHIP/Jhpiego is very appreciative of the openness and support given by the former Minister of Health, Dr. Paulo Ivo Garrido, and his successor, Dr. Alexandre Manguela, and their staff, especially Drs. Mouzinho Saíde, Leonardo Chavane, Lidia Chongo, Carla Silva, Nazir Amade, Benedita Silva, Célia Gonçalves, Evélia Mirole, Ana Dai, Olga Sigauque, Laurence Ahoua, Deolinda Sarmiento and Cynthia Dias, without whom the project results could have not been accomplished.

The results presented here would not have been possible without the leadership, participation, coordination and collaboration of numerous development partners, including, the World Health Organization, United Nations Population Fund, Population Services International, Health Alliance International, International Center for AIDS Care and Treatment and Friends of Global Health. The collective wisdom of the staff from each of these partners, and the lessons learned from each other, significantly contributed to the success of the field-supported phase of the MCHIP/Mozambique program.

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

BACKGROUND

Mozambique has a population of more than 20.5 million (2007 Census), with about 75% living in rural areas. According to the 2003 Demographic and Health Survey (DHS), the average life expectancy is 47.9 years. Maternal, neonatal and child mortality are all improving; however, there are several challenges in the effort to reach Millennium Development Goals (MDGs) 4 and 5. Access to quality health services is severely limited not only by the low population density and large distances but also by the scarcity of trained and qualified human resources. Since 2001, expansion of emergency obstetric and neonatal care (EmONC) has been one of the main national strategies to reduce maternal and neonatal mortality. Coverage, however, remains low, with a little more than half of births in institutions nationwide, and the quality of those services has not been verified externally on a consistent basis. In 2008, the Government of Mozambique (GOM) disseminated the Integrated National Plan to Achieve MDGs 4 and 5, proposing nine priority areas for intervention:

| MOZAMBIQUE - KEY HEALTH INDICATORS | | |
|------------------------------------|-------------------------|-------------|
| Total population | 20.5 million | 2007 Census |
| Life expectancy at birth | 47.9 years | 2010 INE |
| Maternal mortality ratio | 408/100,000 live births | 2003 DHS |
| Neonatal mortality rate | 48/1,000 live births | 2008 MICS |
| Adult HIV seroprevalence | 11.2% | 2009 INSIDA |

1. Implementing intervention packages based on evidence of impact for reducing maternal, neonatal and child morbidity and mortality, including the expansion of EmONC, prevention of mother-to-child transmission of HIV (PMTCT), intermittent preventive treatment of malaria (IPT), integrated management of childhood illness (IMCI), and a school health package; as well as integrating services for adolescents; improving nutritional status of women, children and adolescents; and expanding the “reach every district” strategy
2. Updating and implementing national norms and protocols of care and treatment, based on international and national standards
3. Strengthening transport, communication and reference systems
4. Improving health infrastructure
5. Strengthening safety and availability of commodities for maternal, newborn and child health (MNCH)
6. Increasing availability of skilled professionals by training and updating skills
7. Increasing community awareness, demand and provision of basic community-based services
8. Strengthening supervision, monitoring and evaluation (M&E) of MNCH services
9. Carrying out operations research and disseminating best practices

The Maternal and Child Health Integrated Program (MCHIP) began field-supported activities in Mozambique in May 2009. The program was designed to contribute to achievement of priorities 1, 2, 6 and 8 of the above national MDG strategy. Starting in 2011, activities initiated with field

support funds through the Global MCHIP award will be scaled up through an Associate Award, and will contribute to all nine of these areas. The original field-funded award was scheduled to end on November 30, 2010 but continued until funds were exhausted at the end of January 2011.

MCHIP Program

Goals and strategies of MCHIP Global program

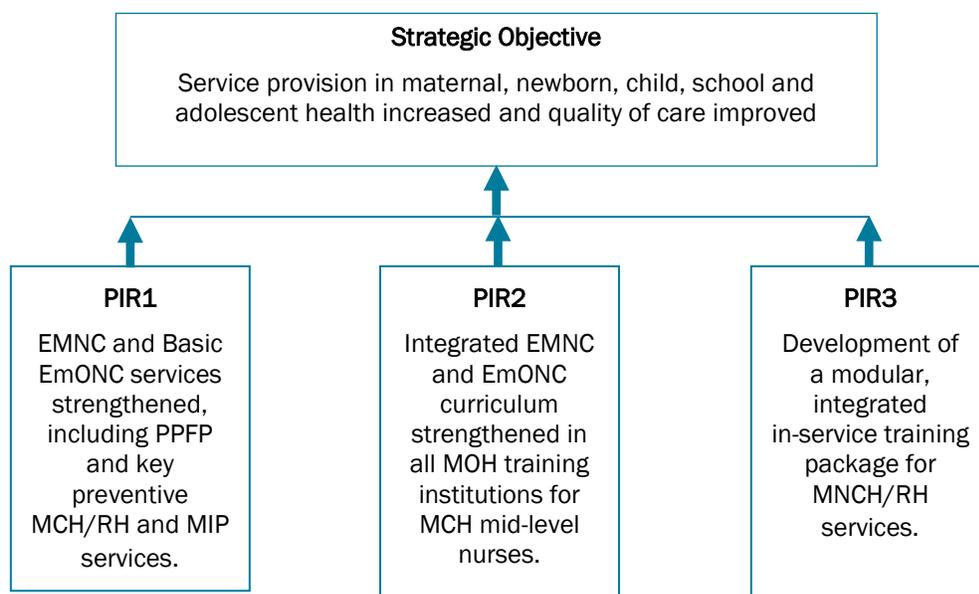
MCHIP's focus is to reduce maternal, newborn, and child mortality in 30 priority countries by 25% by increasing the use of a focused set of high-impact MNCH interventions that address the major causes of death among mothers, newborns and children under five. Delivery strategies address barriers to access and use of high-impact interventions along an MNCH continuum of care that links communities, first-level facilities and referral facilities.

MCHIP/Mozambique - Objectives and Interventions

The strategic objective of the MCHIP Mozambique program has been to assist the Ministry of Health (MOH) to increase service provision in maternal, newborn, child, school and adolescent health with increased quality of care. MCHIP has provided support to the MOH's Reproductive Health (RH) Program, which includes MNCH, under the National Health Directorate for Public Health. The focus has been health service strengthening of MNCH/RH, focusing on the "Model Maternity" Initiative (MMI), cervical and breast cancer prevention (CECAP) and postpartum family planning (PPFP).

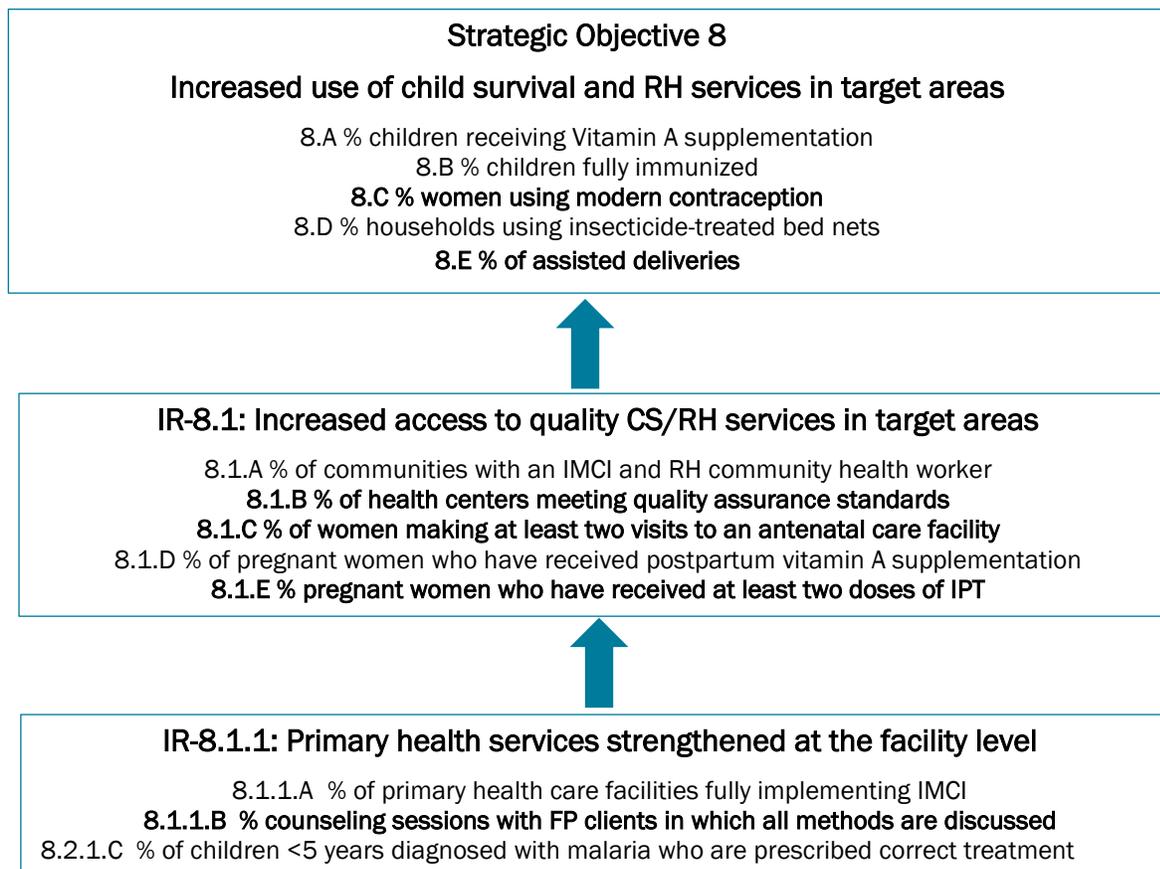
Specifically, MCHIP has provided technical assistance to improve the quality of maternal and child health (MCH) services with an emphasis on Essential Maternal and Newborn Care (EMNC) and basic EmONC, including malaria in pregnancy (MIP) and PPFP. MCHIP has worked at the central level to advance MCH/RH policies, strategies, guidelines and protocols and has supported implementation in key facilities to improve the quality and efficiency of services of two MOH priority MNCH programs, MMI and CECAP. These initiatives are included in the project's Results Framework (Figure 1) under program intermediate result (PIR) 1. MCHIP also strengthened human resources through training (PIR2) and improved the quality of the MOH's service delivery through support for the development of integrated service delivery and in-service training packages (PIR3).

Figure 1: MCHIP Mozambique Results Framework



Each of MCHIP Mozambique's PIRs contributes to USAID Mozambique's Strategic Objective 8 (SO8), "Increased use of child survival and reproductive health services in target areas by directly strengthening and supporting health systems at the central level and lower levels." Figure 2 depicts part of USAID Mozambique's SO8 from the PMP in place at the time of initiation of the project. MCHIP works to achieve IR1.1; SO8 indicators relevant to MCHIP Mozambique activities are shown in bold.

Figure 2: USAID Mozambique Results Framework - Strategic Objective 8



MCHIP/Mozambique Implementation Strategies

The MCHIP/Mozambique team underpinned its work in supporting improved service delivery by also providing assistance to the MOH to develop, update and disseminate RH/family planning (FP) and MCH policies, strategies and plans. Participatory approaches were employed to guide and promote discussion with MOH staff and partners, including the World Health Organization (WHO), United Nations Children's Fund (UNICEF), United Nations Population Fund (UNFPA), Population Services International (PSI) and the International Center for AIDS Care and Treatment (ICAP). One of the first tasks of the MCHIP team was to support the MOH in the development and launch of the National Plan for Quality Improvement and Humanization of Health Care and Model Maternity Initiative in July 2009. MCHIP helped develop a tool to measure the quality of service provision, with quality standards for nine key areas (humanized management of MNCH services; information, monitoring and evaluation; human resources, infrastructure and equipment; humanization of work environment and safety; health education and community participation and involvement; prenatal and postnatal care for the woman and newborn; humanized assistance during labor, delivery and postpartum; newborn resuscitation and care of major obstetric complications; and teaching). The standards were developed and validated by a multidisciplinary group from July to September 2009. MNCH quality standards were instrumental in promoting leadership by the MOH and helping

coordinate efforts of partners for common goals. Issues such as humanized birth, active management of the third stage of labor (AMTSL), skin-to-skin contact between mother and newborn, immediate breastfeeding, immediate PPF and the humanistic approach in teaching health professionals gained improved visibility through these efforts.

MCHIP has worked in conjunction with the MOH and other partners to develop, update and disseminate a total of 16 policies and strategies. These include the National Plan for the Humanization of Healthcare (which includes the MMI); the Plan for Expansion and Strengthening of the National Cervical and Breast Cancer Screening and Treatment Program; the National Strategy and Guidelines for Family Planning; the Plan for Expansion and Strengthening of the National Cervical and Breast Cancer Screening and Treatment Program; Guidelines for Maternal and Neonatal Audit Committees; Guidelines for Integrated Supervision of MCH and RH/FP services; Monitoring and Evaluation Guidelines for Model Maternities; and Technical Quality Standards to Improve the Quality of VIA, Cryotherapy, Colposcopy and LEEP Services (See Annex A, indicator 1.4, for a complete list). An example of how the MCHIP team collaborated with the MOH to update policies and guidelines is the new National Family Planning Strategy, launched by the MOH in November 2010. The strategy includes evidence-based practices and RH/FP interventions proven to be of high impact, as well as an M&E framework and detailed budget. It provides guidance on priority interventions in RH/FP, aiming to increase the use of contraception and FP services from 14% in 2003 to 25% in 2014. FP guidelines, including protocols, were drafted by a consultant hired by the MOH and subsequently the MCHIP team was invited to finalize them. The MCHIP team later recognized the need to strengthen the integration of RH/FP services and care at the point of service delivery and suggested the MOH develop RH guidelines that include FP and contraception, management of infertility, management of cervical and breast cancer, management of sexually transmitted infections (STIs) including HIV, management of sexual assault cases and HIV post-exposure prophylaxis. The MOH then charged the MCHIP team with finalizing these RH integrated guidelines to submit to MOH for final discussion and approval.

In addition to supporting the MOH in developing its RH/FP and MNCH policies, MCHIP worked to translate and adapt Jhpiego's RH/MNCH teaching materials and ensure their adoption by MOH managers and cadres to conduct RH/MNCH training. In close collaboration with the MOH and Provincial Health Directorates, MCHIP guided the selection and assured participation of RH/FP and MNCH professionals with appropriate skills in cascade training activities (national, regional and provincial), and provided financial support as well.

| KEY OUTCOMES IN FACILITIES SUPPORTED BY MCHIP | | | |
|--|----------|--------|----------|
| Indicator | Baseline | Target | Achieved |
| MMI (34 facilities)* | | | |
| % births with partograph complete & correct | 0 | 50% | 37.9% |
| % births with AMTSL use | 0 | 50% | 78.4% |
| % women with pre-eclampsia/eclampsia (PE/E) treated with magnesium sulfate | <20% | 50% | 70.0% |
| % newborns with skin-to-skin contact | 0 | 50% | 76.8% |
| % newborns breastfed within 1 hour of birth | 0 | 50% | 77.3% |
| CECAP Program (17 facilities) | | | |
| No. women screened for cervical cancer | 0 | 3,000 | 8,506 |
| % women VIA+ treated same day (SVA rate) | 0 | N/A | 63.8% |
| No. women screened for breast cancer | 0 | N/A | 8,086 |
| * Endline figures are for last quarter of 2010 for the 27 facilities reporting | | | |

Results

Major Accomplishments

- Establishment and institutionalization of the MMI in 34 of the country's largest EmONC facilities, covering 21% of all institutional births nationwide (see Annex E for map of MMI facilities). Services are delivered by 416 skilled birth attendants trained in EMNC, Basic EmONC, PFP and quality improvement methodology. MMI has increased both quantity and quality of maternal and neonatal health services (see Table of MCHIP Key Outcomes). The plan under the MCHIP Associate Award is to support eight of these health facilities to become "Centers of Excellence" in EMNC and EmONC service provision and clinical training.
- Establishment of the country's first nationwide cancer prevention program (for cervical and breast cancer) in December 2009. These services are integrated with FP and RH services. Seventy-four health professionals working in 17 health facilities provide services using visual inspection with acetic acid (VIA) and cryotherapy. Six of these facilities are referral hospitals and also provide colposcopy, biopsy and treatment with the loop electrosurgical excision procedure (LEEP). As of the end of 2010, more than 8,500 women had received breast and cervical cancer screening nationwide (See Annex F for map of these facilities).
- National launch of a set of seven new data collection and reporting tools (logbooks and forms) for facility-based MNCH services, adapted to fit the MOH's concept of integrated and evidence-based MNCH service provision. Training was rolled out nationally at the end of 2010 and the system is currently being implemented in 19 of the 34 Model Maternity sites.
- Assistance in the development of 16 national MNCH strategies, norms, standards and guidelines. Chief among these is the overarching strategy document for integrated RH/FP/MCH services and in-service training packages, approved by the Minister of Health in December 2010.
- Incorporation of a client-centered (humanized)¹ approach to the care of laboring/delivering women and their newborns in the training curricula for health professionals; 30 trainers from 11 training institutes were trained in EMNC, EmONC, PFP and quality improvement methodology using a client-centered approach.
- Dissemination of experiences in MCHIP/Mozambique to a wider audience, through presentations at four international conferences (See Annex C for conferences and titles).

Description of Results by Program Intermediate Result (PIR)

PIR1: EMNC and Basic EmONC services strengthened, including PFP and key preventive MCH/RH and MIP services.

Accomplishments in this objective are broken down into the main components: MMI, CECAP and strengthening the health information system.

Model Maternities Initiative (MMI)

One of the MOH's major priorities was the establishment of the national MMI, which uses an approach that:

- Centers on the individual

¹ This approach includes choice of birth position, allowing a birth companion, encouraging ambulation, and limiting use of non-evidence-based interventions such as routine episiotomy and limitation of food/fluids during labor.

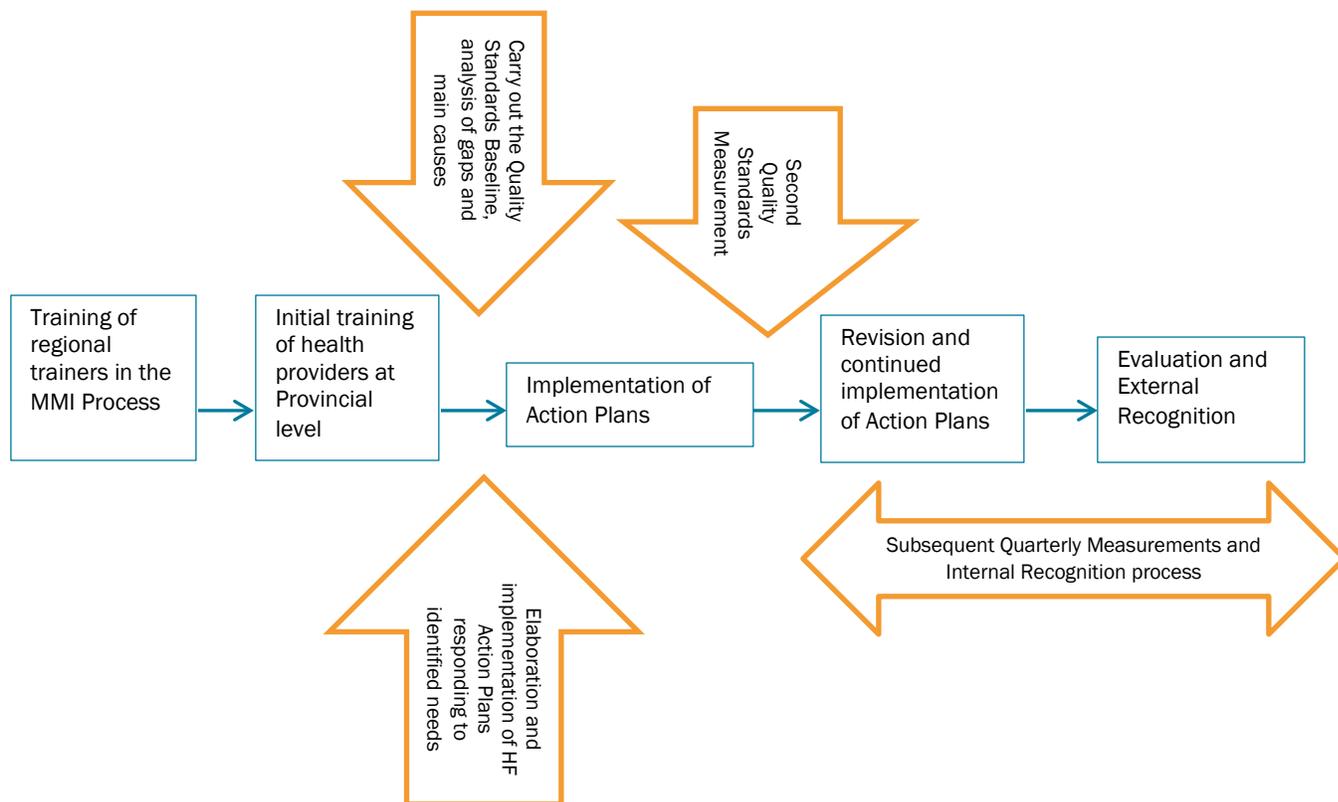
- Emphasizes the fundamental rights of the mother, newborn and families
- Promotes birthing practices that recognize women’s preferences and needs
- Focuses on client-centered humanized care and scaling up high-impact interventions

With assistance from MCHIP, the MOH established and institutionalized the MMI in 34 of the country’s largest EmONC facilities (see table below), covering 21% of all institutional births nationwide. Services are provided by 416 skilled birth attendants, trained in EMNC, EmONC, PFPF and quality improvement methodology.

Table 1: 34 Health Facilities included in Model Maternities Initiative

| PROVINCE | HEALTH FACILITY |
|-----------------|---|
| Maputo City | Maputo Central Hospital Jose Macamo General Hospital Mavalane General Hospital Chamanculo General Hospital |
| Sofala | Beira Central Hospital Buzi Rural Hospital Macurrungo Health Center |
| Nampula | Nampula Central Hospital Monapo Rural Hospital Nacala Porto General Hospital |
| Maputo Province | Manhica Health Center Matola II Health Center Boane Health Center |
| Manica | Chimoio Provincial Hospital Catandica Rural Hospital 1st of May Health Center |
| Niassa | Lichinga Provincial Hospital Cuamba Rural Hospital Chihualua Health Center |
| Gaza | Xai Xai Provincial Hospital Manjacaze Rural Hospital Chicumbane Rural Hospital |
| Tete | Tete Provincial Hospital Songo Rural Hospital Matundo Health Center |
| Cabo Delgado | Pemba Provincial Hospital Montepuez Rural Hospital Natite Health Center |
| Inhambane | Inhambane Provincial Hospital Chicunque Rural Hospital Homoine Health Center |
| Zambezia | Quelimane Provincial Hospital Mocuba Rural Hospital Gurue Rural Hospital |

Figure 3: Process for Implementation of the Model Maternities Initiative



The MMI uses a Jhpiego-developed quality improvement approach called Standards Based Management and Recognition (SBM-R), shown in Figure 3. Internal assessments are done on a quarterly basis. More complete self-assessments are done by an internal quality improvement committee, established to monitor progress and compliance with process standards. Results from assessments are shown in Table 2, documenting the progress that participating health facilities have made in increasing the quality of maternal and newborn health services. Half of the facilities (17) have done their follow-up assessment, and of these, 10 have met the target of improving standards more than 50% above the baseline value (shaded in green).

Table 2: Results of the baseline and follow-up self-assessments, by health facility
 (follow-up results in shaded cells represent follow-up assessments that reached the target of > 50% above baseline assessment score)

| PROVINCE | HEALTH FACILITY | BASELINE (JANUARY - JUNE 2010) | | | FOLLOW-UP ASSESSMENT (SEPTEMBER - DECEMBER 2010) | | |
|-----------------|-------------------------------|-----------------------------------|--------------------|------|---|--------------------|------|
| | | STANDARDS ASSESSED | STANDARDS ATTAINED | | STANDARDS ASSESSED | STANDARDS ATTAINED | |
| | | No. | No. | % | No. | No. | % |
| Maputo City | Maputo Central Hospital | 73 | 11 | 15.1 | 76 | 34 | 44.7 |
| | José Macamo General Hospital | 77 | 19 | 24.7 | | | |
| | Mavalane General Hospital | 65 | 5 | 7.7 | | | |
| | Chamanculo General Hospital | 69 | 15 | 22.2 | 77 | 29 | 37.7 |
| Maputo Province | Manhiça Health Center | 77 | 29 | 28.7 | | | |
| | Matola II Health Center | 77 | 21 | 27.0 | | | |
| | Boane Health Center | 77 | 35 | 49.5 | | | |
| Gaza | Xai Xai Provincial Hospital | 61 | 15 | 24.6 | 59 | 22 | 37.3 |
| | Manjacaze Rural Hospital | 77 | 32 | 41.6 | | | |
| | Chicumbane Rural Hospital | 66 | 20 | 30.3 | | | |
| Inhambane | Inhambane Provincial Hospital | 44 | 8 | 18.2 | | | |
| | Chicuque Rural Hospital | 39 | 6 | 15.4 | | | |
| | Homoine Health Center | 77 | 29 | 37.7 | | | |
| Sofala | Beira Cental Hospital | 66 | 12 | 18.2 | 65 | 34 | 52.3 |
| | Buzi Rural Hospital | 42 | 16 | 38.1 | | | |
| | Macurrungo Health Center | 72 | 24 | 33.3 | 75 | 45 | 60.0 |
| Manica | Chimoio Provincial Hospital | 60 | 19 | 31.7 | | | |
| | 1st of May Health Center | 79 | 14 | 17.7 | | | |
| | Catandica Rural Hospital | 79 | 10 | 12.7 | | | |
| Tete | Tete Provincial Hospital | 65 | 16 | 24.6 | | | |
| | Songo Rural Hospital | 74 | 22 | 29.7 | | | |
| | Matundo Health Center | 76 | 27 | 35.5 | | | |

| PROVINCE | HEALTH FACILITY | BASELINE (JANUARY - JUNE 2010) | | | FOLLOW-UP ASSESSMENT (SEPTEMBER - DECEMBER 2010) | | |
|--------------|--------------------------------|-----------------------------------|--------------------|------|---|--------------------|------|
| | | STANDARDS ASSESSED | STANDARDS ATTAINED | | STANDARDS ASSESSED | STANDARDS ATTAINED | |
| | | No. | No. | % | No. | No. | % |
| Zambézia | Quelimane Provincial Hospital | 73 | 58 | 79.5 | 63 | 49 | 77.8 |
| | Mocuba Rural Hospital | 76 | 42 | 55.3 | 79 | 34 | 43.0 |
| | Gurué Rural Hospital | 75 | 27 | 36.0 | 79 | 51 | 64.6 |
| Nampula | Nampula Central Hospital* | 62 | 18 | 29.0 | 63 | 33 | 52.4 |
| | Monapo Rural Hospital* | 70 | 21 | 30.0 | 59 | 45 | 76.3 |
| | Nacala Porto General Hospital* | 74 | 31 | 41.9 | 48 | 26 | 54.2 |
| Niassa | Lichinga Provincial Hospital | 62 | 22 | 35.5 | 65 | 27 | 41.5 |
| | Cuamba Rural Hospital | 62 | 24 | 38.7 | 62 | 23 | 37.1 |
| | Chihualua Health Center | 57 | 11 | 19.3 | 48 | 9 | 18.8 |
| Cabo Delgado | Pemba Provincial Hospital | 56 | 13 | 23.2 | 79 | 47 | 59.5 |
| | Montepuez Rural Hospital | 73 | 18 | 24.7 | 66 | 21 | 31.8 |
| | Natite Health Center | 72 | 10 | 13.9 | 79 | 53 | 67.1 |

* initial evaluation redone, June 2010

MMI facilities track results-oriented indicators of the quality of service delivery on a monthly basis. This has recently been institutionalized in the MOH's own information system with training on a new set of registers at the end of last year. All five quality indicators for interventions with high impact on maternal and newborn mortality showed dramatic improvement and targets were exceeded for four of these five indicators. The following figures are for the last quarter of 2010, with comparisons to baseline and target figures:

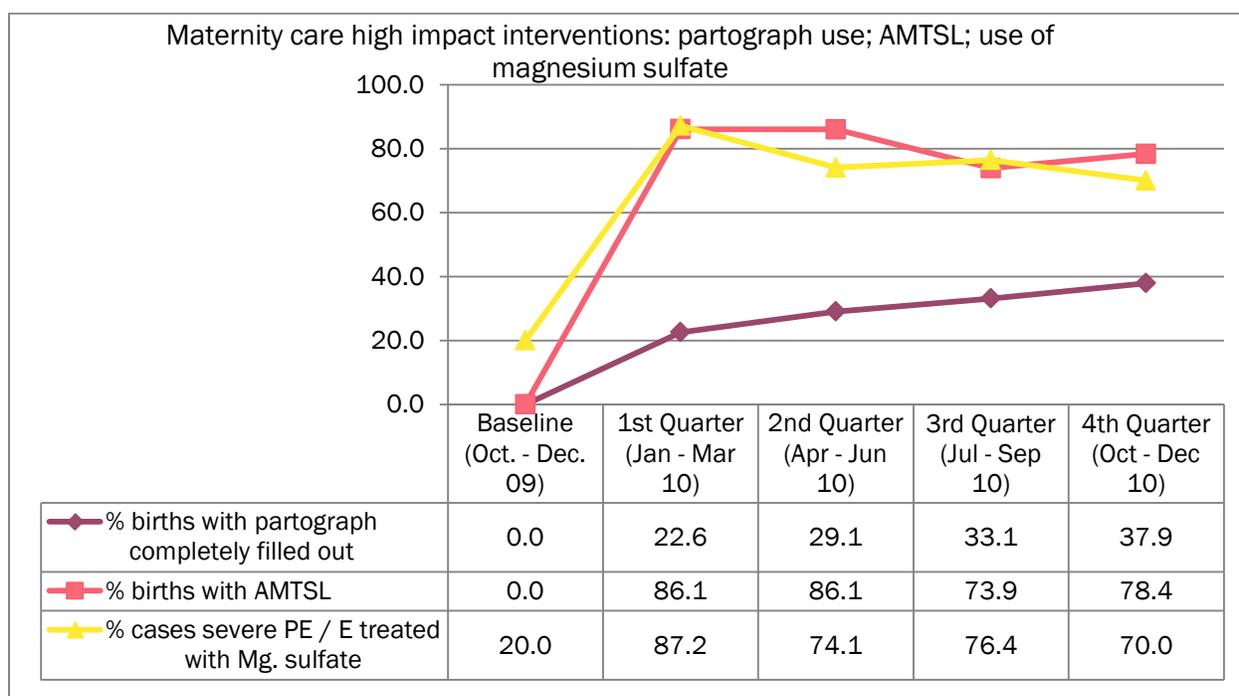
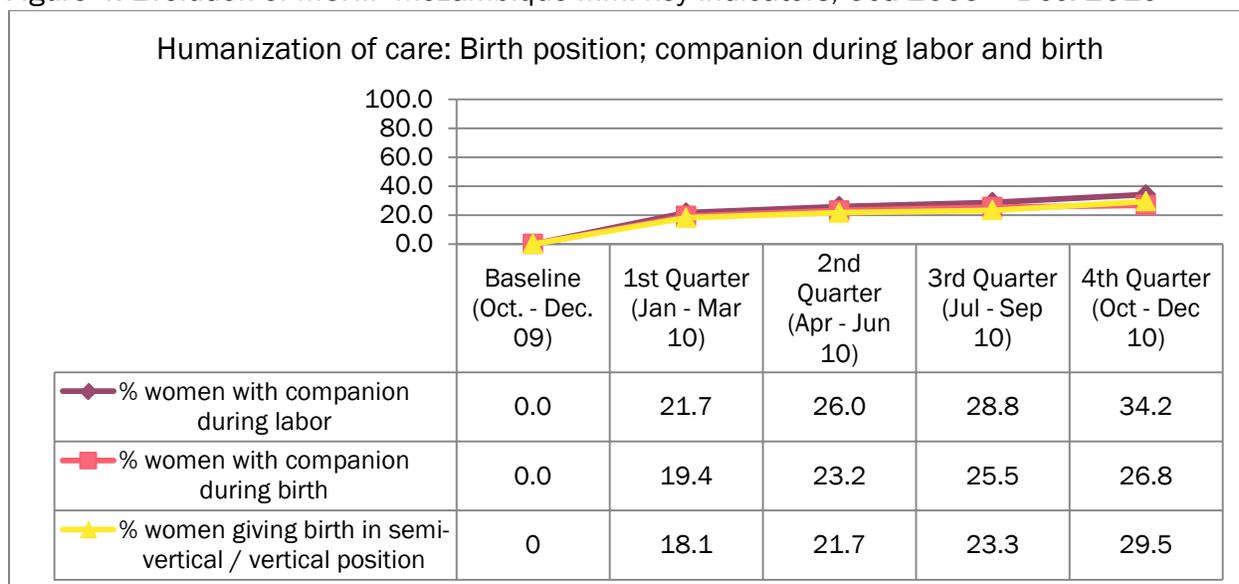
| | |
|---|-------------------------|
| 78.4% of births with AMTSL use | (BL = 0%; Target = 50%) |
| 70.0% of women with PE/E treated with magnesium sulfate | (BL <20%; Target = 50%) |
| 37.9% of births with complete partograph | (BL = 0%; Target = 50%) |
| 76.8% of newborns with skin-to-skin contact | (BL = 0%; Target = 50%) |
| 77.3% of newborns breastfed within one hour of birth | (BL = 0%; Target = 50%) |

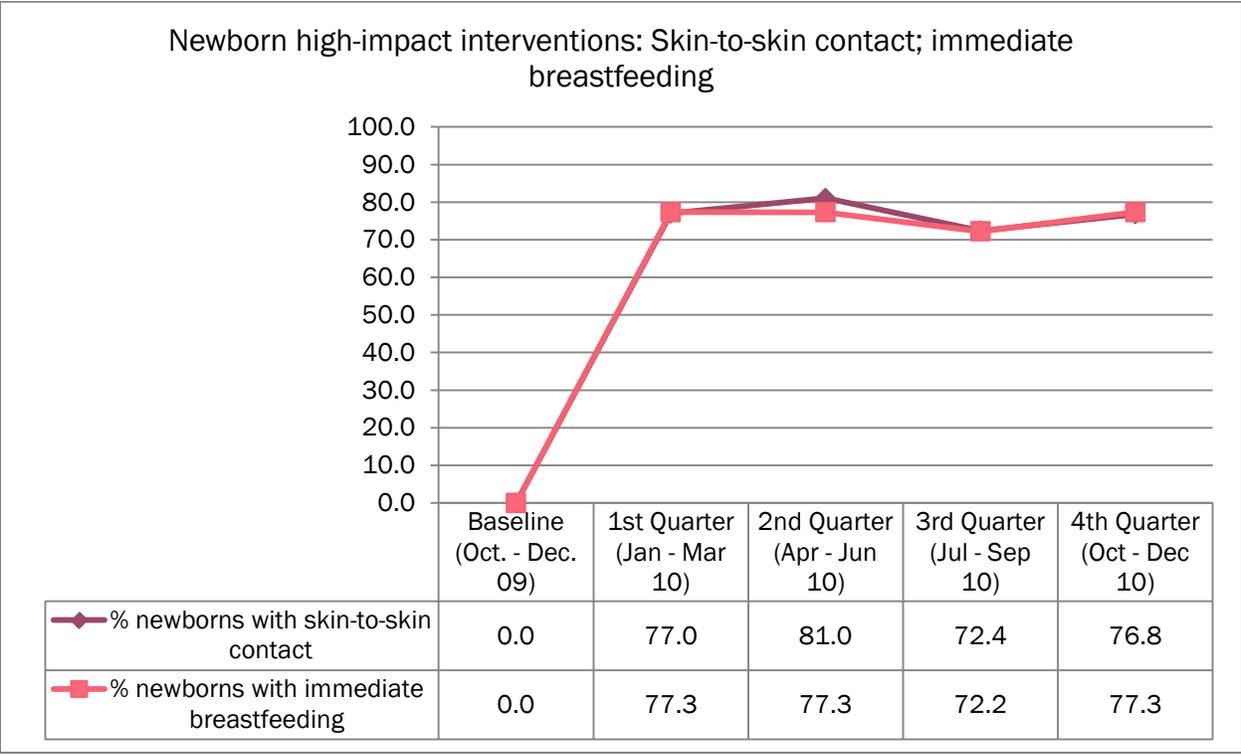
Results for the humanization of care have been less dramatic, but also have improved significantly over baseline. This is especially impressive given the physical limitations of some of the facilities, which are crowded, do not have sufficient space to give privacy and lack special beds or equipment for birth positions other than the standard dorsal lithotomy position:

| | |
|---|----------------------|
| 34.2% women with companion during labor | (BL = 0%; No target) |
| 26.8% women with companion during birth | (BL = 0%; No target) |

29.5% women giving birth in vertical/semi-vertical position (BL = 0%; No target)
 Figure 4 shows how quickly these improvements were achieved and how the gains have been maintained.

Figure 4: Evolution of MCHIP Mozambique MMI key indicators, Oct. 2009 – Dec. 2010





Cervical and Breast Cancer Prevention Program (CECAP)

Since June 2009, MCHIP has supported the MOH in the implementation of CECAP. The first step was the establishment of the lead technical team consisting of personnel from the MOH and partners. This team discussed the outlines of the strategy for implementing the program. Under the leadership of MCHIP the group opted for the Single Visit Approach (SVA), using VIA and treatment of identified limited cervical lesions with cryotherapy and more extensive lesions with LEEP. MCHIP also participated in the development of national norms for the prevention and control of breast and cervical cancer and development of relevant information, education and communication materials. MCHIP assisted in the selection and procurement of equipment for cryotherapy, LEEP and colposcopy, as well as the selection of the health facilities. The MOH officially launched the program in December 2009 in the provinces of Maputo, Sofala and Nampula. During the process of the initial implementation of the program, MCHIP gave technical support for the first national training in VIA and cryotherapy in February 2010.

Currently, the program is being implemented in 17 health facilities (11 basic and six referral sites) and has trained 74 health professionals who provide services according to the new national standards. By the end of 2010, a total of 8,506 women had been screened. Of these, 472 (5.6%) were positive for pre-cancerous cervical lesions, and 301 (63.8%) received treatment for their lesions on the same day. Ninety-five percent (8,086) were also screened for breast cancer with a clinical breast examination and taught to perform self-examination. Seventy-four of them (0.9%) had abnormalities found. All were successfully referred for follow-up.

Table 3: Selected Cervical and Breast Cancer screening service indicators (Jan. – Dec. 2010)

| INDICATOR | BASELINE | TARGET | ACHIEVED |
|--|----------|--------|----------|
| Screening for cervical cancer | | | |
| No. health care facilities | 0 | 11 | 17 |
| No. women screened for cervical cancer | 0 | 3,000 | 8,506 |
| No. women positive for pre-cancerous cervical lesions | 0 | | 472 |
| % women positive for pre-cancerous cervical lesions | 0 | | 5.6% |
| % women with pre-cancerous cervical lesions receiving same-day treatment | 0 | | 63.8% |
| No. women referred for lesion >75% | 0 | | 13 |
| No. women referred for lesion suspicious of cancer | 0 | | 48 |
| No. women referred for other reasons | 0 | | 549 |
| Screening for breast cancer | | | |
| No. women screened for breast cancer | 0 | | 8,086 |
| No. women with abnormalities found | 0 | | 74 |
| % women with abnormalities found | 0 | | 0.9% |
| % women with abnormalities successfully referred | 0 | | 100% |

Strengthen Health Information System

Jointly with the MOH, MCHIP carried out an assessment of the National MCH Integrated Plan to Achieve MDGs 4 and 5 during its first year of implementation. The final version was approved by the MOH. The strategy for improving the health information system has been to make it more integrated and responsive to reporting on key evidence-based practices for MNCH. After helping the MOH to develop a set of seven new routine monitoring tools, MCHIP assisted the MOH in its national rollout of this new reporting system. The new system includes indicators for high-impact interventions such as AMTSL, use of magnesium sulfate and immediate breastfeeding. Planning and statistical technical staff, as well as MCH Chief Nurses at the central, provincial and district levels, were trained on recently updated tools and forms in three regional Training of Trainer workshops that included personnel from all 11 provinces and all 128 districts. The new system is currently in use in 19 of the 34 Model Maternity facilities.

PIR2: Integrated EMNC and EmONC curriculum strengthened in all MOH training institutions for MCH mid-level nurses.

Much of the groundwork has been laid for updating of pre-service curricula in the national and provincial training institutes. Because of academic schedules, this has not yet been rolled out, but will be under the Associate Award.

The MOH National Department of Training, together with MCHIP and other partners, created a technical group for pre-service MCH curriculum revision. Technical support was provided for a literature review on the needed elements of knowledge and the development of the thematic curriculum contents. The technical group also defined the updated competence-based professional profile for MCH nurses. New subjects like cervical and breast cancer, SVA for

cervical cancer screening and treatment, updated contraceptive eligibility criteria, humanized care during childbirth, and school health have been integrated in a modular competency-based training structure.

MCHIP initiated discussions with the Higher Health Sciences Institute (ISCISA) concerning MCHIP support for the pre-service training of health professionals. An agreement was reached with ISCISA that they will prepare a proposal for inclusion in the Associate Award that takes into account the results of a needs assessment they are currently carrying out. This needs assessment is examining needs for written teaching materials, anatomical models and other equipment, as well as specific numbers of staff in need of updated skills.

PIR3: Development of a modular, integrated in-service training package for MCH/RH services.

MCHIP supported the development of the overarching strategy document for integrated services and in-service training packages approved by the Minister of Health in December 2010. The document includes the most relevant topics that need to be addressed to ensure quality RH, as well as MNCH services. The MOH formed working groups to develop the training materials and manuals for six integrated service delivery modules. Each working group is led by an MOH official and includes members from key partners. The specific norms and protocols for integrated service delivery are now being developed. The integrated service packages are defined for all levels of the health system, from the community to the various facility levels. They describe the key effective interventions across the continuum of care through the pre-pregnancy period, pregnancy, childbirth, the postpartum period, newborn period, childhood and adolescence. Guidelines for antenatal care, postpartum care, postabortion care, postnatal care, FP, cervical and breast cancer prevention, STI treatment, sexual violence and post-exposure prophylaxis are currently being revised.

Currently, groups are working on collecting and organizing background reference documents. After the November 2010 workshop to develop MNCH integrated services and in-service training packages, and in keeping with the theme of integration, the MOH agreed to change one of the MNCH modules from the narrower concept of “family planning” to a broader and more integrated concept of “reproductive health,” comprising FP, infertility, postabortion care, screening and treatment of cervical and breast cancer, STIs and care for rape survivors, including HIV prophylaxis. MCHIP is also involved with the MOH and other partners in developing a protocol for a pilot study to test and measure changes in the functioning of integrated MNCH services in six selected health facilities, as well as to test the effects on the efficacy of service delivery.

LESSONS LEARNED AND WAY FORWARD IN MCHIP ASSOCIATE AWARD

- Progress in both the MMI and CECAP has required a comprehensive approach that includes strengthening the leadership capacity of the MOH at the national level, partnership with other development organizations, practical training experiences for health care providers, donation of key equipment and supplies and improvement of the supervision system. The philosophy of this comprehensive approach was followed in the planning of the Associate Award.
- Balanced improvement along the continuum of preventive and curative services is essential. In the Associate Award, MMI will expand activities to include community-based interventions and CECAP will proportionally increase basic and referral facility capacity.
- Supportive supervision is a critical component in all programming to ensure measurement of progress and ongoing improvement. As the MMI and CECAP initiatives expand, maintaining and improving the strength of the supervisory system will be critical. Hiring key points of contact in each of the provinces will strengthen the supervisory system.
- In terms of targets for quality service delivery, use of the partograph is the only one that has not been met. The reasons for this will be investigated and a specific plan for improvement developed during the Associate Award.
- To improve the humanization of labor and delivery care, the infrastructure of some maternities is a limiting factor and some improvements in key facilities will need to be made under the Associate Award.
- To ensure continued progress, gains made already must be maintained. This is concretely illustrated by the need for preventive maintenance of equipment for cryotherapy, colposcopy and LEEP. The process of training provincial technicians in maintenance/repair of equipment has begun in the CECAP program and will become more critical during the MOH's expansion to additional sites.
- One of the best ways to institutionalize progress is through a supportive national system for both pre-service and in-service training. Progress will be slow for pre-service training because of the need to fit with the schedule for curriculum review and the academic year. The Associate Award will have more time to make progress in this area. In terms of in-service training, a pilot study on the feasibility and efficacy of the new integrated service/training package is scheduled for later in 2011 with planned support from the Associate Award.

ANNEX A: MCHIP MOZAMBIQUE M&E FRAMEWORK

| INDICATOR | BASELINE (May 2009 unless noted) | TARGET (November 2010) | ACHIEVED (last quarter 2010 for figures that are not cumulative) | NOTES |
|--|--|------------------------------|--|--|
| <i>Objective 1: Strengthen EMNC and EmONC services, including PFP and MIP, in selected health care facilities in all provinces, as well as key integrated MCH/RH services in selected healthcare facilities in selected provinces.</i> | | | | |
| 1.1: Number of EMNC, EmONC and RH in-service training materials updated/adapted and printed | 0 | 4 | 5 | Integrated Training Guidelines for: <ul style="list-style-type: none"> • Antenatal, postnatal and newborn care • Normal delivery and emergency obstetric care • RH/FP • CECAP referral guidelines • Quality standards for VIA, cryotherapy, LEEP and colposcopy |
| 1.2: Number of training centers, maternities or MOH pre-service institutions with upgraded classroom, learning lab materials and/or resources | 0 | 3 | 11 | All 11 training centers in the country have training resources, including the new, updated pre-service MCH nurses curriculum. There are also 34 Model Maternities with training resources (guidelines and standards) functioning as the “training field.” |
| 1.3: Number of Maternal and Neonatal Mortality Committees established or strengthened at target healthcare facilities | 0 | 3 | 34 | Each health facility implementing MMI has established a Maternal and Neonatal Mortality Committee. Reported frequency of meetings ranges from two to four per year. |

| INDICATOR | BASELINE (May 2009 unless noted) | TARGET (November 2010) | ACHIEVED (last quarter 2010 for figures that are not cumulative) | NOTES |
|---|--|------------------------------|--|---|
| <p>1.4: Number of improvements to laws, policies, regulations or guidelines related to improved access to and use of health services drafted or changed with USG support</p> | 0 | 9 | 16 | <p>1) National Strategy and guidelines for Family Planning; 2) Guidelines for Integrated Supervision for MCH and RH/FP; 3) National Plan for Strengthening and Scale-up of Cervical and Breast Cancer Services; 4) Plan for Strengthening the M&E system of the National Directorate of Public Health; 5) Child Health Card and Guidelines; 6) Guidelines for Maintenance of Equipment for Colposcopy, VIA, Cryotherapy and LEEP Services; 7) Guidelines for Audit Committees for Maternal and Neonatal Deaths; 8) National Guidelines for Breast Cancer Screening; 9) Quality Standards for Colposcopy, VIA, cryotherapy and LEEP Services; 10) Guidelines for National Training Curricula for Nurses; 11) Guidelines for Integrated Service Delivery and Training for MNCH and SRH; 12) Integrated MCH Training Package; 13) Integrated Training Guidelines for Antenatal, Postnatal and Newborn Care, 14) Normal Delivery and Emergency Obstetric Care, 15) FP/RH, 16) Cervical and Breast Cancer Referral Services.</p> |
| <p>1.5: Number of people trained in maternal and/or newborn health and nutrition care through USG-supported programs</p> | 0 | 90 | 416 MCH nurses and 29 trainers | <p>The achieved number includes health providers trained in MNH. This integrated training also included training on HIV/AIDS, malaria prevention and PFP.</p> |
| <p>1.6: Number of MCHIP-supported health facilities demonstrating improved compliance with clinical standards (i.e., quality of MNH services improved by >50% of baseline assessment value)</p> | 0 | 12 | 10 | <p>17 of the 34 Model Maternities did their follow-up evaluation; 10 improved by >50% above baseline score.</p> |

| INDICATOR | BASELINE (May 2009 unless noted) | TARGET (November 2010) | ACHIEVED (last quarter 2010 for figures that are not cumulative) | NOTES |
|---|--|------------------------------|--|--|
| 1.7: Percentage of pregnant women receiving at least two doses of IPTp in USG-assisted health facilities | 51% (Dec. 2009) | 70% | Data not yet available | Source is MOH Annual Report, which is not yet finalized. |
| 1.8: Annual number of deliveries with a skilled birth attendant in USG-assisted programs | 113,704 (Dec. 2009) | 127,803 | 127,156 | This refers to the number of deliveries reported to MOH from health facilities implementing MMI. Since seven of the 34 facilities did not report their service volume during 2010, this number is an estimate, using the technique of direct adjustment to adjust for under-reporting from these 7 facilities. |
| 1.9: Percentage of newborns with skin-to-skin contact immediately after birth | 0 | 50% | 76.8% | Data from routine health information system, gathered in facilities implementing MMI: 41,974 newborns from a total of 53,232 live births had skin-to-skin contact immediately after birth $(41,974/53,232)*100 = 78.9\%$. |
| 1.10: Percentage of newborns with immediate breast feeding | 0 | 50% | 77.3% | Data from routine health information system, gathered in facilities implementing MMI: 43,332 newborns from a total of 53,232 live births received early breastfeeding $(43,332/53,232)*100 = 81.4\%$. |
| 1.11: Percentage of women receiving AMTSL through USG-supported programs | 0 | 50% | 78.4% | Data from routine health information system, gathered in facilities implementing MMI: 34,670 women received AMTSL from 46,425 deliveries $(34,670/46,425)*100 = 74.7\%$ |
| 1.12: Percentage of deliveries with partograph completely filled out | 0% | 50% | 37.9% | Data from routine health information system, gathered in facilities implementing MMI: 15,052 partographs completely filled from a total of 46,425 deliveries. |
| 1.13: Percentage of HIV-positive pregnant women receiving ART | 45% | 60% | Not available | Source: MOH 2010 Annual Report, not yet available. |

| INDICATOR | BASELINE (May 2009 unless noted) | TARGET (November 2010) | ACHIEVED (last quarter 2010 for figures that are not cumulative) | NOTES |
|---|--|------------------------------|--|--|
| 1.14: Percentage of cases of severe PE/E treated with magnesium sulfate | <20% | 50% | 70.0% | Baseline is estimated based on number of institutions using magnesium sulfate at the time and distribution of cases of PE/E seen across the 34 facilities. End of project data from routine health information system, gathered in facilities implementing MMI: 1,017 of cases treated with magnesium sulfate from a total of 1,444 observed cases of severe PE/E. |
| 1.15: Number of people trained in RH/FP with USG funds | 0 | 29 | 318 | Target = 22 health workers + 7 supervisors. Achieved = Health workers in Model Maternities who received integrated training, including an FP/RH component. |
| 1.16: Number of health care facilities implementing cervical cancer screening and treatment activities based on SVA | 0 | 11 | 17 | Target = 7 primary + 4 referral. Achieved = 11 primary + 6 referral. |
| 1.17: Number of women attending health services who are screened for cervical cancer using VIA | 0 | 3,000 | 8,506 | |
| <i>Objective 2: Strengthen the EMNC and EmONC curriculum in an integrated manner in all MOH training institutions for MCH mid-level nurses.</i> | | | | |
| 2.1: Percentage of MOH training institutions with at least one faculty trained in EMNC and EmONC | 0 | 70% | 100% | Faculty are trained at all 11 provincial training institutions for nurse midwives. |
| 2.2: Number of training modules updated or adapted for pre-service education of MCH nurses/midwives | 0 | 1 | 4 | |
| 2.3: Percentage of training institutions that have implemented the updated EMNC and EmONC modules | 0 | 25% | 100% | This includes the 11 provincial training institutions for nurse midwives. |

| INDICATOR | BASELINE (May 2009 unless noted) | TARGET (November 2010) | ACHIEVED (last quarter 2010 for figures that are not cumulative) | NOTES |
|--|--|------------------------------|--|--|
| <i>Objective 3: Development of a modular, integrated training package for RH/MCH, focusing on measures that promote mother and child wellbeing, such as IPTp and use of ITN, among other key preventive interventions.</i> | | | | |
| 3.1: Number of integrated training modules developed for in-service training in RH/MCH | 0 | 3 | 0 | The overall integrated service package training strategy document is complete, as is the outline of each of the six packages, each consisting of several modules. Work groups have been formed and background documents collected for consultants to write the packages. Further work on the integrated training modules will be carried forward in the Associate Award. |

ANNEX B: SUCCESS STORIES

A Lesson for All: “One Nurse’s Quest to Not Lose Clients”



Nurse Carolina Eventina Rafael with colleagues

When 1st of May Health Center in Nampula was closed for renovations, nurse Carolina Eventina Rafael worried about how her clients would continue to receive the services they so desperately needed.

She and other health providers offering family planning services at the health center had been transferred to the nearby 25th of September Health Center. But this facility had already reached its maximum capacity to attend to clients for integrated family planning, cervical and breast cancer services. Carolina knew that unless efforts were made to provide these services, and in an integrated way, not only would lives be lost, but she and her colleagues wouldn't be doing the job they trained for and committed to do.

Carolina met with the head nurse for the city of Nampula and after presenting her case for the importance of reinforcing integration of family planning services with cervical and breast cancer screening services, they both agreed an alternative would have to be found. Both had recently been trained to screen for pre-cancerous cervical lesions by visual inspection of the cervix after applying acetic acid. They had also been trained to treat any suspected lesions they found with cryotherapy on the same visit. So it was decided that those clients coming from 1st of May Health Center would be referred to the nearby and

less busy Namicopo Health Center where these services would be provided.

During the course of the 11 months she worked at Namicopo Health Center, Carolina saw 2,483 women for family planning services and 480 of them were screened for cervical and breast cancer, an average of two clients per workday, which is the MOH norm and the same volume she had been screening before the renovation.

“By integrating these services, we simultaneously strengthened both the family planning program and the program for breast cancer and cervical cancer screening,” remarked Carolina. “We missed no opportunities, and we didn't lose any clients.”

Back at home in the newly renovated 1st of May Health Center, Carolina knows she and her colleagues did the right thing. She is now an ardent champion of integrating services where it makes sense, and knows that institutionalizing integration of breast and cervical cancer screening with family planning services is vitally important. She will continue her work to ensure this model is expanded to other health centers in Nampula Province. Carolina's quest continues.



A sign urging women to be screened for cervical cancer at the newly renovated 1st of May Health Center

Initiatives That Transform: “The Experience of Chamanculo General Hospital as a Model Maternity Facility”

Chamanculo General Hospital in Maputo is one of the busiest maternity wards in Mozambique. Housed in an old colonial building that is owned by the Catholic Church and known as the Swiss Mission, it is also an important clinical internship site for nurses in training, especially those in maternal and child health. In August 2009, two nurses at Chamanculo were trained through the Model Maternities Initiative. The goal of this initiative is to provide a humane, caring environment in which women give birth and maternal and newborn health care services are improved. The program encourages women to have a companion join them in the birth process, choose their birth position and initiate immediate breastfeeding and skin-to-skin contact between mother and child. During labor and delivery, birth attendants are supported to use active management of the third stage of labor a partogram to monitor labor and assist in decision-making.

Following their training, these two nurses returned and began the arduous task of putting into practice what they had learned. To implement one of the new principles they had learned—permitting someone to accompany the woman during labor and delivery—an immediate challenge they had to overcome was severely limited space. An average of 20 women a day were giving birth in the same labor and delivery ward that only years before had seen half this number and yet the outdated infrastructure remained the same. Open labor and delivery rooms allowed no chance for privacy even without a labor companion. So the Chief of the Maternity contacted the nongovernmental organization “Doctors Without Borders” and asked for their help in placing dividers in a room that had formerly only been used for laboring women. It was also decided that all beds in the ward should be used for the entire

process of labor and childbirth, rather than following the previous practice of having women labor in one room and deliver in another. Not only was this old process disruptive to women and their privacy, but it was deemed an inefficient use of already inadequate space. With this change, there was enough space for women to have a companion during labor and delivery.

At Chamanculo General Hospital, it didn't stop there. Since the initiation of the Model Maternities Initiative, the technical quality of services has improved as well, with a large increase in the use of active management of the third stage of labor, immediate breastfeeding and skin-to-skin contact between mothers and newborns. During the month of August, one year after the initial training, there were 509 live births at the facility. Whereas the year before no mothers had skin-to-skin contact with their babies, now 410 babies felt the warmth of their mothers. Of the 511 women who were attended in labor that same month, 501 or 95% received active management of the third stage of labor.

Chamanculo General Hospital continues to confront challenges in their quest to provide services that are not only respectful and compassionate but of high quality, but what a difference just one year can make.



Chamanculo General Hospital

ANNEX C: LIST OF ABSTRACTS PRESENTED AT INTERNATIONAL CONFERENCES

1. *Humanization of Childbirth: A Worthwhile Investment for Health Care Services, Professionals, Clients and Communities*, presented at the 18th Annual Congress on Women's Health Issues, Philadelphia, USA, 7–10 April 2010.
2. *Promoting a Humanistic and Quality Improvement Approach and Scaling Up High-Impact Interventions in Maternal and Neonatal Health in Mozambique*, presented at the Global Maternal Health Conference, New Delhi, India, 30 August–1 September 2010.
3. *Humanização e Melhoria da Qualidade de dos Serviços de Saúde Materna e Infantil em Moçambique: Avanços e Perspectivas (Humanization and Quality Improvement of Maternal and Child Health in Mozambique: Progress and Perspectives)*, presented at the Conferência Mundial da Humanização do Parto, Sao Paulo, Brazil, 26–30 November 2010.
4. *Improving the Quality of Maternal Health in Mozambique: Progress, Challenges, and Lessons Learned*, presented at the 138th Annual Meeting of the American Public Health Association, Denver, USA, 6–10 November 2010.

ANNEX D: MCHIP TECHNICAL STAFF AND CONSULTANTS

MOZAMBIQUE STAFF

| | |
|--------------------|---|
| Debora Bossemeyer | Chief of Party, July 2009 – July 2010 |
| Jim Ricca | Chief of Party, August 2010 – January 2011 |
| Veronica Reis | Chief Technical Officer, July 2009 – April 2010 |
| Maria da Luz Vaz | Chief Technical Officer, May 2010 – January 2011 |
| Humberto Muquingue | Senior HIS/M&E Advisor |
| Victor Muchanga | Monitoring and Evaluation Advisor |
| Isabel Nhatave | Senior Technical Advisor |
| Jorge Anez | Senior Technical Advisor, Reproductive Health |
| Natércia Fernandes | Senior Technical Advisor, Neonatal & Child Health |
| Eugenia Narciso | MCH Nursing Advisor |
| Celeste Sebastiao | MCH Nursing Advisor |
| Dulce Marrengule | Program Assistant |

HEADQUARTERS STAFF

| | |
|--------------------|--------------------------------------|
| Connie Lee | Jhpiego Senior Program Officer |
| Elizabeth Campbell | Jhpiego Senior Program Coordinator |
| Mary Drake | Monitoring and Evaluation Specialist |

SHORT-TERM CONSULTANTS

| | |
|----------------|--------------------------------|
| Edgar Necochea | SBM-R Senior Technical Advisor |
| Ricky Lu | CECAP Senior Technical Advisor |
| Marcos Ymayo | CECAP Training Advisor |
| Gloria Metcalf | MNH Training Advisor |

ANNEX E: MAP OF CURRENT AND PLANNED EXPANSION SITES FOR THE MODEL MATERNITIES INITIATIVE

HEALTH FACILITIES IMPLEMENTING MODEL MATERNITIES INITIATIVE IN 2010 AND SCALE-UP FOR 2011 - MOZAMBIQUE, 2011



