

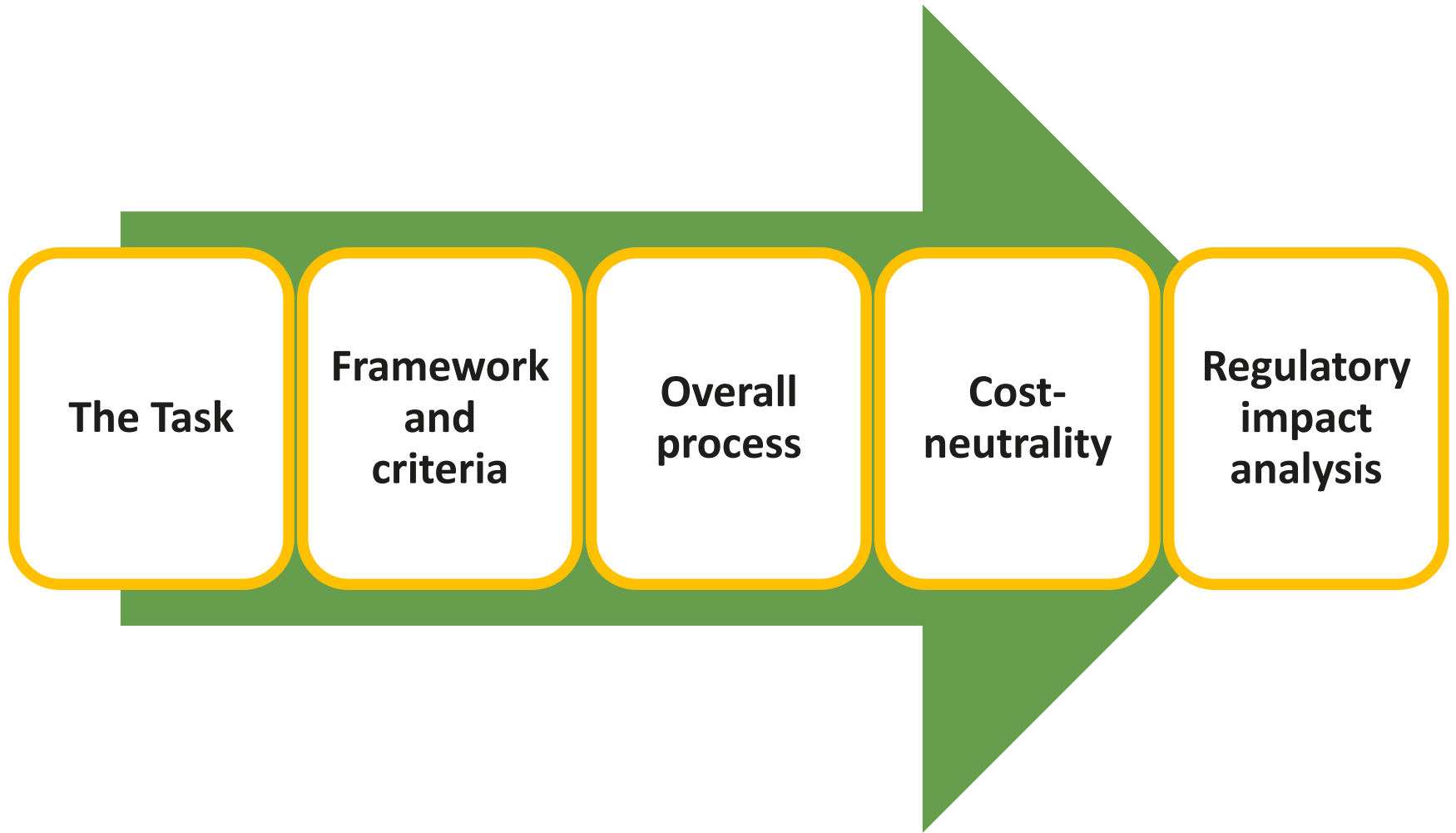
Review of WIC Food Packages: Improving Balance and Choice

Final Report

NWA Leadership
Conference
February 27, 2017
Washington, DC



Outline: Part I



The Task

The Task

“Recommend revisions for the WIC food packages that are culturally suitable, cost-neutral, efficient for nationwide distribution, and nonburdensome to administration”

- Review the scientific literature to assess the current WIC food packages for consistency with the Dietary Guidelines for Americans (DGA)
- Review the nutritional requirements of the WIC population and conduct analyses of their intakes of nutrients and foods
- Conduct food expenditure analyses
- Conduct sensitivity analyses and prepare a regulatory impact analysis

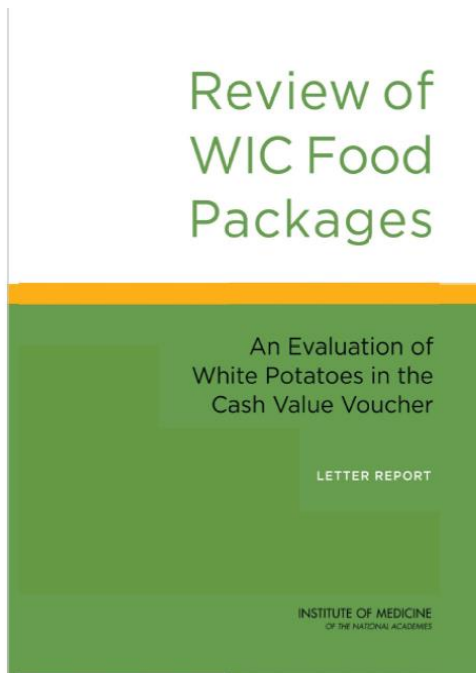
The Task

Additional components included evaluations of and recommendations related to:

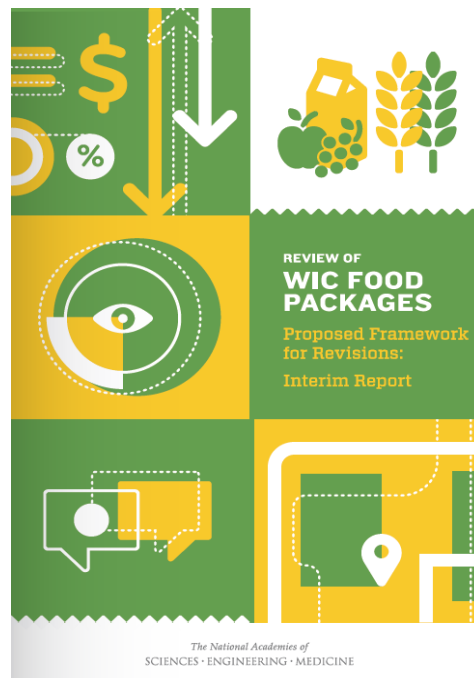
- Energy density of infant formula;
- Iron requirements for infant formula;
- Inclusion of fish in additional food packages, including wild salmon;
- Functional ingredients and a potential USDA-FNS approach to inclusion;
- Actions should USDA-FNS have funding above or below the cost-neutral level.

Study Products

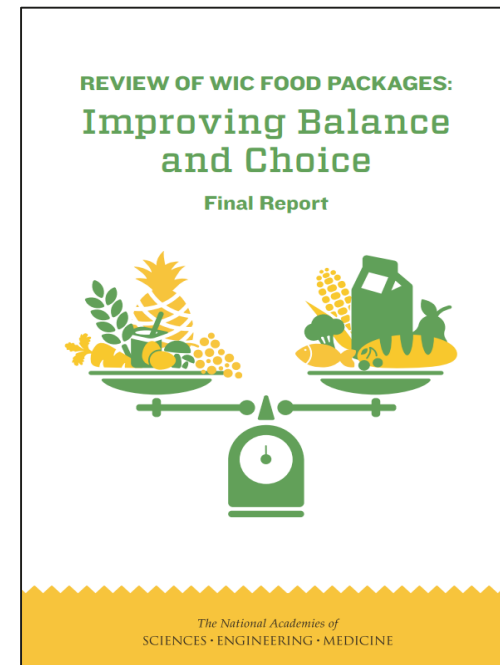
February 3, 2015



November 30, 2015



January 5, 2017



Criteria for Food Package Revisions

Criteria for Food Package Revisions

1. The packages should provide a balanced supplement to the diets of women and children.
 - The WIC food packages should provide a moderate proportion of an individual's requirement for a particular nutrient or recommended amount of a food group
 - The supplementation target may differ depending upon the nutrient or food group and the degree to which foods available in the marketplace can supply these amounts
 - Accommodation for cultural suitability and food preferences is acceptable

Additional Criteria

The packages contribute to:

- The reduction of the prevalence of inadequate and excessive nutrient intakes
- An overall dietary pattern that is consistent with the relevant dietary guidance.

Additional Criteria

The foods in the packages:

- Are available in forms and amounts suitable for low-income persons
- Are readily acceptable, commonly consumed, widely available, account for cultural eating patterns and food preferences, and provide incentives for families to participate in the WIC program
- Do not create an undue burden on state agencies or vendors.

Decision-Making Process

Determining Potential Actions

Inputs

- Nutrient inadequacy
- Food group intake below amounts recommended
- Amount of nutrient and food in the package compared to recommendations
- “Gap” to reduce low intakes
- Acceptability of foods
- Availability of foods
- Public comments

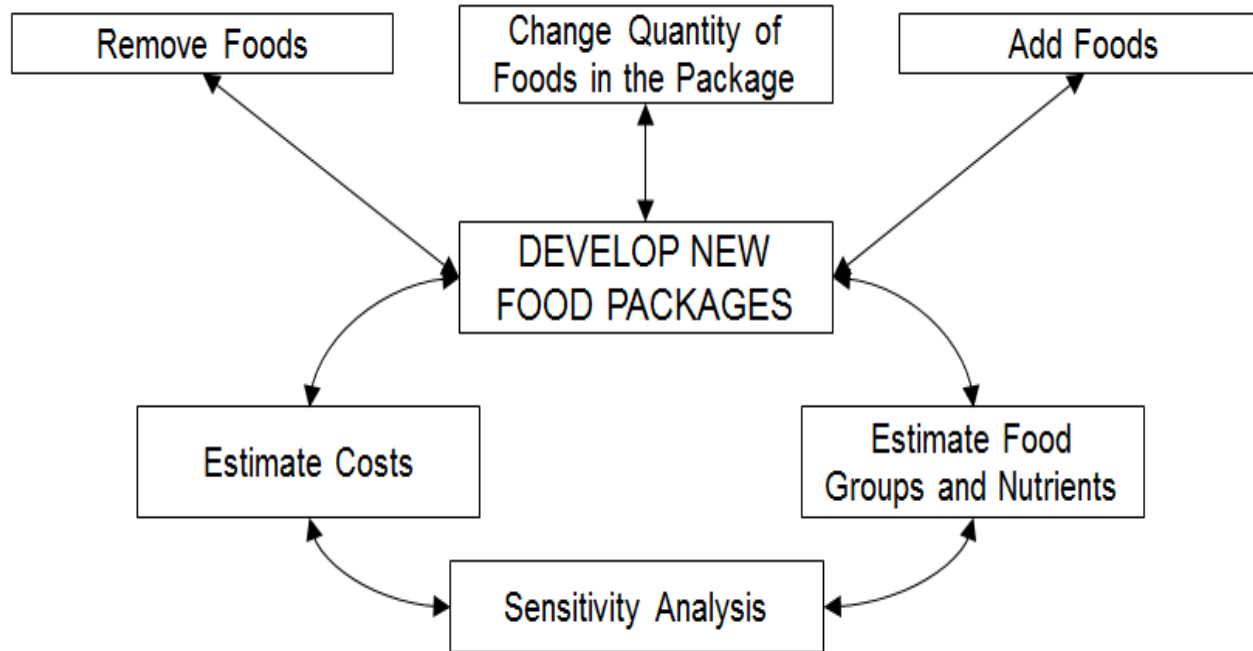
Decision
Tree

Outputs

- Priorities
- Potential change in food amounts
- Potential substitution options
- Potential new foods or food forms
- Potential increase in the CVV
- No action

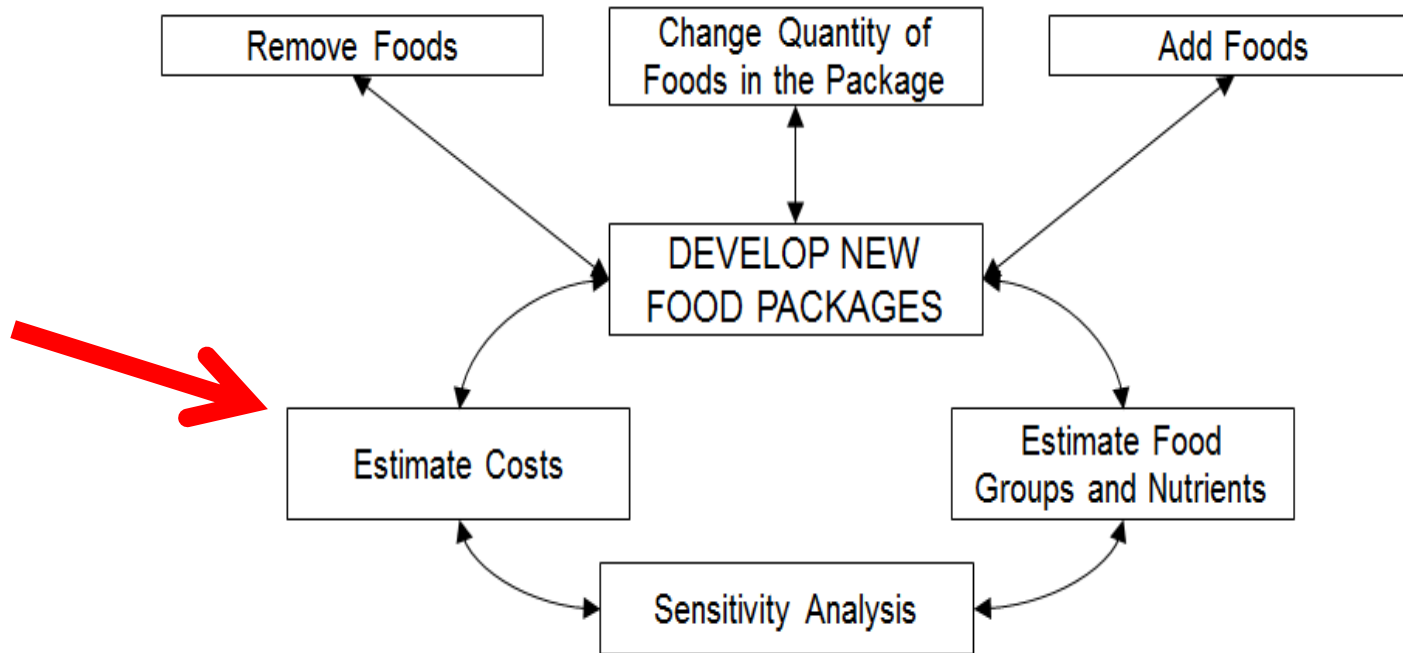
Framework for Revisions

Iterative process:



Framework for Revisions

Iterative process:



The Cost-Neutral Requirement

- Cost-neutral = The weighted average per-participant cost of the revised and current food packages must be within \$0.10
 - Calculated by determining the cost of each food, then package, then linking to participants per-package nationwide
- How does this affect the revisions?
 - Something must be reduced to allow for any additions
 - Children comprise 53% of participants = small changes have large effects (↑ \$1.00 in CVV = +\$0.40 on average)
 - Fully breastfeeding women comprise 3% = big changes have small effects (↑ \$1.00 in CVV = +\$0.03 on average)

Regulatory Impact Analysis

- **RIA** = A longer-term (5-year) analysis of effects on participation, stakeholders, and overall program costs
- Significant burden is not anticipated because the revisions build upon the 2009 changes
- Compared to the current food packages, the revised food packages are expected to **save a small amount** (about \$44 million annually) program-wide in FY2018 through FY2022

Outline: Part II

The revised packages

Packages for the mother-infant dyad

Research recommendations

The Revised Food Packages

The Revised Food Packages: Overview

*The amounts of foods reflect the concepts of **balance** among the food groups and **supplemental***

Increased: CVV, whole grains, seafood

Decreased: Juice, milk, legumes (for most), peanut butter, infant cereal, infant vegetables and fruits, infant meats

The Revised Food Packages: Major Changes and Rationale

The CVV Is Increased by \$4 to \$24

Food Package Recipient	CVV Amounts Per Month (\$)		
	Current	Revised	Difference
Children	8	12	+4
Women, pregnant	11	15	+4
Women, partially breastfeeding	11	25	+14
Women, postpartum	11	15	+4
Women, fully breastfeeding	11	35	+24

The CVV Is Increased by \$4 to \$24: Rationale

- Given the high redemption of the CVV, it:
 - Offers the most **flexibility** for aligning the packages with both cultural eating patterns and other food preferences
 - Has the potential to provide a **wide range of nutrients**, including priority nutrients (e.g. potassium and fiber)
 - Offers the **potential to increase vegetable intakes**, which are low for 50-100% of WIC participants—once their preferences for fruit are met

Additional Opportunities to Increase the CVV

- Participants have the option to:
 - Exchange 64 ounces of juice for \$3 in CVV;
 - Exchange jarred infant food veg/fr for a CVV:
 - Half (64 oz) for \$10 in CVV, or;
 - All (128 oz) for \$20 in CVV.

Additional Opportunities to Increase the CVV (cont.)

Food Package Recipient	Maximum CVV Amounts Per Month (\$)		
	Current	Revised	Difference
Infants 9 (6 as revised) to 11 months	4-8	20	+12
Children	8	15	+7
Women, pregnant	11	18	+7
Women, partially breastfeeding	11	28	+17
Women, postpartum	11	15	+4
Women, fully breastfeeding	11	38	+27

Juice Is Reduced to 0 to 64 oz

Food Package Recipient	Juice Amounts Per Month (oz)		
	Current	Revised	Difference
Children	128	64	-64
Women, pregnant	144	64	-80
Women, partially breastfeeding	144	64	-80
Women, postpartum	96	0	-96
Women, fully breastfeeding	144	64	-80

Juice Is Reduced: Rationale

- Whole fruit is the universally preferred form of fruit
 - American Academy of Pediatrics
 - Dietary Guidelines for Americans
- Children
 - Current: 107% of the AAP limit is provided*
 - Revised: 53% of the AAP limit is provided
- Reduction partially allows for increased CVV

* The AAP recommended upper limit for intake of 100 percent juice is 4 to 6 oz per day.

Fish Is Included in Nearly All Packages

Food Package Recipient	Maximum Fish Amounts Every 3 Months (oz)		
	Current	Revised	Difference
Infants 6 to 11 months, fully breastfeeding	0	30*	+30
Children	0	10	+10
Women, pregnant	0	10	+10
Women, partially breastfeeding	0	30	+30
Women, postpartum	0	10	+10
Women, fully breastfeeding	90	60	-30

*10 oz of fish may be substituted for 10 oz of jarred infant food meat.

Fish Is Included in Nearly All Packages: Rationale

- Seafood intakes were below recommended amounts in 82-100% of WIC participants, and fish is currently issued only to fully breastfeeding women
- Inclusion of fish improves balance across the food groups and consistency with the DGA; it also introduces seafood into the diets of WIC participants
- To *contain costs*, fish is included as part of a rotation with legumes and peanut butter

Legumes/Peanut Butter/Fish Rotation: Rationale

- Brings amounts of legumes (beans) and peanut butter into the “supplemental” range
 - Amounts exceed “supplemental” for children, but align with reasonable package sizes
- Allows for inclusion of fish in more packages
- All are shelf-stable

Proportion of DGA Recommended Amounts (%): Current Packages*

Food Package Recipient	Legumes	Peanut Butter
Children	177	167
Women, pregnant	71	168
Women, partially breastfeeding	71	168
Women, postpartum	44	84
Women, fully breastfeeding	71	168

*Assumes full redemption and that children and postpartum women select legumes 50% of the time.

Legumes are Reduced in Most Packages

Food Package Recipient	Legume (Bean) Amounts Per Month (lb)		
	Current*	Revised	Difference
Children	0.5	0.3	-0.2
Women, pregnant	1.0	0.7	-0.3
Women, partially breastfeeding	1.0	0.7	-0.3
Women, postpartum	0.5	0.7	+0.2
Women, fully breastfeeding	1.0	0.7	-0.3

*Assumes that children and postpartum women select legumes 50% of the time.

Peanut Butter is Reduced in All Packages

Food Package Recipient	Maximum Peanut Butter Amounts Per Month (oz)		
	Current*	Revised	Difference
Children	9	6	-3
Women, pregnant	18	6	-12
Women, partially breastfeeding	18	6	-12
Women, postpartum	9	6	-3
Women, fully breastfeeding	18	6	-12

*Assumes that children and postpartum women select peanut butter 50% of the time.

Whole Grains Are Offered in 16 to 24 oz Package Sizes

Food Package Recipient	Maximum Whole Grain Amounts Per Month (oz)		
	Current	Revised	Difference
Children	32	24	-8
Women, pregnant	16	24	+8
Women, partially breastfeeding	16	24	+8
Women, postpartum	16	24	+8
Women, fully breastfeeding	16	24	+8

Whole Grain Options are Expanded

- Additional grains recommended for authorization include:
 - Corn meal (including blue), corn masa flour*, buckwheat, teff
 - These options are commonly available in a 24 oz size
- All breakfast cereals must meet the whole grain-rich criteria

*Not a whole grain

Whole Grain Changes: Rationale

- Intakes of whole grains are below recommended amounts in 100% of WIC participants
- The range of package sizes permits commonly available sizes of all options to be acquired

Dairy Is Reduced to 12 to 16 qt per Month

Food Package Recipient	Dairy (Milk) Amounts Per Month (quarts)		
	Current	Revised	Difference
Children	16	12 to 14	-2 to -4
Women, pregnant	22	16	-6
Women, partially breastfeeding	22	16	-6
Women, postpartum	16	16	0
Women, fully breastfeeding	24	16	-8

Dairy Substitution Options

Substitution Option: Participants May Choose 1

2 qt milk =

4 qt milk =

6 qt milk =

1 qt yogurt +1 lb

2 qt yogurt

cheese

2 lb cheese

Food Package Recipient

Children

✓

✓

Women, pregnant

✓

✓

Women, partially breastfeeding

✓

✓

Women, postpartum

✓

✓

Women, fully breastfeeding

✓

✓

✓

Dairy is Reduced: Rationale

- Amounts in the current food package were greater than “supplemental”
- Allows for additional (more expensive) yogurt substitution to promote intake
- Substitution options (including allowing 2 quarts of yogurt) eliminate need for the “dangling quart”
- 1 qt yogurt = 30 to 32 oz

Breastfeeding in WIC

Breastfeeding is part of WIC's goal to improve infants' nutritional status; it:

- Provides education, anticipatory guidance about and support for breastfeeding
- Encourages women to breastfeed for as long as possible, with stronger support for EBF than PBF
- Support is not uniformly available

But PBF may be more achievable than EBF

The Committee's Vision for Breastfeeding in WIC

- *All* women receive adequate counseling and support for breastfeeding prenatally and *through* the first month postpartum
- Infant formula is not issued routinely in the first 30 days
 - For women who request infant formula, its issuance *is individually tailored* to the needs of the dyad
- Breastfeeding *of any intensity* is supported

Unintended Consequences of the Food Package Changes in 2009

- Decreased issuance of the partial breastfeeding package
- Increased issuance of the formula-feeding package
- Most likely because:
 - Women who were not confident about breastfeeding or who needed some formula to be able to breastfeed at all moved to the formula-feeding package

Food Package I for Breastfed Infants: The First 30 Days

- Maintains no formula for exclusively breastfeeding dyads
- For partially breastfeeding dyads:
Pending a careful assessment of the needs of the dyad, increase the allowance for formula from 104 *up to* 364 fl oz in the first month

Food Package II: Amounts of Jarred Infant Foods

Package by Infant Feeding Mode and Infant Food	Jarred Infant Food Amounts Per Month (oz)		
	Current	Revised	Difference
Fully breastfeeding			
Veg/fr	256	128	-128
Meat	77.5	40	-37.5
Partially breastfeeding, veg/fr	128	128	0
Fully formula-feeding, veg/fr	128	128	0

Dyadic Packages: Major Changes

WIC Food Categories	Fully Breastfeeding Dyad		Partially (Mostly) Breastfeeding Dyad		Formula-Feeding Dyad	
	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months

For Infants

Formula	--	--	Up to 364 or 442 fl oz	Up to 312 fl oz	Up to 806 or 884 fl oz	Up to 624 fl oz
Infant meats	--	40 oz	--	--	--	--
Infant cereal	--	16 oz	--	8 oz	--	8 oz

For Women

Vegetables and fruits	\$35 CVV	\$25 CVV	\$15 CVV	--
Eggs	2 dozen	1 dozen	1 dozen	--
Fish	60 oz every 3 months	30 oz every 3 months	10 oz every 3 months	--

Dyadic Packages: Major Changes

WIC Food Categories	Fully Breastfeeding Dyad		Partially (Mostly) Breastfeeding Dyad		Formula-Feeding Dyad	
	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months

For Infants

Formula	--	--	Up to 364 or 442 fl oz	Up to 312 fl oz	Up to 806 or 884 fl oz	Up to 624 fl oz
Infant meats	--	40 oz	--	--	--	--
Infant cereal	--	16 oz	--	8 oz	--	8 oz

For Women

Vegetables and fruits	\$35 CVV	\$25 CVV	\$15 CVV	--
Eggs	2 dozen	1 dozen	1 dozen	--
Fish	60 oz every 3 months	30 oz every 3 months	10 oz every 3 months	--

Dyadic Packages: Major Changes

WIC Food Categories	Fully Breastfeeding Dyad		Partially (Mostly) Breastfeeding Dyad		Formula-Feeding Dyad	
	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months

For Infants

Formula	--	--	Up to 364 or 442 fl oz	Up to 312 fl oz	Up to 806 or 884 fl oz	Up to 624 fl oz
Infant meats	--	40 oz	--	--	--	--
Infant cereal	--	16 oz	--	8 oz	--	8 oz

For Women

Vegetables and fruits	\$35 CVV	\$25 CVV	\$15 CVV	--
Eggs	2 dozen	1 dozen	1 dozen	--
Fish	60 oz every 3 months	30 oz every 3 months	10 oz every 3 months	--

Dyadic Packages: Major Changes

WIC Food Categories	Fully Breastfeeding Dyad		Partially (Mostly) Breastfeeding Dyad		Formula-Feeding Dyad	
	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months

For Infants

Formula	--	--	Up to 364 or 442 fl oz	Up to 312 fl oz	Up to 806 or 884 fl oz	Up to 624 fl oz
Infant meats	--	40 oz	--	--	--	--
Infant cereal	--	16 oz	--	8 oz	--	8 oz

For Women

Vegetables and fruits	\$35 CVV	\$25 CVV	\$15 CVV	--
Eggs	2 dozen	1 dozen	1 dozen	--
Fish	60 oz every 3 months	30 oz every 3 months	10 oz every 3 months	--

Dyadic Packages: Major Changes

WIC Food Categories	Fully Breastfeeding Dyad		Partially (Mostly) Breastfeeding Dyad		Formula-Feeding Dyad	
	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months

For Infants

Formula	--	--	Up to 364 or 442 fl oz	Up to 312 fl oz	Up to 806 or 884 fl oz	Up to 624 fl oz
Infant meats	--	40 oz	--	--	--	--
Infant cereal	--	16 oz	--	8 oz	--	8 oz

For Women

Vegetables and fruits	\$35 CVV	\$25 CVV	\$15 CVV	--
Eggs	2 dozen	1 dozen	1 dozen	--
Fish	60 oz every 3 months	30 oz every 3 months	10 oz every 3 months	--

Dyadic Packages: Major Changes

WIC Food Categories	Fully Breastfeeding Dyad		Partially (Mostly) Breastfeeding Dyad		Formula-Feeding Dyad	
	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months	0 to 5 Months	6 to 11 Months

For Infants

Formula	--	--	Up to 364 or 442 fl oz	Up to 312 fl oz	Up to 806 or 884 fl oz	Up to 624 fl oz
Infant meats	--	40 oz	--	--	--	--
Infant cereal	--	16 oz	--	8 oz	--	8 oz

For Women

Vegetables and fruits	\$35 CVV	\$25 CVV	\$15 CVV	--
Eggs	2 dozen	1 dozen	1 dozen	--
Fish	60 oz every 3 months	30 oz every 3 months	10 oz every 3 months	--

Recommendations for Research

Research Recommendations

USDA-FNS should:

- Fund research to evaluate the effects of the recommended revisions to the WIC food packages on participant satisfaction, participation in the program, redemption of WIC foods, and participants' diets and health.
- Collect WIC state agency policies on an annual basis and establish a national database of EBT expenditures by program participants.

Research Recommendations (cont.)

- Fund data collection and analysis of that data toward optimizing support for breastfeeding and increasing the proportion of WIC participants who choose to initiate and continue breastfeeding, and tailoring food package options to best meet the needs and goals of the breastfeeding dyad.

The Revised Food Packages Improve Balance and Choice

- The revised food packages:
 - Improve the balance of the packages relative to the DGA
 - Increase flexibility and choice to meet cultural needs and other preferences
 - Provide better support for the mother-infant dyad
- Adequate and consistent support of breastfeeding is critical to achieve WIC breastfeeding goals
- Collection and accessibility of WIC program data are critical for future program improvement

Committee to Review the WIC Food Packages



Committee to Review the WIC Food Packages

Kathleen M. Rasmussen, Chair

Cornell University

Shannon E. Whaley, Vice Chair

Public Health Foundation Enterprises WIC

Susan S. Baker

University of Buffalo

Marianne P. Bitler

University of California, Davis

Patsy M. Brannon

Cornell University

Alicia L. Carriquiry

Iowa State University

David E. Davis

South Dakota State University

Mary Kay Fox

Mathematica Policy Research, Inc.

Tamera J. Hatfield

University of California, Irvine

Helen H. Jensen

Iowa State University

Rachel K. Johnson

University of Vermont

Angela Odoms-Young

University of Illinois at Chicago

Rafael Perez-Escamilla

Yale University

A. Catharine Ross

Pennsylvania State University

Charlene Russell-Tucker

Connecticut Department of Education

Marie E. Latulippe, *Study Director*; **Meghan E. Quirk**, *Program Officer*; **Bernice Chu**, *Research Associate*;
Ambar Saeed, *Senior Program Assistant*; **Ann L. Yaktine**, *Director, Food and Nutrition Board*

Thank you!

Download the report and other materials at:
www.nationalacademies.org/WICfoodpackages

#WICstudy

For more information, contact
mlatulippe@nas.edu

