INTEGRATED NUTRITION SOLUTIONS

The Micronutrient Initiative’s community-based maternal and newborn health and nutrition project in sub-Saharan Africa
THE CHALLENGE:
WOMEN’S AND NEWBORN SURVIVAL AND HEALTH

As a leader in global nutrition, the Micronutrient Initiative is working to improve maternal and newborn health by improving access to antenatal, obstetric and postnatal services for pregnant women at the community level, and helping to ensure more women use these services.

With inadequate access to information about maternal nutrition and vital health services, many women in sub-Saharan Africa are ill-equipped to meet the special nutritional needs of pregnancy.

To address this gap in knowledge, the Micronutrient Initiative (MI) is undertaking a community-based maternal and newborn health and nutrition project (CBMNH-N), the largest study ever undertaken by MI.

Through support from the Government of Canada, we are demonstrating how to improve the quality and uptake of antenatal care (ANC), delivery, and postnatal care (PNC) in hard-to-reach populations in Ethiopia, Kenya, Senegal and Niger.

The lessons learned from this global research will benefit not only these four African countries but can be adapted to other country contexts as an innovative way to reach the most vulnerable with an essential and integrated package of health and nutrition services.

Program Design
• Bringing together global experts and partners, MI has designed a multi-country project model that focuses on the 10-month period from conception to one month after birth, addressing a range of issues through demonstration projects for CBMNH-N service delivery.

• Each country project includes a strong evaluation component and an advocacy plan, to ensure that lessons learned from the demonstration projects are well-documented, disseminated and used to guide national program scale-up.

• One of the largest scale evaluation projects in MNCH, we will reach 100,000 women and newborns and train over 2,000 community and facility-based health personnel, to improve nutrition in ANC, delivery and PNC.
Achievements to date (2014)

- Over 100,000 women and newborns have already been reached, exceeding the project’s initial goal.
- Over 6,000 community- and facility-based health personnel trained through the project, more than tripling the project’s initial goal.
- Baseline and formative research informed project design in each country to respond to population needs.
- Behaviour change communication strategy designed and rolled out in all four countries, and peer-support networks are playing an important role in promoting nutrition and MNHN services.
- Governments are taking an active role, with Ministry of Health partners already showing interest in scaling up CBMNH-N models.
- Calcium operations research has addressed important programmatic questions that will help facilitate implementation of World Health Organization guidelines in high burden countries.
SENEGAL

Objective
Increase uptake and improve the quality of maternal and newborn health services through the development and demonstration of a comprehensive maternal and newborn health policy for Senegal.

Region: Kolda, Senegal

Targets
• 46,000 pregnant women and newborns
• 650 community- and facility-based health personnel trained on maternal and newborn health solutions

Partners
• Implementation: Child Fund
• Situation Assessment: Santé Plus and independent consultants
• Evaluation: Institut de Santé & Développement
• Advocacy & Policy: Ministry of Health

www.micronutrient.org
Key components of the project

- Situation assessment of maternal and newborn health projects and programs implemented in Senegal, in addition to formative research to better understand the maternal and newborn health situation from both the beneficiaries and the stakeholders' perspectives.
- Analyze the findings from the situation assessment and develop the CBMNH-N package of interventions aligned with the National Maternal Health Policy.
- Pilot the package of interventions, which includes:
  - training Community Health Workers (CHWs), Traditional Birth Attendants (TBAs), nurses and midwives on skills and counselling for the package of interventions;
  - create peer support groups to promote antenatal care (ANC), delivery and postnatal care services;
  - have adequate equipment and materials for all health huts in project area, including iron and folic acid (IFA);
  - improve the referral system from health huts to higher levels for complications detected during pregnancy and delivery.
- Promotion of delayed first pregnancy and birth spacing.
- Promotion of ANC, IFA consumption, birth assistance and postnatal care.
- Birth planning/preparedness.
- Monitoring of gestational weight gain and nutrition counseling.
- Misoprostol for the prevention of post-partum hemorrhaging.
- Promotion of early and exclusive breastfeeding.

Community-level nutrition interventions

- Decrease the prevalence of anaemia in pregnancy at term through IFA supplementation.
- Increase the percentage of pregnant women who attend at least four ANC visits.
- Increase the percentage of births attended by a skilled health personnel.
- Increase the percentage of mothers initiating breastfeeding within one hour of birth.
- Increase the percentage of infants 0–5 months of age fed exclusively with breast milk.

This project expects to

- Over 41,000 women and newborns reached through the project with 28,355 pregnant women being prescribed IFA.
- Over 2,000 CHWs, nurses, midwives and district/regional health teams trained on the maternal and newborn health and nutrition package.
- Over 62,000 community members have been reached through the more-than 20,000 Behaviour Change Communication (BCC) activities conducted by community stakeholders.
- Almost all of the 246 health hut catchment areas have 5 different types of support groups established, such as future fathers/grandmothers.
- Another 20% of health huts in Kolda meet basic criteria for maternal and newborn health service delivery.
- Waiting-homes, an innovative way of overcoming the weak referral system, are equipped and ready for pregnant women and their families.

Achievements to date (2014)
Objective
A comprehensive study and pilot project to strengthen uptake, quality of care and access to antenatal care (ANC) in rural Niger that will ultimately guide the government of Niger’s development of a revitalized maternal health policy.

Region: Zinder, Niger

Targets
• 46,000 pregnant women and newborns
• 650 community- and facility-based health personnel trained on maternal and newborn health solutions

Partners
• Implementation: Helen Keller International
• Research Project Lead: University of California Davis
• Advocacy & Policy: Ministry of Health
Key components of this model

- Qualitative assessment of belief, barrier, and enabler factors for antenatal care and pregnancy outcomes and the quality of prenatal care services are evaluated at the level of the health center.
- Baseline survey to assess the nutritional status (weight, height, presence of anaemia, and biomarkers of iron and vitamin A status) and stage of pregnancy in pregnant women.
- Optimization strategy to improve antenatal care uptake and quality implemented in project districts, which includes:
  - ensuring full supply of materials and essential commodities for ANC at health facilities;
  - trained health facility providers for improved counselling and skills;
  - community volunteers who disseminate behaviour change messages for improved uptake of ANC to pregnant women, their families, and community influencers.
- A rigorous evaluation of the strategy, including an assessment of the nutritional status of pregnant women.

Community-level nutrition interventions

- Promotion of iron and folic acid (IFA) supplements, provided at facility-based ANC.
- Gestational weight monitoring and nutrition counseling throughout pregnancy.
- Promotion of early and adequate ANC visits.
- Malaria prevention.

This project expects to

- Decrease the prevalence of anaemia in pregnancy at term through IFA supplementation and malaria prevention.
- Increase the percentage of pregnant women who attend at least four ANC visits.
- Ensure adequate gestational weight gain.

Achievements to date (2014)

- The baseline and impact surveys are currently being implemented in all 12 intervention villages and 922 pregnant women have been enrolled.
- There are 172 community volunteers implementing the Behaviour Change Communication (BCC) component of optimization strategy.
- Adequate supplies of core commodities provided to all health centers after the facility assessment identified large gaps in the availability of commodities.
- Operational research at the community level assessed knowledge, motivation and job satisfaction of community volunteers as can be seen by the 148 interviews with community health workers trained to conduct BCC sessions.
- Qualitative study is complete and revealed high demand/importance for ANC, but also found issues with quality of care and supply of commodities.
- The project has leveraged additional financial support from UNICEF to include an iodine intake assessment in both pregnant women and school-aged children, undertaken by UC Davis.
- The project has generated significant interest from the Ministry of Health, which has taken an active role in overseeing implementation and utilizing results and has resulted in a Project Steering Committee being formed.
Objective
Improve maternal health outcomes by building a community-based health model that not only increases the demand for antenatal care (ANC), delivery, and postnatal care (PNC) services for pregnant women in the public health system, but also improves the quality of care provided at the facility level, ultimately improving the community-facility linkages.

Region: Kakamega County, Western Province, Kenya

Targets
• 58,000 pregnant women and newborns
• 3750 community- and facility-based health personnel trained on maternal and newborn health solutions

Partners
• Community-level Implementation: AMREF
• Facility-level Implementation: University of Washington, PRONTO
• Evaluation: University of Nairobi
• Advocacy & Policy: Ministry of Health
Key Components of the project

- Community health workers promote facility-based ANC, delivery and PNC services through home visits, community dialogue days and peer support groups.
- Traditional Birth Attendants (TBAs) trained and transitioned to new roles as Birth Companions.
- Health facility providers trained in:
  - Government’s new basic Emergency Neonatal and Obstetric Care (EmNOC) curriculum;
  - Simulation and team-based training for additional EmNOC skills.
- Use of World Health Organization’s “Near Miss” form to monitor quality of delivery services.
- Improved stock management of essential maternal and newborn health and nutrition commodities;
- Promotion and referral of ANC, including iron and folic acid (IFA) supplements, and PNC (provided at the facility).
- Nutrition counselling throughout pregnancy.
- Promotion of immediate and exclusive breastfeeding to 6 months of age.
- Accompanied birth at the facility by trained community members.
- Detection of danger signs during pregnancy and referral for delivery at the facility.
- Promotion of the practice of optimally-timed cord clamping

Community-level nutrition interventions

- Reduce the prevalence of anaemia in pregnancy at term through IFA supplementation.
- Reduce the percentage of low birth weight infants.
- Increase the percentage of pregnant women who attend at least four ANC visits.
- Increase the percentage of births attended by a skilled health personnel.
- Increase the percentage of mothers initiating breastfeeding within one hour of birth.
- Increase the percentage of infants 0–5m of age fed exclusively with breast milk.

- Reached 52,878 women and newborns and trained 3,329 community and facility-based health personnel through the project.
- Over 50 communities and 7,000 people participated in health “dialogue days”.
- Behaviour change communication activities, including mother-to-mother and father-to-father groups, have reached a total of 25,387 people.
- Over 300 TBAs thrive in their new roles as Birth Companions. To date, 227 birth companions have received incentives for referring over 2,573 women to the health facility for delivery.
- Simulation and team-work training complete, with 177 service providers finishing the Ministry of Health’s basic emergency obstetric care curriculum.
- Stop-gap for essential commodities resolved after the facility supply chain assessment of essential medicines identified shortages.
- The community-based information system has been established and is in continued use for project monitoring.
- Baseline and midline evaluations completed and have highlighted major maternal and newborn health challenges and opportunities for service quality improvement.

Achievements to date (2014)
Objective
Provide important lessons for how to effectively deliver, improve uptake of, and monitor maternal and newborn health services in pastoralist communities, which are severely under-served areas, at the community level.

Region: Afar, Ethiopia

Targets
- 20,000 pregnant women and newborns in pastoralist communities
- 650 community- and facility-based health personnel trained on maternal and newborn health and nutrition solutions

Partners
• Implementation: Emory University, Maternal and Newborn Health in Ethiopia Partnership
• Evaluation: University of Addis Ababa
• Advocacy & Policy: Federal and Regional Ministry of Health
Key Components of the project

- Traditional Birth Attendants (TBAs) are trained to identify pregnant women, provide home visits, group family counseling, refer to facilities for full antenatal care (ANC) package, and refer for complications during delivery.
- Community leaders, elders and religious leaders form Quality Improvement (QI) teams to monitor the work of the TBAs and Health Extension Workers (HEWs) to provide antenatal, delivery and postnatal care.
- TBAs and QI teams jointly identify “change ideas” to improve uptake and quality of ANC, delivery and postnatal services in their communities.
- Regular facilitated community learning sessions to review coverage data, evaluate change ideas and plan activities.
- Facility-based health providers trained in Emergency Obstetric and Neonatal Care (EMNOC) and participate in facility-QI teams to monitor quality of services provided.

Community-level nutrition interventions

- IFA supplements provided by TBAs and HEWs; and during facility-based ANC.
- Nutrition counselling throughout pregnancy.
- Promotion of immediate and exclusive breastfeeding to 6 months.
- Misoprostol for the prevention of post-partum hemorrhaging.
- Birth planning and detection of danger signs in pregnancy.

This project expects to

- Decrease the prevalence of anaemia in pregnancy at term through IFA supplementation and malaria prevention.
- Decrease the percentage of low birth weight infants.
- Increase the percentage of pregnant women who attend at least four ANC visits.
- Increase the percentage of births attended by a skilled health personnel.

Achievements to date (2014)

- Over 13,000 women and newborns reached and 717 community and facility-based health personnel have been trained through the project.
- Together, the 46 community QI teams and 9 facility QI teams identified local ideas to improve the maternal, newborn health and nutrition package delivery in their communities.
- More births than ever previously documented (2,159) were assisted by a trained attendant.
- Community dramas about maternal and newborn health and nutrition, part of the behaviour change strategy, have reached 20 kebeles and over 2,000 people.
- Planning and reporting continue to be improved as Health Management Information System (HMIS) trainings are continually being provided to HEWs, supervisors and volunteers in communities where residents are less mobile.
- Over 90 Woreda and Regional level HMIS personnel and 71 volunteers have been trained to improve monitoring data and have already registered 5,392 households.
- The Regional Health Office has already helped expand the project into two new Woredas and continues to express interest in expanding the project to other communities.
Rationale for Study

Calcium supplementation has the potential to reduce adverse gestational outcomes by decreasing the risk of developing hypertensive disorders during pregnancy, which are associated with a significant number of maternal deaths and considerable risk of preterm birth.

Currently, there is little information to help policy and program planners or health professionals determine how to put the World Health Organization (WHO) recommendations on calcium into practice in communities. Many of the challenges calcium supplementation programs face, such as poorly functioning supply chains, late contact with pregnant women, and low compliance, are similar to iron and folic acid (IFA) supplementation programming challenges.

The Micronutrient Initiative (MI) is undertaking an in-depth operations research project to address these challenges. This includes addressing key programmatic issues, such as dose, duration, frequency, packaging, delivery platforms, procurement, public communication, and training of service providers.

Findings from this study will be applicable to many other countries interested in using the final calcium supplementation recommendations and for strengthening their IFA programs.

Objectives

Provide guidance for the operationalization of World Health Organization’s recommendation for calcium supplementation during pregnancy by determining the optimal calcium program details such as dose, duration, frequency, packaging, delivery platforms, procurement, public communication, and training for service providers.
Region: North Kakamega, Kenya and Oromia, Ethiopia

Participants
More than 1000 pregnant women

Partners
• Primary Research Partner: Cornell University
• Study Logistics in Kenya: AMREF
• Study Implementation in Ethiopia: Ethiopian Health and Nutrition Research Institute and Jimma University
• Advocacy, Policy and Ethics: Ministries of Health for Kenya and Ethiopia

• Understand pregnant women and health providers’ knowledge, attitudes and practices related to supplementation during pregnancy.
• Trial of Improve Practices (TIPs) to determine women’s preferences for dosing regimen and type of supplement.
• Using national dietary intake data from Ethiopia, develop and pilot a screening tool to be used by health providers to determine whether to recommend calcium supplements to individual pregnant women.
• Propose adaptation to existing IFA counselling and promotion materials in Kenya to include calcium.
• In one sub-county in Kenya, pilot the implementation of calcium supplementation program.

• Promotion of calcium supplementation in pregnancy (provided at health facility).
• Promotion of IFA supplementation in pregnancy.

• Frequently Asked Questions (FAQs) on Calcium supplementation for prevention of pre-eclampsia in pregnancy (www.micronutrient.org/calciumproject).
• FAQs on Lessons from IFA supplementation and their application to potential calcium supplementation initiatives (www.micronutrient.org/calciumproject).
• TIPs implemented in Kenya and Ethiopia.
• The demonstration project in Kenya concluded in May 2015, and includes training, behaviour change messaging and counseling, and monitoring systems.
• National dietary intake data was assessed in Ethiopia to determine sources of calcium in diet and the screening tool for calcium supplementation is being validated.
• The Kenyan and Ethiopian Ministries of Health and NGOs show interest in implementing similar pilots in other regions. Other governments, after receiving the FAQs documents, have also expressed interest in a pilot study.

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