Delta Healthy Sprouts: Participants’ Diet and Food Environment at Baseline
Melissa Goodman1, Jessica Thomson1, Alicia Landry2, Lisa Tussing-Humphreys3
1USDA Agricultural Research Service, Stoneville, MS 38776, 2 University of Central Arkansas, Conway AR, 3University of Illinois at Chicago, Chicago, IL 60608

Introduction to Delta Healthy Sprouts
This baseline analysis focuses on the food environments of women who participated in the Delta Healthy Sprouts project, a randomized, controlled, comparative trial designed to test the efficacy of two Maternal, Infant, and Early Childhood Home Visiting programs on weight status and health behaviors of mothers and their infants residing in the rural Mississippi Delta. Participants resided in Washington, Bolivar, or Humphreys County and were visited in their homes. Thus precise geographical location data was available.

At baseline, participants were in the early second trimester of pregnancy. The majority were African American (96.3%), single (92.7%), received Medicaid (91.9%), enrolled in SNAP (75.6%), enrolled in WIC (84.1%), and owned or had access to a car (90.2%). Two-thirds of the participants were classified as overweight or obese based on self-reported pre-pregnancy body weight and measured height.

Over an 18 month period, dietary data was gathered from participants using multiple pass 24-hour dietary recalls via the Nutrition Data System for Research software. Diet quality was calculated from this data using Healthy Eating Index-2010 which measures adherence to the 2010 Dietary Guidelines for Americans. The Healthy Eating Index-2010 total score ranges from 0 to 100 points. At baseline, the participants’ mean Healthy Eating Index score was 43.1 with a range of 21.5 to 72.0.

Local Food Environment
Since local food environments influence the nutrition and health of area residents, research staff enumerated and evaluated all grocery and convenience stores in the towns where more than two participants lived. Participants also completed surveys asking about food practices, including the name and address of the store where most of the household food was purchased.

All grocery and convenience stores were visited and evaluated for availability of healthy options, price, and quality using the Nutrition Environment Measures Survey for grocery stores (NEMS-S) and convenience stores (NEMS-CS).

Results
The 12 measured grocery stores had a mean score of 30.7 with a range of 22 to 41 (57 possible points). For participants, the mean score for the grocery store nearest them is 27.9. Map 1 shows the distribution of participants around grocery stores.

For participants, the mean score for the grocery store where they purchased most of their food is 35.6. Map 2 shows this pattern of travel to stores with higher NEMs scores. Almost two-thirds (62.2%) traveled to a store with a higher score while about a third (29.7%) bought most of their food at the closest store. Few (8.1%) traveled to a store with a lower score.

Almost none (2) of the participants crossed county lines to do most of their grocery shopping. In Washington County, all residents of the largest town (n=42) reported shopping in town. For the two smaller towns in Washington County, about half (46.1%) reported commuting to the largest neighboring town for food shopping. In Bolivar County, all but one resident (n=16) reported shopping in the largest town, regardless of town residency.

Convenience stores are a poor substitute for grocery stores. The 84 measured convenience stores had a mean score of 8.1 with a range from 2 to 14 (58 possible points).

CONCLUSIONS
Results suggest that grocery stores rated adequately for provision of healthy items while convenience store ratings were insufficient. Additionally rural participants reported grocery shopping in larger towns rather than stores closer to their residence. Future research will investigate the impact of food environments on nutrition intake and overall health.

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For inquiries, contact Melissa Goodman (melissa.goodman@ars.usda.gov).