1. A randomized trial was conducted to evaluate the effectiveness of two interventions aimed at increasing breastfeeding (‘breastfeeding’ here means receiving breast milk, whether through breastfeeding or expressed breastmilk given through a bottle). The first intervention was delivered by nurses and other staff in the hospital at the time of delivery (the ‘In Hospital Intervention’), focused on education about the benefits of breastfeeding and helping moms to initiate breastfeeding (vs. bottle feeding). The second intervention was delivered after the moms and babies were discharged home (the ‘At Home Intervention) and only given to moms who had initiated breastfeeding. The At Home Intervention delivered through text-messages and web links, and focused on benefits of breastfeeding and tips and encouragement to help moms continue breastfeeding.

These two interventions were tested through two phases of the study. Moms were enrolled into the study when they came into the hospital for delivery. In Phase 1, moms were randomization to the In Hospital Intervention vs. Control condition (messages about infant safety) at the time of enrollment, and the primary outcome for Phase 1 was whether the mom initiated breastfeeding (was breastfeeding at the time of hospital discharge). Aim 1 was to test whether moms given the In Hospital Intervention were more likely than moms given the In Hospital Control to initiate breastfeeding. Phase 2 began at hospital discharge, where moms who had initiated breastfeeding were (randomly) assigned to receive either the At Home Intervention vs. Control (messages about infant safety). Moms and infants were followed to 6 months, and queried each week to determine time until cessation of breastfeeding. Aim 2 was to test, for moms who had initiated breastfeeding, whether moms given the At Home Intervention breastfeed longer than moms given the At Home Control. A third Aim was to examine if there was effect modification for the At Home Intervention by the In Hospital Intervention – was the At Home Intervention more effective for those who also received the In Hospital Intervention?

Data from the study are in the ‘**BFStudy.xlsx**’ data set. Variables are:

1) id - a study id number

2) InHospInt – In Hospital Intervention, coded 1 for those who were randomized to the In Hospital Breastfeeding Intervention, 0 for those who were randomized to the In Hospital Control

3) AtHomeInt – At Home Intervention, coded 1 for those who were randomized to the At Home Breastfeeding intervention, 0 for those who were randomized to the At Home Control; only mothers who initiated breastfeeding in the hospital received the At Home Intervention, and this variable is set to missing for mothers who did not initiate breastfeeding

4) educ – highest level of mom’s education, categorized as 1 for high school grad or less, 2 for those with some college, and 3 for those with a four year college degree

5) employ – moms employment prior to the pregnancy, coded 1 for those who were employed outside the home, 0 for those who were not

6) mage – moms age in years

7) bsexF – baby’s sex, coded 1 for females, 0 for males

8) bwt – baby’s birthweight, in grams

9) BFinit – breastfeeding initiation, coded 1 for those who initiated breastfeeding (were breastfeeding when discharged from the hospital), 0 for those who did not initiate breastfeeding

10) BFtime – Time, in weeks, of breastfeeding during the study follow-up; for moms who did not initiate breastfeeding this variable is set to missing; for moms who were breastfeeding at the end of the 6 month follow-up, this variable is set to 26 weeks

11) BFquit – quit breastfeeding, coded 1 for moms who quit breastfeeding during study follow-up; for moms who did not initiate breastfeeding this variable is set to missing; for moms who were breastfeeding at their last study contact this variable is coded 0

12) BFcat – breastfeeding category, coded 1 for those who were exclusively breastfeeding at 6 months, 2 for those who were mixed breastmilk and formula, and 3 for those exclusively formula feeding at 6 months

Part 0. For the work you will do in HW Parts 1, 2, and 3, write a brief ‘Statistical Methods’ paragraph, identifying the analyses you used to address the study questions. I would do this after completing HW 1, 2, and 3 below. For example, if Aim 1 was to compare birthweight between an intervention group and a control group, first in an unadjusted analysis and then adjusting for mom’s age and babies gestational age (length of pregnancy), I might write something like: ‘Aim 1 focused on the comparison of birthweight in the two study groups. In unadjusted analysis, mean birthweight was compared between groups through the two-sample t-test. In adjusted analyses, multiple linear regression was used to compare birthweight between groups controlling for maternal age and gestational age. Aim 2 focused on … ’. Please organize your methods paragraph to clearly indicate which analyses were used to address each aim.

HW Part 1. Address Aim 1 of the study, examining whether the In Hospital Intervention had an impact on initiation of breastfeeding.

**1)Please give an initial descriptive table comparing the two In Hospital Intervention groups on maternal age, education, and employment (all shown in other research to relate to the likelihood of breastfeeding). You do not need to give p-values in this table; since moms were randomized to intervention, any differences here are due to random chance and do not generalize to the larger population.**

**2)Perform an unadjusted analysis comparing initiation of breastfeeding in the two In Hospital Intervention groups.**

**3)Perform an adjusted analysis comparing initiation of breastfeeding in the two study groups, controlling for maternal age, education, and employment. You do not need to control for any other variables in this analysis.**

HW Part 2. Address Aim 2 of the study, examining whether, for mothers who had initiated breastfeeding, the At Home Intervention had an impact on how long mothers breastfeed.

**1)Please give an initial descriptive table comparing the two At Home Intervention groups on maternal age, education, and employment, and also on the In Hospital Intervention variable. This table should only include mothers who initiated breastfeeding (I think missing data are set up so that all Part 2 analyses will only include mothers who initiated breastfeeding, but check your data to be sure).**

**2)Perform an unadjusted analysis comparing time breastfeeding for the two At Home Intervention groups.**

**3)Perform an adjusted analysis comparing the two At Home Intervention study groups on time breastfeeding, controlling for maternal age, education, and employment, and for the In Hospital Intervention they received. This adjusted analysis should control for the In Hospital Intervention, but should not include any interaction between the two study interventions.**

**HW Part 3. Address Aim 3 of the study, examining effect modification and whether the At Home Intervention was more effective for mothers who had received the In Hospital breastfeeding intervention, compared to those who received the In Hospital Control. This analysis is based on the sample from HW Part 2, and so you do not need to give an initial descriptive table here.**

**HW Part 4. Provide tables and figures to summarize the results of your analyses from HW Parts 1,2,& 3 and then to give brief summaries interpreting the results of these analyses relative to the study aims**. Including figures from computer output is fine, but otherwise please don’t present raw output - **provide tables appropriate for a presentation or write-up of the study results**.

**Paste Full SAS output for Part 1-3:**