

## Background

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) has been providing nutritious foods, nutrition education, breastfeeding support, and health referral services to low-income mothers and their children for over 30 years. In 2006 the Food and Nutrition Service (FNS) asked the Institute of Medicine (IOM) to review the WIC food packages. The IOM proposed major changes to improve nutrition and encourage breastfeeding but also expressed the concern that changes related to partial breastfeeding may have unintended consequences. The IOM recommended that FNS conduct an impact study evaluating the birth month breastfeeding changes to the WIC food packages. This study responds to that recommendation.

## Research Questions

The study's research questions examine whether there were changes in breastfeeding initiation, duration or intensity following implementation of the rule.<sup>1</sup> The study measured changes in WIC participation, demographic and economic characteristics of participants, and the percentage of participants receiving each WIC food package.

## Methodology

This study used a pre/post research design, and data collection was supported by a two-stage design. The first stage sampled 17 Local WIC Agencies (LWAs) out of 1,885 LWAs in the United States. The second stage collected administrative data on approximately 300,000 participants within those agencies and collected

survey data on 1617 mother-infant dyads. Data collection began in April 2009 and was completed in May 2010.

## Findings/Summary

***Program participation and demographics did not change.*** No significant pre/post differences were observed in WIC program participation patterns among mothers and infants or among mothers receiving WIC during pregnancy whose infants were enrolled after birth.

***The percentage of mothers selecting the partial breastfeeding package declined.*** Nearly one-fourth of WIC mothers were assigned the partial breastfeeding package prior to implementation, about one-eighth received it afterwards.

***The percentage of mothers selecting the full breastfeeding package or the full formula package both increased.*** Exhibit 1 shows that selection of the full breastfeeding package increased from 9.8 percent (pre) to 17.1 percent (post). Selection of the full formula package likewise increased from 20.5 to 28.5 percent.

***Infant formula amounts also changed, moving away from intermediate WIC packages and toward the two extremes (full breastfeeding or full formula feeding).*** Among mothers with infants in the birth month, the percentage where the infant received no formula increased from 12.2 to 19.7 percent, which is a favorable outcome. However, the proportion where the infant received the maximum or nearly the maximum formula amount also increased, from 49.4 to 56.4 percent, which is a less favorable outcome.

***Breastfeeding initiation rates did not change.*** As measured in administrative records, the breastfeeding initiation rate for WIC participants

<sup>1</sup> On December 6, 2007, an Interim Final Rule changed the composition and quantities of prescribed foods in the WIC food packages (72 *Federal Register* 68965-69032). State agencies were required to implement these changes by October 1, 2009.

was essentially unchanged: 65.6 percent (pre) and 65.2 percent (post).

**Breastfeeding duration had a slight increase.**

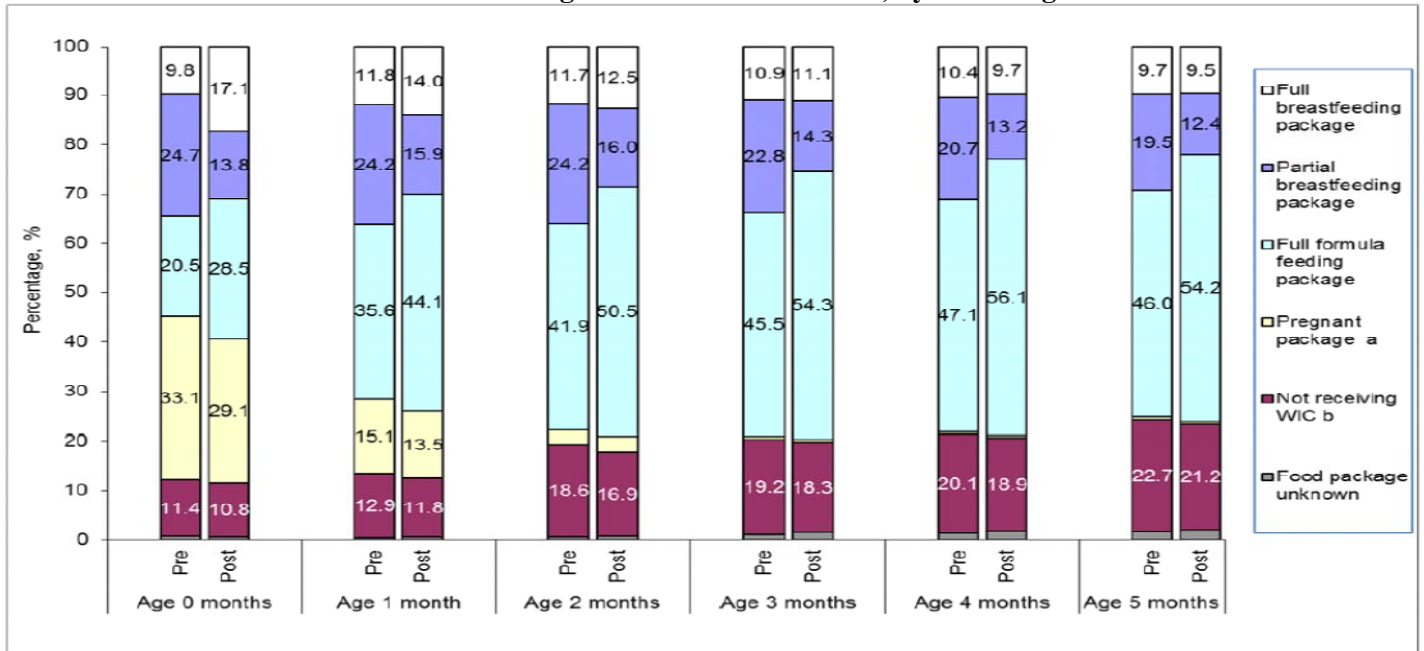
The average probability of a mother reaching 4 weeks duration was 76.3 percent (pre) and 77.2 percent (post).

**Breastfeeding intensity did not change.** Based on the participant survey data, there was no change after implementation in the percentage of

mothers exclusively breastfeeding (among mothers who had initiated breastfeeding).

The study findings address the IOM concern that the partial breastfeeding changes had no unintended adverse consequences. Following the food package changes, there was no decrease in participation, no change in breastfeeding initiation rates, and a slight increase in duration.

**Exhibit 1: Food Package Issued to New Mothers, by Infant Age**



Sample: Administrative records, all dyads with infants aged 0 to 5 months, n=129,606 (pre) and n=528,597 (post) in analysis months 1-2 (pre) and analysis months 5-12 (post).

Interpretation Guide: Among dyads whose infants were in their birth month, 9.8% (pre) and 17.1% (post) received the full breastfeeding package as the mother’s WIC food package.

<sup>a</sup> Mothers with infants certified for WIC. <sup>b</sup> Mothers who have not recertified postpartum, but who have infants who have been certified.

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Download public use data files at <http://www.fns.usda.gov/ora/menu/Published/WIC/WIC.htm>

U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, Evaluation of the Birth Month Breastfeeding Changes to the WIC Food Packages by Parke Wilde, Anne Wolf, Meena Fernandes, Ann Collins; Project Officer, Dr. Joseph F. Robare. Alexandria, VA: December 2011.

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