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# Strengthening Postpartum Family Planning (PPFP) and Maternal, Infant and Young Child Nutrition (MIYCN) Outcomes in Mara and Kagera, Tanzania A Multi-level Approach

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## Background

The National Road Map Strategic Plan to Improve Reproductive, Maternal, Newborn, Child & Adolescent Health in Tanzania (2016 - 2020): One Plan II (1), highlights key interventions for antenatal and postnatal care including breastfeeding, child spacing, immunization and maternal nutrition. The strategy provides guidance on interventions for community health workers (CHWs) and facility providers to strengthen family planning, exclusive breastfeeding (EBF), and complementary feeding for the health of both mother and infant. While the Government of Tanzania has prioritized maternal and child health at policy level, gaps in key nutrition and family planning indicators remain. Nationally, Tanzania experiences high total fertility (5.2), unmet need for family planning (22-24%), and a low contraceptive prevalence (32%). The Lake Zone, where Mara and Kagera regions are located, has the highest total fertility rate in the country, at 6.4 and modern contraceptive prevalence rates (mCPR) of 29% and 39% respectively. Lactational amenorrhea method (LAM) use, which relies on exclusive breastfeeding for up to six months postpartum, makes up a very small percentage of the contraceptive method mix (1.2% in Mara, 0.5% Kagera). Stunting, which is a sign of undernutrition over a long period of time, can be combated in the early stages of life by immediate and exclusive breastfeeding for 6 months. In Kagera, stunting rates are among the highest in the country at 42%, and early initiation of breastfeeding (EIBF) within one hour of birth is 55.7%, above the national rate at 51%. Although stunting rates in Mara (29%) are lower than in Kagera, early initiation of breastfeeding within the first hour of birth is only 30%. Median duration of exclusive breastfeeding in the Lake Zone is only 3.1 months (2).

## Key Results

- **Initiation of breastfeeding** within the 1<sup>st</sup> hour after birth as a proportion of births increased from 97% to 102% (5% increase) in Kagera and 104% to 136% (31% increase) in Mara\*
- **Exclusive Breastfeeding** prevalence reported at 6 weeks postpartum increased from 66% to 77% (a 17% increase) in Kagera and from 65% to 100% in Mara (a 54% increase)
- **Total family planning use** increased by 37% in Kagera and 11% Mara
- **PPFP use within 6 weeks** as a proportion of births increased from 22 to 31% in Kagera (a 45% increase) and from 51 to 58% in Mara (a 14% increase)
- **Among mothers using the LAM self-tracking tool**, 58.3% transitioned to another modern method by 6 months.

*\*Results exceed 100% due to community births being included in the numerator but not in the denominator. Deliveries not taking place at health facilities were frequently not documented due to inadequate time of health workers.*



## Rationale for integration

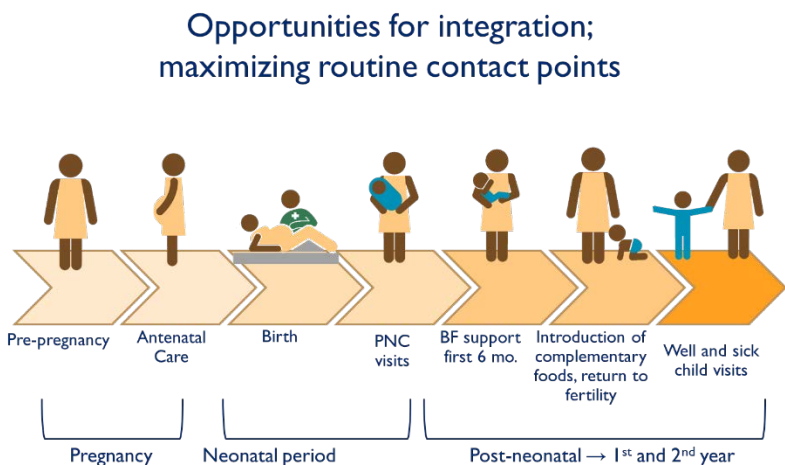
Postpartum family planning (PPFP) and maternal infant young child nutrition (MIYCN) practices and outcomes are interlinked. Short intervals between births and subsequent pregnancies contribute to child mortality, morbidity, and poor nutritional status (3). In addition, the likelihood of a child becoming stunted increases with decreasing birth spacing intervals. Suboptimal infant and young child feeding practices also contribute to stunting and other forms of malnutrition. Prolactal feeding, early introduction of first foods and liquids prior to the recommended 6 months of age and cultural barriers/perceptions regarding insufficiency of breastmilk can impede exclusive breastfeeding in the postpartum period and contribute to poor health outcomes. LAM relies on three criteria for its effective use: 1) exclusive breastfeeding; 2) amenorrhea; 3) child is less than 6 months of age.

Promotion of LAM as a contraceptive option offers a potential win-win for maternal and child health outcomes. LAM is a modern, cost-effective, temporary contraceptive method, for use

in the initial 6 months postpartum that is over 98% effective in preventing pregnancy when practiced correctly. Inclusion of LAM in the method mix expands women’s postpartum contraceptive options and can be a desirable “gateway” method that allows a woman time to consider her choice of another modern contraceptive method when one or more of the three LAM criteria no longer applies. Counseling on LAM presents an opportunity to reinforce links between exclusive breastfeeding and postpartum return to fecundity. Program experience from other countries demonstrates that integrated MIYCN and PPFP service delivery is feasible to implement and has led to improvements in service provision and uptake. Taking a “no missed opportunities” approach allows for maximizing health contact points to meet women’s and infants’ health needs more comprehensively.

## Focus of USAID’s Maternal and Child Survival Program (MCSP)

In Tanzania, MCSP worked to advance the government of Tanzania’s efforts to reduce maternal and child mortality. In consultation with the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDEGEC), MCSP Tanzania selected two regions of the Lake Zone – Kagera and Mara – as the primary focus for the Program’s work. In these two regions, MCSP worked with regional and district-level teams to improve the coverage, quality and sustainability of an integrated package of reproductive, maternal, newborn and child health interventions along the household to hospital continuum of care.



Embedded within MCSP’s broader work in Tanzania, this study was designed to assess whether a multi-level facility and community intervention to integrate MIYCN and PPFP within existing health contacts in Mara and Kagera contributed to improved service delivery as well as PPFP and MIYCN outcomes. The study was reviewed and approved by the local and JHU IRBs (National Institute of Medical Research in Tanzania and Johns Hopkins Bloomberg School of Public Health in the U.S.).

## Formative Research Findings

As part of the first phase of the study, MCSP conducted formative research to understand current PFP and MIYCN practices, perspectives, and opportunities to strengthen service provision. A published journal article documents the formative research findings comprehensively (3). Key results included:

- Timing of initiation of breastfeeding was often delayed for several hours or days and prelacteal feeding (giving a newborn food/liquids prior to initiation of breastfeeding) was common.
- Although families understood the importance of breastfeeding, mothers had difficulty maintaining exclusive breastfeeding due to work obligations, including farming.
- Perceptions of insufficient breast milk were linked to inadequate maternal nutrition. Breastmilk insufficiency was often addressed through early introduction of foods and liquids at 3–4 months of age.
- Mothers commonly believed that breastfeeding is protective against pregnancy, regardless of the frequency or duration of breastfeeding.
- There was a disconnect between the concept of “*breastfeeding for birth spacing*” and knowledge of LAM as a FP method. Study participants reported a distrust of LAM as an FP method, and health providers rarely counseled mothers and families on LAM among other methods.
- PFP use was low, and mothers often reported early return to sexual activity after childbirth. Joint decision-making on FP was cited as important, and most mothers indicated they discussed it with their partner.
- There is a need for multilayered interventions to: improve integrated service delivery of MIYCN and PFP; promote community and family support for exclusive breastfeeding alongside LAM and maternal nutrition during lactation; and incorporate cues to action for timely PFP uptake, LAM transition, and introduction of complementary foods.

Findings from this formative research study were used in the development of a package of facility and community interventions that MCSP implemented in collaboration with the government, to promote optimal MIYCN and FP practices in Mara and Kagera regions.

## Implementation Approach

### Geographic Scope

The intervention was implemented in three districts in Mara (Tarime DC, Rorya DC and Musoma DC) and 2 districts in Kagera region (Ngara DC and Misenyi DC) in 25 villages in Mara and 25 villages in Kagera region, where there is an active community health program, during the period of July 2017-June 2018. These villages are in the catchment area of MCSP-supported health facilities where the research was conducted. The intention was to test the approach on a small scale with the potential for further expansion pending positive results. Districts were selected from among the sites included in the formative assessment where there was CHW presence and which provide a range of cultural perspectives from the region. Districts were selected with guidance from the regional teams.

### Intervention Components

The implementation approach included activities at health facility and community levels in focus sites, as follows:

- **Engagement of Influential Community Members:** MCSP and MoH engaged and oriented influential community members including traditional leaders, community leaders, and influential older women from all the catchment area villages aiming to introduce the program and gain support for improved PFP and MIYCN outcomes in the community, in line with the program approach.

- **LAM Tracking & Follow-up:** CHWs were provided LAM tracking sheets to track women’s use of LAM and adherence to the three criteria in their catchment area. The tool facilitated CHWs to ask women about their breastfeeding and family planning practices, counsel women on maternal nutrition, monitor adherence to the LAM criteria on an ongoing basis, and provided a cue to action for providing an FP referral and advice on appropriate introduction of complementary foods before/when LAM criteria are no longer met. CHWs filled out the tracking forms during household visits. Women using LAM were informed about the opportunity to “*opt in*” to be contacted by CHWs to follow-up on LAM status at regular intervals through household visits.



- **Self-monitoring tool for LAM:** Women who chose to use LAM were given a self-monitoring tool by the CHW or facility provider. The tool helped women on a weekly basis, to track if the three LAM criteria were met. If not, this prompted women to return to the health facility for counseling on other family planning options. The tool has low-literacy, visually dynamic information addressing criteria for exclusive breastfeeding and return of menses.

- **LAM Song:** A LAM song was created to frame LAM as an appealing option, make the criteria more memorable, promote good maternal nutrition and reinforce the importance of *timely* transition. This song was aired on local radios (Bunda FM in Mara and Radio Kwizera in Kagera) and covered the implementation districts/catchment area. The airing of LAM song started in July 2017 to November 2018. The airing tracking mechanism was used to record hours and dates when the song was aired.



- **Job aids:** MCSP developed a LAM/EBF job aid to guide counseling by family planning providers at the health facility and CHWs, complementing existing government RMNCH materials. The two-sided job aid featured key information about LAM on one side, addresses context-specific barriers to exclusive breastfeeding and emphasizes adequate maternal nutrition. All CHWs received the LAM job aid as part of the working tool, and each implementing facility received their own copies of the LAM job aid.
- **Onsite training for health workers and CHWs:** A one-day refresher training guide on MIYCN and FP supported orientations of facility service providers and CHWs. The training addressed guidance on LAM, strategies for addressing barriers to exclusive breastfeeding, postpartum return to fecundity and importance of timely postpartum contraceptive uptake and introduction of complementary foods.
- **Monthly supportive supervision** to health care providers and CHWs reinforces contraceptive choice and importance of counseling on the range of FP options. Regular monthly supervision meetings gave opportunities to discuss achievements, challenges and way forward as far as LAM and MIYCN is concerned. Action plans were documented and followed up on during follow on supportive supervision visits.

## Evaluation Approach

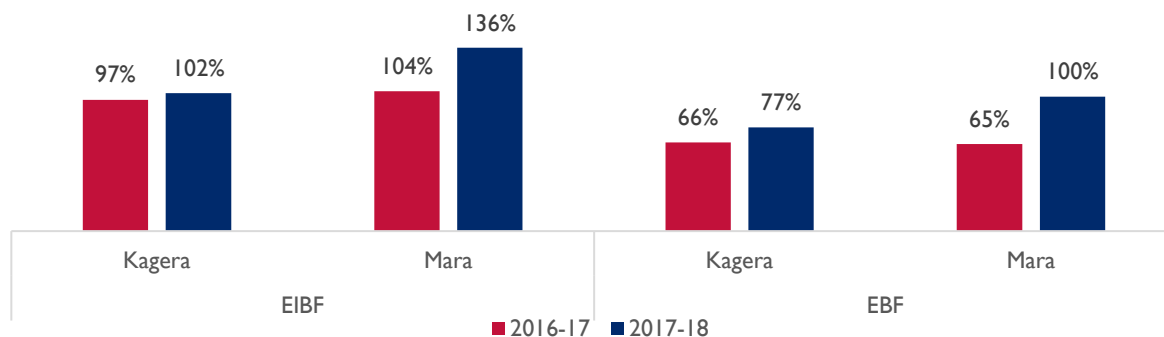
The endline evaluation used a mixed methods approach, including the following data sources:

- **MIYCN & PFP Service Data:** We collected data from DHIS2 and directly from service registers during supportive supervision for PFP uptake within the first 6 weeks postpartum, total family planning users (by method), initiation of breastfeeding within 1 hour of birth, and exclusive breastfeeding practices up to 6 weeks postpartum across implementation sites, comparing the implementation period to the same period of the previous year. Facilities with less than 75% completeness in the service data for each indicator for each month for the 12-month pre-implementation period and the 12-month implementation period were excluded from the analysis. Due to incomplete data, six facilities from Mara and seven facilities from Kagera were removed from analysis.
- **Client Exit Interviews:** We conducted exit interviews with a total of 193 clients during routine supervision visits. These interviews included questions regarding counseling and services received, MIYCN and PFP practices, and experience of care.
- **FGDs and IDIs with key informants:** We conducted 15 focus group discussions with community leaders (n=5), fathers of infants <1 year (n=5), and CHWs (n=5), and in-depth interviews with mothers of infants <1 year (current and former LAM users, users of other modern FP methods, and FP non-users) (n=40), grandmothers of infants <1 year (n=20), facility service providers (n=21), and district & regional managers (n=6).

## Results

Most nutrition and FP practices improved in both regions comparing the intervention period to the same period of the previous year (*Figures 1 & 2*).

**Figure 1. Percentage of women practicing early initiation of breastfeeding within one hour of birth and exclusive breastfeeding at 6 weeks postpartum, pre- and post-intervention<sup>1</sup>**



## Nutrition Outcomes

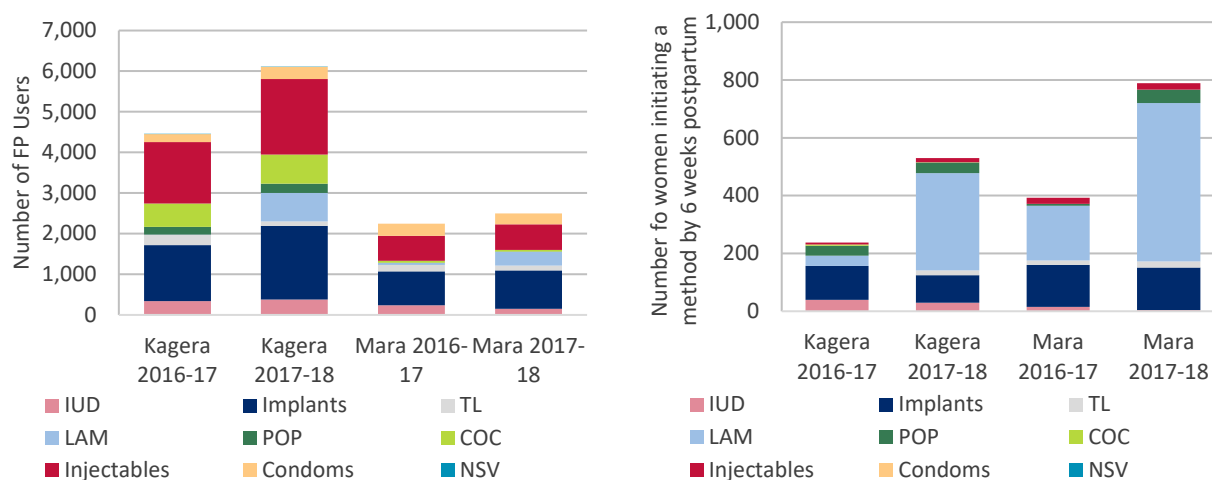
- **Providers reported changes** in how they are providing maternal and child health services, as they explained that they are now placing more emphasis on nutritional aspects and mothers are counselled during antenatal and postnatal visits on maternal nutrition, breastfeeding, and complementary feeding.
- **Initiation of Breastfeeding within the 1<sup>st</sup> hour after birth as a proportion of births:** 5% increase in Kagera and 31% increase in Mara
- **Exclusive Breastfeeding by 6 weeks, as a proportion of ANC1 clients<sup>1</sup>:** 17% increase in Kagera and 54% increase in Mara

<sup>1</sup> Results exceed 100% due to community births being included in the numerator but not in the denominator. Deliveries not taking place at health facilities were frequently not documented due to inadequate time of health workers.

## Family Planning Use

- **Total FP Use:** increased by 37% in Kagera and 11% Mara
- **PPFP use within 6 weeks as a proportion of births:** increased by 45% in Kagera and 14% in Mara
- **Use of long acting reversible contraceptive (LARC) and permanent FP methods** of family planning: although the absolute numbers of LARC and permanent method users did not change substantially, their use decreased in both regions as a percentage of the method mix (likely due to increase in practice of LAM).

**Figure 2. FP Contraceptive Method Mix (Total and by 6 weeks), Mara and Kagera**



## Qualitative LAM and MIYCN findings

- **Awareness of LAM** among postpartum women was high, although gaps exist in recall of all three criteria. Exclusive breastfeeding (EBF), followed by the infant being less than six months, were the most cited LAM criteria. Mothers had limited understanding that it was possible for them to experience ovulation before menses, especially when they introduce complementary feeding, leading to an increased probability of becoming pregnant. The concept of breastfeeding exclusively for six months resonated with women, however postpartum pregnancy risk and the need to transition to another modern FP method by/prior to the 6-month time point if using LAM was not well understood. Radio was identified as an important source of information about LAM.
- **Study respondents across the different categories had a positive perception of LAM.** LAM was also considered as a natural contraceptive that had no side effects, was simple and easy to use, and beneficial for advancing infant nutrition and wellbeing.
- **The training of CHWs** as part of the intervention has had a positive effect on their knowledge of LAM. CHWs were knowledgeable about LAM, its effectiveness as a family planning method and the 3 criteria that mothers have to have for them to qualify to use LAM. CHWs talked about how the intervention had increased their understanding of LAM as a family planning method.

- **Proportion of LAM users transitioning to another modern method:** 58.3% of LAM users who were using the self-tracking tools had transitioned to another modern FP method by six months. Main reasons cited for non-transition were a belief that breastfeeding, regardless of frequency, protects from pregnancy, and that return to menses is the main cue and can be predicted based on past experiences.
- **The LAM tracking card was considered a useful tool** in helping mothers not only understand the requirements of the method but to also remember to apply the three LAM criteria. It was also considered to be self-explanatory and helped mothers keep track of what they are doing and what is happening to their bodies. The picture-based tool was convenient to use even for mothers who had a low level of literacy. CHWs also relayed that the tracking card was an important tool to reinforce the key LAM counselling messages communicated to mothers, and increased their confidence that mothers were following the LAM criteria. Mothers counted as LAM users were actual users and not just breastfeeding mothers.
- **Limited provision of condoms and/or emergency contraception along with LAM counseling.** Providers deviated from program guidance and rarely provided condoms and emergency contraception pills (ECPs) to LAM users.<sup>2</sup>
- **Main challenges LAM users faced included** struggling with the low quantity of breastmilk perceived to be related to poor maternal nutrition, not having enough time to frequently breastfeed, and pressure from the mother-in-law to give the infant water.

“Now we are seeing more women using LAM and husbands supporting their partners using LAM... they are seeing the benefit of LAM especially with regards to the health of the child, LAM has been instrumental in enforcing exclusive breastfeeding in the community”  
– District Health Team representative

“My perception has changed because I was wondering if LAM could be possible...but after being trained about how it works I could see that it is effective as long as the 3 criteria have not changed. It has changed the way I provide services. There are some things I did not know but now I know LAM and the criteria and now I focus on nutrition counselling since use of LAM depends on the ability of the mother to exclusively breastfeed”  
- Service Provider

“I discussed with my husband on the need to make sure that we space and plan for our children, discussed about nutritional needs during pregnancy and when breastfeeding...shared with him the LAM counseling I received from the community health worker with my husband and he has been helping with the use of the LAM card” - Mother of infant aged 3 months

## Cross Cutting Perspectives

- **Fidelity to the intervention design** was 80% on average in the two regions, with Kagera scoring higher than Mara (Kagera 85% and Mara 75%). In both regions, the community engagement component with CHWs had the weakest fidelity levels, staying at around 50% throughout the implementation period.

## Recommendations

This study demonstrates feasibility of a multi-channel integrated approach to improve MIYCN and PFP outcomes in Tanzania, and points to areas to strengthen and facilitate during expanded implementation. For example:

- Explore opportunities to further reinforce the concept of pregnancy risk and cues to facilitate timely transition from LAM to another modern method. Reinforce that if women are not using LAM, they can become pregnant prior to seeing their menses.
- Further strengthen FP-MIYCN integration within community engagement platforms, and work to address gender norms that inhibit mothers to get adequate nutrition and rest; identify strategies for more strategically reaching men and grandmothers, facilitating delayed return to work for women, and

<sup>2</sup> ECPs were included in the intervention based on the findings from the study by Shabaan et al (2013) that providing ECPs reduced pregnancy to help prevent pregnancy when any of the 3 LAM criteria, some of which are unpredictable, were not met.  
<https://www.ncbi.nlm.nih.gov/pubmed/22935323>

community support for EBF and enhanced nutrition for lactating mothers. Actively cultivate community champions for PPF and MIYCN.

- Strengthen PPF counseling (starting during ANC) focused on **immediate PPF uptake**, and including counseling on the full range of contraceptive options, including LAM and the provision of LARCs. Adopting LAM should not replace LARCs for women who choose LARCs, and counseling on adopting the practice of EBF for 6 months is important as a highly beneficial practice for the baby's health.
- Understand the benefits of healthy spacing of subsequent pregnancies, and address the benefits as well as the concerns about side effects related to use of different FP methods, especially for breastfeeding mothers.
- Strengthen the capacity of CHWs, including counseling and practical skills on maternal nutrition, supporting mothers in exclusive breastfeeding, LAM, with emphasis on timely transition from LAM to other modern FP methods. Efforts should also be on integrating CHWs into the formal health care system to better serve communities. Strengthen linkages between CHWs and facility service providers for PPF and MIYCN counseling and follow-up. These could be incorporated with routine newborn/ infant growth monitoring, and follow up of small/ preterm babies receiving kangaroo mother care at the community level.
- Political support, coordination, and accountability are needed to realize the agenda for MIYCN and FP (and broader MCH) service linkages to reduce missed opportunities for care.

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Access the LAM song (in Swahili) here: <https://www.mcsprogram.org/wp-content/uploads/2017/07/LAM-SONG-FINAL.mp3>

Tools can be found here: <https://toolkits.knowledgesuccess.org/toolkits/miycn-fp>

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