

## Editorial

### USA's WIC Program Transforms Low-Income Families' Nutrition

The USA's Special Supplemental Nutrition Program for Women, Infants, and Children – WIC – administered by 2,200 state and local WIC agencies under the auspices of the United States Department of Agriculture serves over nine million qualifying mothers and young children who are income eligible and at nutrition risk, including over half of all America's infants and one-quarter of its children between one and five years of age.

Quality nutrition services are the centerpiece of WIC: nutrition and breastfeeding education, nutritious foods, and improved healthcare access for low and moderate income women and children with, or at risk of developing, nutrition-related health problems, including overweight, obesity, and type-2 diabetes.

The foods included in the WIC food packages are specifically selected for their nutritional value to supplement the nutrients found lacking in the diets of low-income populations and include fresh, frozen, canned, and dried fruits and vegetables, prepared baby fruits, vegetables, and meats, low-fat dairy, whole grain cereals and bread, light tuna, salmon, sardines, and mackerel, canned and dried beans, peanut butter, eggs, juice, and iron-fortified infant formula.

WIC consumers use cash value vouchers to purchase healthy fruit and vegetable choices in retail settings or farmers' markets. Since implementation of the new food packages, researchers have sought to determine the success of fruit and vegetable voucher implementation. We are pleased to share three examples of their research.

**The Rev. Douglas A. Greenaway**  
President & CEO  
National WIC Association

*Representing the USA's 2,200 service provider agencies and the nine million mothers and young children participating in WIC*

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# WIC Food Packages: Time for a Change

## Committee to Review the WIC Food Packages

— Suzanne Murphy —

Institute of Medicine, USA

For more than 30 years, the WIC program (the Special Supplemental Nutrition Program for Women, Infants, and Children of the United States Department of Agriculture) has provided foods that supplement the diets of millions of low-income women, infants, and children. The WIC program has been very successful, particularly in improving nutrient intakes among participants. In early 2004, the Institute of Medicine formed a committee to review the WIC program's current supplemental food packages and determine if a redesign could help participating families eat a healthier diet.

The committee considered dietary and health data on low-income women, infants, and children; dietary guidance from the Dietary Reference Intakes and the Dietary Guidelines for Americans; current dietary guidance for feeding infants and young children; and public comments from stakeholders such as WIC program staff, advocacy groups, and WIC participants. The following six criteria were used to revise the food packages:

1. The package reduces the prevalence of inadequate and excessive nutrient intakes in participants.
2. The package contributes to an overall dietary pattern that is consistent with the Dietary Guidelines for Americans for individuals two years of age and older.
3. The package contributes to an overall diet that is consistent with established dietary recommendations for infants and children less than two years of age, including encouragement of and support for breastfeeding.
4. Foods in the package are available in forms suitable for low-income persons who may have limited transportation, storage, and cooking facilities.
5. Foods in the package are readily acceptable, widely available, and commonly consumed; take into account cultural food preferences; and provide incentives for families to participate in the WIC program.
6. Foods proposed consider the impacts that changes in the package will have on vendors and WIC agencies.

The committee's recommendations were presented in the report, WIC Food Packages: Time for a Change. The report recommended revisions to the food packages that match current dietary guidance for infants and young children, encourage consumption of fruits and vegetables, emphasize whole grains, lower saturated fat, and appeal to diverse populations.

### More fruits and vegetables have been added

Families at all income levels should provide more fruits and vegetables to their children in ways that build healthy eating patterns. To help low-income families accomplish this goal, the committee recommended that food packages include baby food fruits and vegetables for older infants, cash-value vouchers for \$8 per month for children, and cash-value vouchers for \$10 per month for women. The cash-value vouchers would be used to purchase fresh fruits and vegetables and participants could choose

from a wide variety of produce. When fresh produce is not feasible, choices of canned, dried, or frozen fruits and vegetables would be allowed. The committee made only one restriction — that white potatoes not be allowed since most Americans do not need encouragement to consume the maximum recommendation of one serving of potatoes per day.

### Whole grains are emphasized

The revised food packages emphasize the intake of whole grains in keeping with the Dietary Guidelines for Americans recommendation of at least three servings of whole grains per day. This should increase fiber intakes, which are currently very low among the WIC eligible population. Only whole grain breakfast cereals would be allowed for children and women; many participants' favorite cereals already qualify as whole grain foods. Many of the food packages would contain additional whole grain options such as whole wheat bread, brown rice, corn tortillas, oatmeal, and barley.

### Lower saturated fat

In keeping with current dietary guidance, foods that are high in saturated fat would be reduced. The revised food packages would have: less cheese — only one pound of cheese per month (two pounds for fully breastfeeding women) instead of the 4–5 pounds allowed currently; and for women and children two years and older, milk and yogurt must be fat-reduced (no more than 2% milk fat). Thus saturated fat would be reduced in the packages for participants two years of age and older.

### Appeal to diverse populations

The wider variety of foods in the revised packages would increase the appeal to diverse populations. Participants could choose from:

- A wider variety of calcium-rich foods as substitutes for milk— children may choose yogurt, while women may choose yogurt, calcium- and vitamin D-rich soy beverage ("soy milk"), and calcium-rich tofu;
- A wide variety of fresh fruits and vegetables;
- A wide variety of whole grains, including whole grain breakfast cereals, whole wheat bread, brown rice, and corn tortillas;
- Different forms of beans and peas (dry or canned); and
- Different types of canned fish, including light tuna and salmon.

### Costs are unchanged

The estimated total cost of the WIC food packages would be unchanged because although some foods were added, others were reduced or omitted. The cost of some packages would increase while the cost of others would decrease. These changes were designed to promote healthy dietary behaviors. For example, the attractiveness of the combined packages for breastfeeding mother / infant pairs would be increased.

The committee's recommended changes in the WIC food packages were implemented by State WIC Programs across the nation beginning with 1 October 2009. The committee's recommendations have helped WIC lead the way in helping low-income families in America consume healthier diets.

# Missouri State WIC Program Experiences of the New WIC Food Package Implementation - Fruits and Vegetables

— Phyllis Fuller —

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The Missouri WIC program implemented the new WIC Food Package on 1 October 2009. In the past 15 months, the program has faced challenges and has taken advantage of opportunities to learn and provide better customer service to stakeholders (e.g. WIC participants, local WIC providers, WIC grocery stores and food manufacturers).

## Fruit and Vegetable Cash Value Voucher (CVV)

Fruit and vegetable CVV's were issued to WIC children (\$6.00) and women (\$10.00) at the same time as staggering the implementation date. They receive a cash value voucher (one check) per month. The value of the check varies based on their program category. In Missouri, if there are two or more WIC participants in a family, more than one fruit and vegetable check may be used for one purchase. For example, a \$6 and a \$10 check can be used for a \$16 purchase. However, some stores were only able to allow one fruit and vegetable check per purchase.

## Missouri WIC Approved Fruits and Vegetables

All fruits and vegetables which are fresh or frozen and meet the requirements indicated in the Code of Federal Regulations (7CFR246.10) were approved for use. Canned fruits and vegetables were not approved for the current WIC Approved Food List (Effective Period: October 1, 2009 – September 30, 2011). Canned fruits and vegetables will not be added to the new WIC approved food list (Effective: October 1, 2011 – September 30, 2013).

Missouri developed a WIC Approved Fruits and Vegetables brochure which includes the following information:

- How To Use Fruit and Vegetable Checks ;
- Allowed Fresh Fruits, Fresh Vegetables,

Frozen Fruits and Frozen Vegetables ;

- Not Allowed Fresh Fruits, Fresh Vegetables, Frozen Fruits and Frozen Vegetables.

The printed brochures are available in English and Spanish. The brochure was also made available on our website in ten other languages (Arabic, Bosnian, Chinese, Farsi, Hmong, Korean, Russian, Somali, Ukrainian, Vietnamese) for downloading as needed. A new list will be provided (Effective: October 1, 2011 – September 30, 2013) in 16 languages to meet local WIC providers' requests.



## WIC State Vendor Staff Feedback

In the first few months after implementation, many requests were received by vendor staff for clarification on which fruits and vegetables were eligible. However, most of the calls that were received are from local WIC providers reporting that a WIC store does not have an item correctly identified in their register system. Stores that were not monitored last year will now be monitored, so the number of questions may increase again.

## Local WIC Providers Feedback

In January 2011, a survey was conducted to obtain information from 118 local WIC providers in Missouri about the availability of WIC approved food items. More than

60% of local WIC providers reported that they had not heard of any problems with participants finding both fresh and frozen fruits and vegetables. About 15% of respondents reported that they have seldom heard of problems from their participants. This indicates participants in the Missouri WIC program have been able to find fresh and frozen fruits and / or vegetables at their WIC stores without significant problems.

## Fruits and Vegetables Daily Consumption Status (Pre-test)

The Missouri WIC program participated in the National Food and Nutrition questionnaire (NATFAN) survey in 2009. Prior to the implementation of the new food package, 928 women questionnaires and 460 children questionnaires were completed. According to the result of the NATFAN pre-test, about 40% of children consumed two or more servings of fruits per day and two or more servings of vegetables in Missouri. However, only approximately 30% of women consumed two or more servings of vegetables per day. The results of the NATFAN post-test will provide more information on the outcomes in this area.

## Fruit and Vegetable Check Redemption Rate

The redemption rate for Missouri's fruit and vegetable cash value voucher is 78%. The program is looking to now increase this number to 100% redemption.

The new food package has been successfully implemented and has provided fruits and vegetables in fresh and frozen form. Although WIC vendor staff continue to receive inquiries from WIC grocery stores, the number of inquiries has declined and the provision of technical assistance and training sessions has assisted in avoiding issues in this area.

# The impact of nutrition education and cash-value vouchers on consumption of fruits and vegetables

— Shannon E. Whaley<sup>1</sup>, Lorrene D. Ritchie<sup>2</sup>, Nancy Crocker<sup>3</sup> —

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The Special Supplemental Nutrition Program for Women, Infants and Children (WIC), funded by the United States Department of Agriculture (USDA), provides nutritious food, nutrition education and breastfeeding support to low-income pregnant and postpartum women, and children up to age five. About half of all children in the United States receive services from WIC at some point between birth and age five<sup>1</sup>. Nationwide 9.1 million women and children receive WIC benefits,<sup>1</sup> with nearly 1.5 million enrolled in WIC in California alone<sup>2</sup>. The WIC Program is different from other USDA nutrition programs in that only specific foods are included in the WIC food package and WIC participants can use WIC checks or Electronic Benefit Transfer (EBT) cards to purchase only those specified foods. The year 2009 marked an historic change to align the WIC food package with the 2005 Dietary Guidelines for Americans. Nationwide, fruits, vegetables and whole grains were included in the WIC food package for the first time, and milk purchases were restricted to lower fat for all women and children over two years of age<sup>3</sup>. Currently, there is great interest in identifying the impact of the new food package on WIC participant behavior, particularly with respect to fruit and vegetable intake.

## The California WIC Nutrition Education and Food Package Impact (NEFPI) study

The NEFPI study took place from April 2009 – April 2010, spanning the October 2009 food package change. This was a naturalistic study based on cross-sectional comparisons of survey results. Identical survey methodology was used with distinct random samples of about 3,000 California WIC participants at three time points:

- Time 1 (March 2009): six months before the changes to the food package and prior to any education regarding the changes;
- Time 2 (September 2009): after education related to the new WIC foods but immediately before the change to the new food package;
- Time 3 (March 2010): six months after the change to the new food package.

The nutrition education session focusing on fruits and vegetables was conducted with all WIC participants in April and May of 2009. Titled “Get Healthy Now,” the session had two key messages: eat a rainbow of fruits and vegetables, and eat more “anytime” foods (with an emphasis on fruits and vegetables) and fewer “sometimes” foods. The curriculum was designed specifically for the California WIC population, which is largely Latino (>75%)<sup>2</sup>. At all three time points, fruit and vegetable intake was assessed in two ways: frequency of respondent intake in the past week,

and reported change in intake for the respondent and her family compared to six months earlier. Frequency of the past week's intake was assessed separately for fruits and vegetables, with answer options ranging from 0, 1-2, 3-4 and 5-6 times per week to 1, 2, 3 and 4+ times per day. Answer options for change in intake of respondent and family were: more, less, or about the same.

## Increased consumption of fruits and vegetables after implementation

The mean frequency of fruit and vegetable intake by the respondents in the past week did not increase based on education alone, but increased significantly after implementation of the new food package.

Mean (±SD) frequency of intake (times per day over past week)	Time 1 Baseline	Time 2 After education & before new food package	Time 3 After education and new food package	Time 1 to 2 comparison	Time 2 to 3 comparison
Fruits	1.27±1.07	1.27±1.06	1.35±1.00	ns	p<0.01
Vegetables	1.15±0.95	1.10±0.95	1.21±1.00	p<.05	p<0.001

The proportion of respondents who reported their family eating more fruit and more vegetables compared to six months earlier also increased significantly after implementation of the new food package (53 vs. 50.2% for fruits (p<0.05) and 44.1 vs. 39.3% for vegetables (p<0.001)). Respondents also reported eating significantly more fruits after education alone (50.2 vs. 42.8%, p<0.001).

Results of this study, published in part in the Journal of Nutrition Education and Behavior<sup>4</sup>, suggest the changes to the WIC food package had positive impacts on WIC participant consumption of fruits and vegetables. Issuance of cash-value vouchers for fruits and vegetables appears to significantly increase participant consumption of both fruits and vegetables, with perhaps the greatest influence on vegetable consumption. The impact of nutrition education alone on participant consumption of fruits is also compelling.

**More evidence is needed, but it could be that fruit consumption is more amenable to nutrition education, whereas monetary incentives are needed to increase vegetable intake. The good news is that WIC food package provisions of fruit and vegetables are making a difference on participant intakes.**

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