Introduction

As already reflected in the framework of the Health Sector Strategic Plan (2014-2019), Mozambique’s health system is composed of service delivery and support mechanisms whose purpose is to deliver satisfactory health care services. Critical to the quality of care is operational research to generate evidence and provide quality information to support informed decision-making at the Ministry of Health (MOH).

Building on the experiences and lessons learned during the first phase, the second phase of the Maternal and Child Health Integrated Program (MCHIP) Associate Award, 2011-2015, works in partnership with the MOH to deliver critical evidence-based health care interventions to improve the quality of maternal, newborn and child health (MNCH), reproductive health (RH) and family planning (FP) services implementation on a national scale and consequently reduce maternal, child and newborn morbidity and mortality.

The research implementation objectives of the project are encompassed in MCHIP Objective 1: Work with the MOH and all USG partners to create an enabling environment at national level to provide high-impact interventions for integrated MNCH/RH/FP services in the community and in health facilities.

Completed Research Initiatives

Quality and Humanization of Care Assessment: A Study of the Quality of Maternal and Newborn Care Delivered in Mozambique’s Model Maternities

MCHIP assisted the MOH with a health facility survey entitled, “Quality and Humanization of Care (QHC) in Model Maternity Facilities,” conducted from September to November 2011. Seventeen health facilities participating in the Model Maternity Initiative (MMI) and 29 health facilities not in the MMI were compared. Preliminary results were presented in November 2011 to the Deputy Director of the MOH’s National Public Health Directorate and the final report was completed in March 2013.

Objective

The primary purposes of this study was to: 1) determine the coverage and quality of interventions that address the direct causes of maternal and neonatal deaths; and 2) generate practical and evidence-based information to guide decision-making about improving the quality and humanization of facility-based MNCH services.

Selected Findings and Results

- Policies/practice guidelines, which cover all the key areas assessed, are in place: post-partum hemorrhage, pre-eclampsia/eclampsia, obstructed labor, essential newborn care, newborn resuscitation.
- Knowledge scores for routine labor and delivery care were high but mean scores for recognizing and managing specific complications, newborn care, and newborn sepsis were generally less than 40%. Approximately 35% of providers knew how to diagnose and treat bleeding associated with an atonic uterus and 34% knew how to diagnose and treat a retained placenta.
• With the exception of blood pressure cuffs and stethoscopes, key drugs, commodities and supplies were available.
• All facilities had partographs in stock. However, correct initiation of the partograph occurred 38% of the time (partographs were often filled out, but were incomplete and often filled out after delivery).
• In general, staff at non-MMI facilities performed less well than their counterparts at MMI facilities on antenatal care (ANC) counseling topics.
• The results of the study have been used by the MOH and MCHIP to highlight successes (e.g., almost universal use of oxytocin, and validation of the data being collected by facilities) and prioritize urgent needs for quality improvement (e.g., use of partograph, and readiness for emergencies, such as neonatal resuscitation) for maternal and newborn care and guide the MOH’s MMI expansion plan (2011-2014) and MNCH program at the national level.

Measuring Coverage in MNCH: Testing the Validity of Women’s Self-Report of Key Maternal and Newborn Health Interventions during the Peripartum Period in Mozambique

Nested within the Quality and Humanization of Care health facility survey, in 2012, MCHIP assisted the MOH in conducting the study entitled, “Measuring Coverage in MNCH: Testing the Validity of Women’s Self-Report of Key Maternal and Newborn Health Interventions during the Peripartum Period in Mozambique.” Of the 487 women whose births were observed and documented from September to November 2011, 304 were interviewed eight to ten months later in their homes regarding the care they received during labor, delivery, and the immediate post-partum period. Data from the follow-up interviews were compared against data from the observations, which served as the reference standard.

Objective
The objective of this study was to assess the validity of women’s self-reports of selected health facility–based, peripartum MNCH interventions in Mozambique. The validity of 34 indicators was tested in two complementary ways: (1) calculation of sensitivity and specificity, using the receiver operating characteristic (ROC) and the area under the curve (AUC) analysis; and (2) estimation of the inflation factor (IF), which is the ratio of the prevalence of these interventions that would be obtained from a population-based survey, given the sensitivity and specificity from this study and the indicator’s true prevalence.

Selected Findings and Results
• Women are able to report on some aspects of intra-partum care.
• Twenty seven indicators had sufficient numbers for robust analysis, of which 4 met acceptability criteria for both (AUC 0.6 and 0.75, IF1.25). These included: the newborn was placed skin-to-skin against the mother, the woman identified her place of birth as a hospital versus a health center, the woman was encouraged to have a companion during labor or birth, and a support person was present during labor or birth.
• Two of these indicators are considered high demand and were incorporated into the Demographic and Health Survey’s bank of indicators: presence of a support person during labor/delivery and placement of the newborn skin-to-skin against the mother. These two indicators have also been included within national MNCH norms and technical guidelines as part of the essential standards of care.
• An article on this study was published in May 2013 as a peer-reviewed paper in PLoS One.
Ongoing Research Initiatives

**Evaluation of a Postpartum Systematic Screening Tool in Maputo, Mozambique**

According to the Family Planning National Strategy (2010), the Government of Mozambique intends to increase the contraceptive prevalence rate from 14% in 2003 to 34% in 2015, annual coverage of new FP acceptors from 12.5% in 2008 to 20% in 2015, and met need for FP services from 47% in 2003 to 70% in 2015.

As part of an effort to address unmet need for FP, especially postpartum family planning (PPFP), beginning in August 2013, MCHIP in collaboration with the MOH, started piloting a postpartum systematic screening (PPSS) tool in three health facilities in Maputo City as part of an ongoing effort to integrate services for maternal and child health through referral from postnatal care, immunization and other relevant MCH services to FP. In May 2014, the study was expanded to an additional eight sites (four intervention and four control) in Nampula Province.

**Objective**

The objective of the study is to assess whether the use of the PPSS tool, and the referral/linked services process, increases the uptake of PPFP services among women in their first year after delivery.

**Results from Phase 1 of the Study**

- Baseline: There was no systematic screening and referral system from other MCH services to FP at either the pilot or expansion sites.
- Results from the initial pilot showed that 62% of women were referred to FP services from relevant MCH services and 90% of them received services in the same day.
- Monitoring data from the expansion phase has shown that 40-50% of new FP clients are referred from other MCH services through use of the PPSS tool.
- Effective communication among providers and clients seems to be a key factor associated with referral and service utilization.

**Upcoming Plans**

The implementation of the second phase of the study initiated was completed in FY15 Quarter 1. The baseline data collection, data entry, and analysis was also completed by the end of 2014. The final report for this second phase of the study will be available by February 2015. The results of the second phase of this study will have implications for the scalability of the intervention.

Report submission to MoH and stakeholders in March of 2015. The results of this evaluation will be important to inform the design of integrated MNCH services including FP in similar primary health care settings in Mozambique and beyond.

**Testing of Integrated Service Packages for Reproductive, Maternal, Neonatal, Child and Adolescent Health**

MCHIP is supporting the MOH to conduct formative research to monitor and evaluate the implementation of the Integrated Training and Services Packages for Reproductive, Maternal, Newborn, Child and Adolescent (RMNCA) Health. The program’s aim is to implement rapid quality improvement cycles (i.e., assess, identify, prioritize, plan, act, evaluate). A feasibility study that was conducted in Zambézia and Inhambane in 2012 was followed by formative research conducted over a six-month period to improve integration of RMNCA Health.

**Objective**

The objective of the study is to evaluate the general conditions and level of readiness at selected health facilities for implementing integrated MNCH services, taking into consideration opinions of key informants, conditions at different
levels of service provision and the level of client satisfaction with the provision of integrated facility-based MNCH and RH services.

Based on the findings of the first round of the study and related recommendations, MCHIP worked with the MOH to draft a proposed intervention for the study. The intervention being tested to determine its effect on improved integration of services includes the implementation of an Integrated MNCH Preventive Consultations Booking System. The study facilities (five in Zambézia and five in Inhambane) initiated the implementation of the appointment system in September 2013. From October 2013 to April 2014, MCHIP and the MOH conducted supervision visits to the study facilities to monitor the appointment system.

In May 2014, MCHIP conducted a training of data collectors, followed by fieldwork for the endline. A preliminary report was finalized by the end of 2014.

Results

- Results from September to December 2013 show a considerable increase in the proportion (60%) of clients with booked consultations (of total of consultations), particularly in Inhambane.
- The main challenge encountered is getting staff to allot client appointments for the entire official working day (7:30 – 15:30).

Upcoming Plans

The final report will be completed by February 2015. MCHIP will continue providing support to document, present and publish best practices, experiences, and lessons learned from the implementation of the Integrated In-Service Training and Services Package.

Community Study on Knowledge, Attitudes and Practices (KAP) Related to Care during pregnancy, birth, postpartum and care for newborns and children up to 2 years old in Gaza, Nampula and Tete Provinces, Mozambique

In addition to working towards the creation of a favorable national policy environment and strengthening the quality of care at health facilities around the country, MCHIP also seeks to build greater individual and community ownership, collective action for improved maternal, newborn and child health and promote behavior change through its community engagement component. To better understand the impact of MCHIP’s community work and the current status of reproductive health practices, MCHIP is supporting the MOH to conduct a community KAP study.

Objectives

The specific aim of the study is to determine the role of community mobilization in the utilization of ANC and maternity services (e.g., use of ANC, skilled birth attendance, use of malaria in pregnancy services, use of PMTCT services, etc.) and in promoting positive reproductive health behaviors.

During the first quarter of 2014, MCHIP received the authorization from the Maputo City Health Directorate to undertake the field test of the questionnaire in Catembe District. After conducting the field test and revising the questionnaire based on the observations and results of the field test, data collection was carried out in June 2014 in Gaza, Nampula and Tete provinces.

Data analysis and report writing was completed in September 2014, with the final report completed in October 2014.

Upcoming Plans

The report will be disseminated to the MOH and other interested stakeholders. Internally, MCHIP will use the report as an opportunity to assess its current community engagement approaches, synthesize lessons learned, and identify ways to incorporate lessons into the design of any future MNCH project in the country.