



USDA Special Supplemental Nutrition Program for Women, Infants, and Children (WIC): A New Look at Key Questions 10 Years After USDA Added Whole-Grain Bread to WIC Food Packages in 2009

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What Is the Issue?

USDA's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides low-income pregnant, breastfeeding, and postpartum women at nutritional risk, as well as infants and children up to age 5, with supplemental foods, along with nutrition counseling, breastfeeding promotion and support, and healthcare referrals. In 2009, USDA made comprehensive changes to the WIC food packages that largely reflect recommendations from a 2005 report of the National Academies, *WIC Food Packages: Time for a Change*. These changes included adding 1 pound of 100 percent whole-wheat bread and other whole-grain options, such as brown rice and whole-grain tortillas, to WIC food packages for pregnant and breastfeeding women and 2 pounds to the WIC food package for children 1-4 years old.

While some published research suggests that adding 100 percent whole-wheat bread and other whole-grain options to food packages has improved participant diet quality, results are varied. Other research explores the cost and availability of whole-grain products at retail food stores in the WIC-authorized 1-pound (16-ounce) package size. In 2014, USDA asked the National Academies of Sciences, Engineering, and Medicine (NASEM) to convene a committee to conduct an independent, comprehensive scientific review of WIC food packages and recommend cost-neutral changes in line with the nutritional status and food and nutrition needs of the WIC-eligible population. In 2017, the committee recommended a number of changes to participants' food assistance benefits. These include offering 16- to 24-ounce packages of 100 percent whole-wheat bread and other whole-grain options to all participants who receive this benefit, which would relax regulations that effectively require stores to stock 16-ounce packages. Concurrent to NASEM's review of the WIC food package, the Agricultural Act of 2014 required the Dietary Guidelines for Americans to expand to include infants and toddlers from birth to age 2, as well as women who are pregnant, beginning with the 2020 edition. USDA will consider changes to the WIC food packages once this work is complete.

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What Did the Study Find?

Using a combination of store- and household-level purchase data, ERS researchers looked at some key questions about WIC participants' whole-grain benefits. While WIC offers a variety of whole-grain options, whole-grain bread is used as an example of the products that may be purchased with WIC benefits.

Analysis of household-level data finds that:

- During a 1-week survey period, households with a WIC participant acquired 0.61 more ounce-equivalents of whole grains in bread (per household member over age 1) than did similar WIC-eligible households that did not participate in the program.

Analysis of sales data from a panel of retail food stores further shows that:

- Between 2009 and 2015, sales of 16-ounce packages increased from about 8 to 17 percent of all 100 percent whole-wheat bread products sold, consistent with anecdotal observations of improved product availability.
- Bread sold in 16-ounce packages appears to be less economical than bread sold in larger, more standard package sizes, including both 100 percent whole wheat and other types. For example, in 2015, a 24-ounce package of 100 percent whole-wheat bread cost \$2.85, a 20-ounce package cost \$2.60, and a 16-ounce package cost \$2.76, on average. Thus, it could be cheaper to allow WIC benefits to be redeemed for a 20-ounce loaf than a 1-pound loaf.

How Was the Study Conducted?

Store-level purchase data from Information Resources, Inc. (IRI) were used to examine the price and sales volume of 100 percent whole-wheat bread, and household-level data from the National Household Food Acquisition and Purchase Survey (FoodAPS) were used to examine the propensity of WIC households to purchase whole-grain breads. In this report, the term "100 percent whole wheat" is used when referring specifically to bread of this type, and the term "whole grain" is used elsewhere in the report. A variety of statistical techniques were used in the analysis, including summary statistics and T-tests for differences between group means. To capture the full association between WIC participation and whole-grain purchases among households, ERS would need to include separate analyses for all relevant whole-grain product types, which is beyond the scope of our study and data.