IMPACT OF THE REVISED WIC FOOD PACKAGES ON NUTRITION OUTCOMES AND THE RETAIL FOOD ENVIRONMENT

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The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) every month provides more than 8 million low-income pregnant women, new mothers, infants, and young children with nutritious foods, nutrition education, and increased access to health care. The WIC food packages were revised in 2007 to align the authorized food with the latest nutrition science and guidance. The majority of WIC participants are satisfied with the revised food packages in terms of the new foods offered and changes in the amounts of food.[1,2,3] And, as summarized in this brief, there is a growing body of evidence that the revised WIC food packages have favorable impacts on dietary intake, breastfeeding outcomes, and obesity rates. In addition, emerging studies suggest an important role for WIC in improving neighborhood food environments.

Background of WIC

WIC provides low-income pregnant women, breastfeeding women, non-breastfeeding postpartum mothers, infants, and children up to the age of five with nutritious foods, nutrition education and counseling, and referrals to health care and social services.[4] Women and children are eligible for the program if they meet income guidelines (i.e., at or below 185 percent of the federal poverty line) or are income-eligible based on participation in other programs, such as Medicaid, the Supplemental Nutrition Assistance Program (SNAP), or Temporary Assistance for Needy Families (TANF). In addition to being income-eligible, applicants must be at nutritional risk (e.g., underweight, overweight, anemic, poor dietary intake) as determined through a nutrition assessment conducted by a health professional. On an average month in 2013, WIC provided services to 2 million women, 2 million infants, and 4.6 million children.

Revised WIC Food Packages*

Specific WIC food packages are prescribed for different groups of participants (e.g., pregnant women, infants, young children) to supplement their diets based on their nutritional needs. The packages were revised in 2007, the first time since 1980, to align the packages with the Dietary Guidelines for Americans and infant feeding practice guidelines of the American Academy of Pediatrics.[5] All WIC state agencies were required to implement the new food packages by October 2009. Overall, the revised WIC food packages improve the health and nutritional quality of the foods in the program, increase participants' choices, and expand cultural food options.[6] More specifically, the revised packages retain the basic WIC foods, including milk, cheese, eggs, fruit juice, iron-fortified cereal, beans, peanut butter, infant formula, and (for breastfeeding women) tuna. However, the amount of milk, cheese, eggs, fruit juice, and, in some cases, infant formula was reduced in the new packages. In addition, the

* For more information on the revised WIC food packages, visit FRAC's website at www.frac.org.

new packages move to low-fat or non-fat milk; offer fruits, vegetables, and whole-grain bread (with the option to substitute whole-grain tortillas, pasta, rice, or other grains); and allow the substitution of soymilk, tofu, and (in 2015) yogurt for milk and cheese.

Revised WIC Food Packages and Nutrition Outcomes

Research shows that WIC is effective at reducing food insecurity, improving dietary intake, addressing obesity, and improving other health outcomes.[7,8,9] And emerging research links the revised food packages with improvements in a variety of nutrition outcomes, as highlighted in the following selection of studies.

- Young children enrolled in WIC not only increased their consumption of fruits, vegetables, and whole-grains within three years of the introduction of the new WIC food packages, but overweight and obesity rates also declined modestly among this group, according to a study that examined more than 3.5 million administrative records of children in the New York state WIC program.[10] Lower-fat milk consumption and solid food introduction also improved among older childrenand infants, respectively.
- Six months after the introduction of the new WIC food packages, fruit, vegetable, whole-grain, and lower-fat milk consumption improved among California WIC families, according to a study of nearly 3,000 caregivers and children.[11] Improvements in whole-grain consumption were the most pronounced: consumption increased by 51 percent from baseline.
- Lower-fat milk, fruit, vegetable, and whole-grain intake also increased after the introduction of the new WIC food packages among 1,642 Native American children ages two to four years who participated in the program.[12] The children consumed a wider variety of fruit after the changes as well.
- Based on studies among African-American and Hispanic child WIC participants in Chicago, whole milk intake significantly decreased and lower-fat milk intake significantly increased for both groups at six and eighteen months after the introduction of the new WIC food packages.[13,14] The studies also found improvements in other dietary outcomes among the children and their mothers. For instance, among Hispanic children, significant improvements were found after eighteen months for overall dietary quality and the intake of dietary fiber, total fat, and saturated fat.
- Studies of WIC participants in New York state and Los Angeles County identified improvements in breastfeeding outcomes after the food package revisions, including increases in breastfeeding initiation and exclusive breastfeeding at three and six months.[15,16] In addition, more WIC mothers received the "fully breastfeeding" food package after the food package revisions, based on one study set in southern California and another 10-state study.[17,18] (The "fully breastfeeding" food package for new mothers was revised, in part, to incentivize and support breastfeeding by increasing its economic value.)
- A number of studies have examined the impact of the revised WIC food packages on purchases using WIC benefits and non-WIC funds.[19,20,21,22] Improvements in purchases, presumably, lead to improvements in consumption. Overall purchases of whole milk, WIC-eligible cheese, 100 percent juice, and white bread declined among WIC families, while purchases increased for 100 percent whole-grain bread, brown rice, fresh fruit, and fresh and frozen vegetables.

Revised WIC Food Packages and the Retail Food Environment

The revised WIC food packages include fruits, vegetables, whole-grain products, and lower-fat milk. Research suggests that this, in turn, has increased the availability, variety, quality, and affordability of healthy foods in the food retail environment. Such progress is being made not only in WIC-authorized stores, but also in non-WIC stores. The following selection of studies demonstrates these points.

- After the introduction of the new WIC food packages, improvements in healthy food availability were observed in WIC-stores and non-WIC stores in a number of studies using composite scores of availability.[23,24,25] For example, among 252 convenience stores and non-chain grocery stores in five Connecticut towns, access to healthy foods improved in both WIC-authorized and, to a lesser extent, in non-WIC stores.[26] Changes in this study were evaluated through a Healthy Food Supply Score that accounted for the availability, variety, quality, and prices of foods included in the new packages. Improvements in scores were more pronounced for WIC-authorized stores, especially those in lower-income areas, and were driven primarily by the greater availability and variety of whole-grain products.
- Another study set in 45 corner stores in Hartford, Connecticut found that WIC-certified stores offered more varieties of fresh fruit, a greater proportion of lower-fat milk, and greater availability of whole-grain products after the introduction of the new WIC food packages, compared to those stores without WIC authorization.[27]
- Among 27 small WIC stores in New Orleans, the availability of whole wheat bread and brown rice, and the variety of fresh fruit significantly increased after the introduction of the new WIC food packages.[28] Fresh fruit and brown rice availability also both significantly increased among 66 small, non-WIC stores after the WIC packages were revised. WIC stores, on average, had larger improvements in the number of fresh fruit varieties as well as in shelf space dedicated to vegetables compared to non-WIC stores.
- In a study examining fruit and vegetable prices in more than 300 stores, overall prices fell for canned vegetables and frozen vegetables after the WIC food package revisions across WIC-authorized stores in seven Illinois counties, possibly from greater demand and economies of scale.[29] The largest price reductions were observed for canned fruit and frozen vegetables in small stores, and frozen vegetables in non-chain supermarkets. Chain supermarkets also had modest reductions in the prices of fresh vegetables and frozen fruit. According to another study using the same sample of Illinois stores, the overall availability improved in stores for commonly consumed fresh fruits and vegetables, fresh fruits and vegetables commonly consumed by African-American families, canned low-sodium vegetables, and frozen fruits and vegetables.[30]
- WIC-authorized food retailers across the nation report increased demand for and sales of healthy foods included in the new WIC food packages, especially fresh produce, whole-grain products, and lower-fat milk.[31,32,33] Many also conclude that the introduction of the new food packages has improved their stores, and increased their customers and profits.

As the research here suggests, the revised WIC food packages can have favorable impacts on dietary intake, breastfeeding outcomes, and obesity rates as well as on the retail food environment, especially in low-income communities. The WIC program continues to play a vital role in improving the health and well-being of vulnerable Americans.

Endnotes

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This brief was prepared by FRAC's Heather Hartline-Grafton, DrPH, RD, Senior Nutrition Policy and Research Analyst.