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SUCCESS STORY

Preventing Anemia During Pregnancy in East Central Uganda

USAID'S REGIONAL HEALTH INTEGRATION TO ENHANCE SERVICES IN EAST CENTRAL UGANDA (USAID RHITES–EC)

Dinah, age 26, is a full-time working mother from Iganga district. When she was five months pregnant, she became nauseous, losing her appetite. She ate infrequent and non-nutritious meals and stopped taking her iron tablets.

> *"While I understood that the tablets increase blood supply, I did not know the other benefits of taking them during pregnancy," said Dinah.*

One day Dinah collapsed at work. She was found to be severely anemic. Iron deficient anemia occurs when there is insufficient iron for the body to produce healthy red blood cells to carry oxygen to the body's tissues. Iron deficiency is the most common cause of anemia in pregnancy. Severe anemia during pregnancy increases the risk of premature birth and infant mortality. Dinah was admitted at Iganga General Hospital in East Central Uganda and given a blood transfusion to improve her iron level.

To improve maternal and neonatal outcomes for pregnant women like Dinah, the Uganda Ministry of Health recommends that all pregnant women should receive a daily supplement of one iron and folic acid tablet. Supplementation is recommended because iron requirements in pregnancy are rarely met by dietary intake. While IFA tablets are provided to pregnant women at antenatal care (ANC) clinics, consumption of the tablets among pregnant women remains low, with less than 12% of women in East Central Uganda taking the recommended the monthly 30 plus IFA tablets during pregnancy.

A nurse giving iron tablets to a pregnant women during her routine antenatal care visit at Jinja Regional Referral Hospital. © *USAID RHITES-EC*

Addressing Bottlenecks in Provision of Iron and Folic Acid Supplements

The USAID Regional Health Integration to Enhance Services in East Central Uganda (USAID RHITES-EC) Project, in collaboration with International Initiative for Impact Evaluation, the Society for Implementation Science in Nutrition, and the Uganda Ministry of Health, conducted an assessment to identify bottlenecks in IFA Supplementation Programs in East Central Uganda. The assessment revealed three main health provider bottlenecks:

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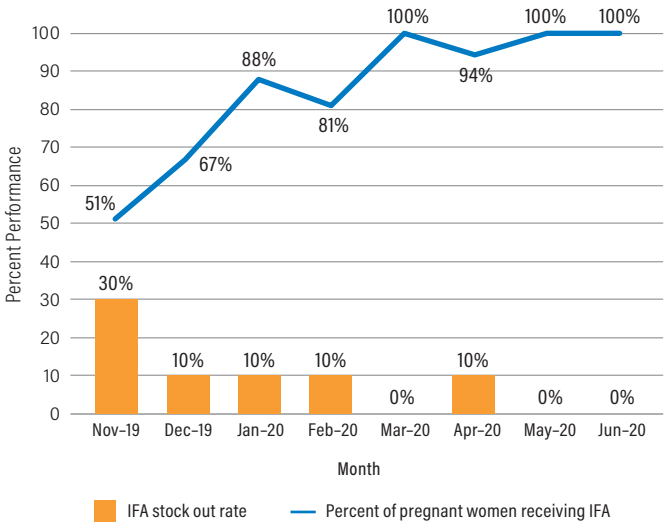
- Uncoordinated health education for iron and folic acid supplementation (IFAS) at service delivery points;
- Recurrent stockouts of IFA; and
- Low male involvement in supporting women to seek ANC services.

To address the health provider bottlenecks (health education and stockouts), USAID RHITES-EC supported 20 high-volume health care facilities in two districts of Iganga and Buyende to implement quality improvement interventions aimed at strengthening practices in the provision of IFA services. Interventions included:

- Holding regular monthly IFAS performance review meetings;
- Re-orienting health workers on the protocols of IFAS; and
- Strengthening provider counselling skills so pregnant women understand the health benefits of IFAS in pregnancy and how to take IFAS appropriately.
- Conducted a mixed methods implementation science (difference-in- difference effectiveness) study to assess whether the implemented interventions increased the availability of IFAS in the intervention districts.

Interventions improved the provision of IFA supplementation during ANC sessions at 20 high-volume health care facilities in Iganga and Buyende districts from 51% in November 2019 (at the onset of quality improvement mentorships) to 100% in June 2020.



Interventions Implemented to Improve IFAS Provision at ANC Clinics

- Regular monthly IFAS performance review meetings
- District mentors provide onsite mentorships and reminder to health workers about IFAS standard protocols
- Integrated IFAS messages in health education sessions conducted at ANC clinics
- District medicine management supervisors conduct monthly onsite mentorships for logistics personnel on stock management
- Weekly facility data reviews to assess percentage of pregnant women attending ANC and receiving IFAS to monitor performance

Health Education, Data Tracking Help Improve Supplement Use

Health workers were trained to integrate IFA messages in health education sessions during ANC visits. Logistics personnel at the health care facilities were taught how to capture and extract data to improve quantification (process of estimating quantities and costs of medicines), timely and accurate ordering of the tablets, and accurate stock management, reporting, and forecasting. The data collected guided supply chain decision-making at the district level, including redistributions from overstocked to understocked facilities.

As a result of these interventions, many pregnant women, including Dinah, now receive a full dosage of IFA supplements along with routine health education and IFA counselling during ANC visits.

"The midwife encouraged me to take my tablets. In addition, the health education helped me understand the importance of the iron tablets for both myself and the baby," Dinah said.

On February 22, 2020, Dinah gave birth to a healthy baby girl.

Abstract

Introduction: To address the problem of iron-deficiency maternal anemia and low uptake of iron-folic acid supplementation among ANC attendees in East Central Uganda, the Anemia Implementation Science Initiative (ISI) embedded enhanced quality improvement activities for IFAS into an integrated health project utilizing Quality Improvement (QI) methodologies.

Intervention: To identify the priority challenges within these districts, the researchers engaged with stakeholders at national, regional, and local levels to conduct a bottleneck analysis, which identified stockouts and inadequate health education for pregnant women during ANC as the two main bottlenecks. Based on this analysis, an enhanced QI intervention was developed and implemented in two districts to address these bottlenecks. A total of 20 facilities were selected to participate in the study i.e. ten facilities in the 2 implementation arm districts (Buyende, Iganga) and ten facilities in the comparison arm (Busia). In the comparison arm, standard support for QI was provided, whereas in the experimental or intervention arms enhanced support for QI was provided. Districts were selected based on similar district-level population characteristics.

Methods: An implementation science (mixed methods difference-in-differences effectiveness) study was conducted to assess whether the intervention increased availability of IFAS in the intervention districts. The study used longitudinal facility-level data from two treatment and one comparison district for the quantitative results. Researchers conducted exit interviews with clients and in-depth interviews with providers and district managers for greater insights into the implementation process.

Findings: During the intervention period the provision of IFA tablets during ANC improved significantly from 51% in November 2019 to 88% in January 2020 and this further improved to 100% in June 2020.On multivariate analysis, a significant effect was measured with women in the intervention group having a statistically significant association with receiving IFA supplements relative to those in the comparison group after adjusting for other factors (adjusted OR=2.04 CI [1.27, 3.30]). According to interviewees, Anemia ISI's implementation science approach and QI methods improved stakeholder engagement and buy-in, which brought about change at all levels of the system from national to district to facility.

Lessons Learnt: The intervention successfully addressed the two main bottlenecks to availability of IFAS for pregnant women attending ANC, including supply chain challenges. Even without additional funds to purchase commodities, this implementation science/QI approach improved district capacity to advocate for and manage IFAS commodities. This approach could be used to strengthen the overall quality of ANC.

Key Lessons Learnt

- The enhanced quality improvement (QI) for IFAS is a low-cost intervention which can significantly improve the availability of IFAS to pregnant women during ANC and transform health providers into advocates for IFAS.
- The intervention can be easily integrated into existing QI activities
- Key stakeholder engagement at all levels was critical for objectively identifying the bottlenecks to IFAS, gaining consensus, ensuring acceptability, and mobilizing champions for change