Introduction: Maternal mortality rate has remained high in Kenya at 488/1000 live births (KDHS 2008/09). The last national micronutrient survey in 1999 reported that 55% of pregnant women and 69% of children 6 months to 6 years of age were anemic. Kenya follows the World Health Organization (WHO) guidelines for giving iron-folic acid supplementation (IFAS) which are to give daily IFAS starting as early as possible in pregnancy to control nutritional causes of anemia. IFAS uptake is dependent on available supplies, counseling and behavioral factors. WHO recommends giving pregnant women daily calcium supplements during pregnancy in populations where calcium intake is limited to prevent pre-eclampsia which, along with anemia, is a major cause of maternal mortality. Kenya is interested in introducing calcium supplementation to the antenatal care (ANC) package. To determine perceptions and behaviors that influence taking IFAS or IFAS and calcium together, this study was planned for two districts in Kenya. Findings from this study will be shared with Kenya’s Ministry of Health (MOH) to inform their programmatic planning on how best to introduce calcium supplementation to the antenatal care package which already includes IFAS.

Methods: Qualitative research conducted in two regions of Kenya with 120 pregnant women. Initial qualitative research determined women’s perceptions about anemia and pre-eclampsia and experiences with taking IFAS/calcium and was used to develop counseling messages. All women received standard antenatal care (ANC), counseling, and reminder cards. Women were randomized into one of two groups: those receiving only IFAS; and those receiving IFAS and calcium. Women who reported consuming three or more servings of calcium rich foods per day were enrolled into the IFAS only group. The study employed the TIPs methodology to gain in-depth understanding of knowledge, preferences and capabilities as well as motivators and obstacles in following optimal practices faced through dialogue with clients and key informants. Supplement compliance and barriers to compliance were explored monthly during ANC or home visits and measured through self-reporting by women, reporting by a family member who observed intake, and by counting remaining pills. Counseling was provided alongside standard ANC services at health centers. Participants included pregnant women and “key informants” who are potentially influential and may have a role in determining/influencing maternal health practices. The key informants include husbands, mothers-in-laws, health workers and community leaders.

Conclusions There is limited knowledge about anemia or the importance of taking IFAS. Behavior change communications need to be in place to inform women why, how, and when they should take IFAS and calcium when it is introduced. Early use of ANC services is a problem. Utilizing the community health workers to identify pregnant women through household visits and encourage women to attend ANC early in their pregnancy is a problem. Behavior change communications need to be in place to inform women why, and when they should take IFAS and calcium when it is introduced. Early 

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Objectives of the study: To investigate ways to improve Kenya’s existing iron-folic acid supplementation program during pregnancy and how to incorporate calcium supplementation.

Sub-Objectives: • Examine knowledge, beliefs, perceptions and practices about anemia and hypertension during pregnancy. • Identify barriers to and factors that facilitate pregnant women taking IFAS with or without calcium supplements. • Identify behaviors, perceptions and preferences pregnant women have about receiving counseling using reminder cards, family observations of pill-taking, and/or receiving mobile phone text messages as reminders to take their full course of IFAS or IFAS and calcium supplements. • Identify knowledge and perceptions about IFAS or calcium supplementation during pregnancy of other people in the family or community that may influence pill-taking behaviors.

Key results and discussion: Initial findings in the study show that: • The age of pregnant women participating so far is between 18-27 years. • Most (6 out of 8) of the pregnant women have only primary level education. • Most (5 out of 9) pregnant women have a household income of less than $25. The rest earn between $25 and $125 • 6 out of 9 of the participants have been pregnant before, and their children are between 1 and 8 years. Half of the women indicated that their current pregnancy was planned. • Cell phone ownership is very high, with ALL of the pregnant women reporting that they own cell phones. All of them were positive about receiving text messages to remind them to take their supplements. • With the exception of 1 woman, all the women enrolled in the study had visited the health facility for their 1st ANC visit. This was at gestational age between 15-17 weeks. • Women were motivated to come for their first ANC by various factors, including self-motivation, encouragement from their husbands and neighbor, and desire to obtain the mother/child booklet. One woman indicated that she felt unwell so she decided to visit the facility and found out that she was pregnant. • The reasons for not seeking ANC early included long distance to the health facility and long waiting time. Most of the women indicated that they had to travel for 30 minutes to 2 hours to get to the health facility. • IFAS Knowledge: Most women had heard of IFAS, except for 2 who were unaware of it. However, the knowledge of the benefits of IFAS was minimal. Most women said that IFAS “added blood in the body”, but some also mentioned that it gave them appetite, just like the multivitamins. One woman said it prevented pregnancy. • There is little knowledge of anemia among pregnant women. A few participants gave the local name used for anemia – but always in a descriptive way e.g. Ayienyi’ meaning swollen body. • IFAS Practice: Only 2 out of 9 of the pregnant women were taking IFAS at the start of the study. The rest had only received the tablets for the first time on the day of the interview. This can be explained by the fact that all the women were visiting for ANC services for the first time. • Malaria prevention practices: Only 2 out of 9 pregnant women were not using insecticide treated nets (ITN). Their reason for non-use was that they did not have them in their households. Those who were using them indicated that they used them to prevent mosquito bites and malaria. • Medications or supplements taken during pregnancy - Most of the women in the study so far are not taking any medications. In an in-depth interview in Siaya, a participant cited the use of traditional remedies for ailments during pregnancy as being common in the area. She said she used ‘boiled candle wax’ to relieve stomach pains/cramps. • Calcium intake Only 1 out of 9 pregnant women in the study so far indicated that they did not consume any dairy products. All the others consumed dairy products, while only 2 were determined to take the recommended 3 servings per day.