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Nutrient and Food Group Analysis of USDA Foods in Five of Its Food and Nutrition Programs – 2014

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Table of Contents

Chapter **Page**

Appendix

Table

Figure **Page**

Acknowledgments and Disclaimer

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Any opinions, findings, conclusions, and recommendations expressed in this report are those of the authors and do not necessarily reflect the views of the USDA.

Glossary of Abbreviations

AI	Adequate Intake
AMDR	Acceptable Macronutrient Distribution Range
AMS	Agricultural Marketing Service
CACFP	Child and Adult Care Food Program
CFR	Code of Federal Regulations
CNPP	USDA Center for Nutrition Policy and Promotion
CSFP	Commodity Supplemental Food Program
DFE	Dietary Folate Equivalent
DGA	Dietary Guidelines for Americans
DoD	Department of Defense
DRI	Dietary Reference Intake
DSCP	Defense Supply Center Philadelphia
EAR	Estimated Average Requirement
equiv	Equivalents
FA	List of USDA Foods Available (generated annually for each nutrition assistance program)
FDD	Food Distribution Division
FDPIR	Food Distribution Program on Indian Reservations
FND-2014	USDA Foods Nutrient Database 2014
FNDDS	USDA Food and Nutrient Database for Dietary Studies
FNS	Food and Nutrition Service
FPE	Food Pattern Equivalent
FPED	USDA Food Pattern Equivalents Database
FSA	Farm Service Agency
FSIS	Food Safety Inspection Service
FY	Fiscal Year
g	Grams
HEI-2005	Healthy Eating Index 2005
HEI-2010	Healthy Eating Index 2010
HHFKA	Healthy, Hunger-Free Kids Act of 2010
HQ	Headquarters
IOM	National Academy of Sciences' Institute of Medicine
ITO	Indian Tribal Organization
kcal	Kilocalorie
lb	Pound
mcg	Microgram (μg)
mg	Milligram
NCES	National Center for Education Statistics
NHANES	National Health and Nutrition Examination Survey

NSIP	National Services Incentive Program
NSLP	National School Lunch Program
oz	Ounce
P.L.	Public Law
RAE	Retinol Activity Equivalent
RDA	Recommended Dietary Allowance
SBP	School Breakfast Program
SFSP	Summer Food Service Program
SNAP	Supplemental Nutrition Assistance Program
SNDA	School Nutrition Dietary Assessment
SoFAAS	Solid fats, alcohol, and added sugar (used in the Healthy Eating Index)
SoFAS	Solid fats and added sugar (used in the *Dietary Guidelines for Americans* USDA Food Patterns)
SR	USDA National Nutrition Database for Standard Reference
SY	School Year
TANF	Temporary Assistance for Needy Families
TEFAP	The Emergency Food Assistance Program
TFP	USDA Thrifty Food Plan
U.S.	United States
UHT	Ultra-high temperature
UL	Tolerable Upper Intake Level
USDA	United States Department of Agriculture
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children

Executive Summary

Background

Through its food distribution programs, the USDA purchases a variety of food products to help income-eligible households and individual program participants obtain access to nutritious food and to support American agriculture. These products include a wide variety of fresh and shelf-stable fruits, vegetables, meat, dairy, grains, and oils. USDA Foods are distributed to help supplement the diets of participants in several programs, including:

- Income-eligible elderly individuals participating in the Commodity Supplemental Food Program (CSFP);
- Income-eligible Native Americans participating in the Food Distribution Program on Indian Reservations (FDPIR);
- Children participating in the National School Lunch Program (NSLP);
- Individuals in need of assistance from food pantries and soup kitchens that participate in The Emergency Food Assistance Program (TEFAP); and
- Children and adults participating in the Child and Adult Care Food Program (CACFP).

This is the second report to examine the composition, nutrient, and food group content of USDA Foods; this report assesses the USDA Foods offered and delivered in fiscal year (FY) 2014 for four nutrition assistance programs: CSFP, FDPIR, TEFAP, and CACFP, and in school year (SY) 2013-2014 for NSLP. The previous report assessed the content of the USDA Foods offered and delivered in FY 2009 and SY 2009-2010.[1]

[1] U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, *Nutrient and MyPyramid Analysis of USDA Foods in Five of Its Food and Nutrition Programs* by Thea Palmer Zimmerman, Sujata Dixit-Joshi, Brenda Sun, Deirdre Douglass, Jason Hu, Fred Glantz, Elaine Eaker. Project Officer Dennis Ranalli. Report FD-12-USDAFOODS. Alexandria, VA: January 2012. Accessed June 2015. http://www.fns.usda.gov/nutrient-and-mypyramid-analysis-usda-foods-five-its-food-and-nutrition-programs-0.

Methodology

The methodology used in this evaluation was consistent with that used in the previous analysis, and included the following steps:

1. Development of a customized nutrient database of USDA Foods offered and delivered in 2014,[2] i.e., the USDA Foods Nutrient Database (FND-2014), using several national nutrient databases and data from the USDA Fact Sheets produced for each USDA Food.

2. Computation of the nutrient and food group content of USDA Food packages offered and delivered in the five nutrition assistance programs.

3. Comparison of the nutrient and food group content of USDA Food packages offered and delivered to dietary standards. National dietary standards were adjusted for the age/gender distribution in each nutrition assistance program to allow comparison with the nutrient and food group values provided by each nutrition assistance program to a reference participant per day.

4. Comparison of the nutrient and food group content of 2014 USDA Food packages to 2009 packages to assess changes over time.

A representative profile was constructed for USDA Foods offered and delivered to agencies administering CSFP, FDPIR, NSLP, TEFAP, and CACFP. The information needed to construct the profile was derived from the lists of foods available for each program, records of foods distributed, and data contained in the USDA Food and Nutrient Database for Dietary Studies 2011-2012, the USDA National Nutrient Database for Standard Reference, release 26, and the USDA Food Pattern Equivalents Database, version 11-12.[3]

Construction of the as-offered USDA Food package was based on the assumption that agencies would purchase all foods offered and spend an equal amount of their entitlement funds to purchase foods from all food groups. Distribution guides are available for FDPIR and CSFP; NSLP, CACFP, and TEFAP do not have prescribed USDA packages. Further, there is considerable variety of foods within a given food group, and participating State agencies have discretion to select foods that meet their specified needs. Administering agencies select USDA Foods in quantities and in forms that reflect local market conditions, participant preferences, and their own ability to store and re-distribute the food to program sponsors and participants.

[2] USDA Foods offered and delivered in FY 2014 for CACFP, CSFP, FDPIR, and TEFAP; offered and delivered in SY 2013-2014 for NSLP.

[3] These were the most recent versions of these databases available at the time of this study.

Since the constructed as-offered package is hypothetical and the as-delivered package reflects actual deliveries made to participating agencies, the nutrient and food group profiles of USDA Foods are expected to be different for as-offered and as-delivered packages. Because of the well-defined participant food packages for FDPIR and CSFP, the magnitude of difference in nutrients and food groups contained in the as-offered and as-delivered packages should be less for these two programs than for CACFP, NSLP, and TEFAP.

For each nutrition assistance program, the computed nutrient and food group values for USDA Foods offered and delivered per participant were compared to the following national dietary standards:

- USDA Food Patterns (designed to satisfy Dietary Reference Intake [DRI] recommendations and the Dietary Guidelines for Americans [DGA]),
- Dietary Reference Intake (DRI) developed by the Institute of Medicine's Food and Nutrition Board (part of the U.S. National Academy of Sciences),
- USDA Thrifty Food Plan (TFP) dietary standards,
- Healthy Eating Index 2005 (HEI-2005) and HEI-2010 developed by the USDA's Center for Nutrition Policy and Promotion (CNPP), and
- Nutrition Standards in NSLP, revised in 2012.

Participants in each of the five nutrition assistance programs are diverse with respect to age, sex, and dietary need. With limited exceptions, however, the administrative data do not allow identification of program participants by age or sex. To address this limitation, a reference participant profile was constructed for each nutrition assistance program, for whom the recommended dietary requirements are weighted averages of the requirements for the entire population served by the program. The dietary requirements of these reference participants were measured against the nutrient and food group profiles of USDA Foods offered and delivered through each program.

Food group amounts offered and delivered were standardized on a per-2,000 kcal basis and compared to the DGA recommended quantities per 2,000 kcal as a way of accounting for the differences in calories provided by the USDA Foods in each program. The 2,000 kcal analysis estimates the quality of the food package, should an entire day's intake be based on the ratio of foods in the package. Additionally, the food group analysis on a per-2,000 kcal basis and the HEI

scores (HEI-2005 and HEI-2010) do not depend on the dietary requirements of the reference participants in each of the five programs examined.

In FY 2014, USDA Foods distributed through CSFP and TEFAP included both entitlement and bonus foods.[4] The key findings presented in this executive summary were drawn from the entitlement packages for FDPIR, NSLP, and CACFP, and from combined entitlement plus bonus food packages for CSFP and TEFAP.

Key Findings

Commodity Supplemental Food Program

CSFP delivers individual food packages that provide a balanced mix of USDA Foods to supplement the diets of program participants. CSFP was initially designed to serve income-eligible pregnant and postpartum women and their young children (up to age 6), but with the growth of the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), eligibility was amended in February 2014. Women, infants, and children were phased out of CSFP, and program enrollment was limited to the elderly exclusively. The program served a very small number of women, infants, and children in 2014 (3 percent of the total CSFP participant count in 2014), and these participant groups were excluded from the current analysis. The CSFP summary provided for FY 2014 is for the as-offered and as-delivered food packages with bonus foods. However, the comparison between FY 2009 and 2014 as-offered and as-delivered CSFP food packages are without bonus foods, as bonus foods were not included in the as-offered or as-delivered packages in FY 2009.

- **In FY 2014, CSFP delivered approximately 183 million pounds of USDA Foods to elderly participants.** Juice (34 percent), milk (18 percent), and vegetables (12 percent) accounted for two-thirds of the package weight.
- **As delivered, CSFP food packages for elderly participants contained about one quarter (22 percent) of participants' total energy needs.** As offered and as delivered, CSFP food packages for elderly participants contained one-third or more of the recommended DRI for protein, six of the eight minerals, and eight of the ten vitamins. The as-offered and as-delivered packages met the recommended amount of calories from protein and fell below the recommended amount of calories from fat, but

[4] Bonus foods were not distributed through FDPIR, NSLP, and CACFP. Entitlement foods are USDA Foods that are charged against a recipient agency's planned assistance level; bonus foods are USDA Foods that are not charged against the State's entitlement and the recipient agency's planned assistance level amount.

exceeded the recommended amount of calories from carbohydrates. The packages offered and delivered 25 percent of the recommended DRI for dietary fiber.

- **USDA Foods delivered to elderly CSFP participants in FY 2014 achieved an HEI-2005 score of 85.5 and an HEI-2010 score of 83.6.** These scores are considerably higher than the HEI-2010 scores for the U.S. food supply (55.0) in 2010 and the average American diet (59.0) in 2011-2012, as well as the HEI-2005 score for the average diet of Americans ages 60 and older (68.4) and the average diet of Supplemental Nutrition Assistance Program (SNAP) participants ages 60 years and older (62.7) in 1999-2004.

- **When compared with the 2009 food package, 7 million more pounds of USDA Foods were delivered in 2014.** The packages delivered in 2009 and 2014 were similar in their composition (with juice, milk, and vegetables accounting for nearly two-thirds of the package weight) and nutrient content. There were no major changes in the macronutrient content. The 2014 package offered slightly more of two minerals (including twice the amount of iron) and six vitamins, but this amount did not shift the amount provided in relation to the DRI. The 2014 as-delivered CSFP food package contained more iron, zinc, vitamin E, thiamin, niacin, B6, B12, and folate, and less phosphorus, sodium, vitamins A and C and riboflavin than the 2009 package.

- **The HEI-2005 scores for the 2014 as-offered and as-delivered CSFP packages were higher than the scores in 2009.** The component scores for the 2014 as-delivered package were slightly higher for total vegetables, dark green/orange vegetables and legumes, whole grains, oils, saturated fat, and sodium.

Food Distribution Program on Indian Reservations

FDPIR provides USDA Foods to income-eligible households living on Indian reservations, American Indian households in approved areas near reservations in Oklahoma, and to Alaska Natives as an alternative to the SNAP. The FDPIR food package offered to participating households provides them the opportunity to obtain a more nutritious diet and represents an acceptable nutritional alternative to SNAP benefits.

- **In FY 2014, FDPIR delivered about 73 million pounds of USDA Foods to program participants, or about 2.3 pounds per day.** By weight, the biggest contributors to FDPIR food packages were vegetables (19 percent), starches (19 percent), milk (12 percent), meat (12 percent), juice (12 percent), and fruit (11 percent). FDPIR food packages also included peanut butter and dried beans (6 percent), cheese (4 percent), cereal (3 percent), and oil (2 percent).

- **As delivered, FDPIR food packages provided participants with most (84 percent) of their energy needs.** As offered, FDPIR food packages provided 95 percent of participants' energy needs. FDPIR food packages offered and delivered at least 100

percent of the DRI for protein and carbohydrate. The FDPIR food package offered more than 100 percent of the DRI for six of the eight minerals, and eight of the ten vitamins; and delivered more than 100 percent of the DRI for five minerals and seven vitamins. Both as-offered and as-delivered packages provided less than 75 percent of the DRI for potassium, vitamin D, and vitamin E.

- **USDA Foods delivered to FDPIR participants in FY 2014 achieved an HEI-2005 score of 86.5 and an HEI-2010 score of 73.0.** These scores are considerably higher than the HEI-2010 scores for the U.S. food supply (55.0) in 2010 and the average American diet (59.0) in 2011-2012, as well as the HEI-2005 score for the average diet of SNAP participants (51.9) in 1999-2004.

- **When compared with the 2009 food packages, 5 million fewer pounds of USDA Foods were delivered in 2014.** The packages delivered in 2009 and 2014 were similar in their composition, though the 2014 package contained slightly more milk by weight, and slightly less vegetables and starches. The 2014 package delivered slightly fewer calories, nearly the same amount of protein and carbohydrate, less cholesterol, and more fiber. The 2014 package offered slightly more of all minerals except copper and six of the ten vitamins. Notably, the 2014 FDPIR food package improved the percentage of the DRI recommended amount of calcium (93 percent of the DRI in 2014, 61 percent in 2009) and vitamin A (84 percent of the DRI in 2014, 65 percent in 2009). The FDPIR food package delivered in 2014 contained slightly less sodium than in 2009.

- **The HEI-2005 score for the 2014 as-offered FDPIR package was slightly lower than in 2009, but the score for the as-delivered package was slightly higher than in 2009.** The component scores for the 2014 as-delivered package were higher for milk, saturated fat and sodium; lower for both fruit components, both vegetable components, and whole grains; and equal for total grains, meat and beans, oils, and calories from solid fats, alcohol, and added sugar (SoFAAS).

National School Lunch Program

NSLP operates in public and nonprofit private schools and residential child care institutions, and provides nutritionally balanced, low-cost or free lunches to children. USDA Foods account for 15 to 20 percent of foods served in school nutrition programs. Schools select from a wide variety of USDA Foods to help meet NSLP nutrient and meal pattern requirements.

- **In SY 2013-2014, participating school districts received a total of 1.3 billion pounds of USDA Foods.** By weight, meats accounted for ten percent of the as-offered package but 35 percent of USDA Foods delivered to schools. Fruit and vegetables accounted for one quarter of the total weight of USDA Foods delivered, and cheese accounted for ten percent of the weight delivered. Differences in the relative quantities of USDA Foods offered and delivered reflect State agency and local school district needs and preferences. These are driven by a variety of factors, including cost (the

USDA buys in bulk and gets relatively low prices), versatility (many of these items can be further processed into items most desirable to a particular school), and food safety and quality assurances provided by the USDA.

- **USDA Foods offered 22 percent and delivered 7 percent of the NSLP reference participant's energy needs.** USDA Foods offered and delivered about 25 percent of the DRI for protein, between 5 and 26 percent of all minerals examined, and between 4 and 34 percent of all vitamins except vitamin D.

- **USDA Foods delivered to NSLP participants in SY 2013-2014 achieved an HEI-2005 score of 76.7 and an HEI-2010 score of 81.2.** These scores are considerably higher than the HEI-2010 scores for the U.S. food supply (55.0) in 2010 and the average American diet of children ages 2-17 years (55.1) in 2011-2012, as well as the HEI-2005 score for the average diet of SNAP participants ages 2-17 years (53.2) in 1999-2004.

- **When compared with the SY 2009-2010 food packages, 290 million more pounds of USDA Foods were delivered in SY 2013-2014.** The packages delivered in SY 2009-2010 and SY 2013-2014 differed in composition, with the SY 2013-2014 package providing more fruit and vegetables as a percentage of weight, and less cheese, grains, meat, and oil. Both packages delivered essentially the same amount of calories and protein, though the SY 2013-2014 package delivered slightly less fat and slightly more carbohydrate and fiber. The SY 2013-2014 package delivered slightly more of five of the eight minerals and five of the ten vitamins examined. Notably, the USDA Foods provided to NSLP doubled the amount of vitamin C delivered and increased the amount of vitamin B6 from 14 percent to 19 percent of the NSLP reference participant's RDA. The USDA Foods delivered to NSLP in SY 2013-2014 contained slightly less sodium than in SY 2009-2010.

- **HEI-2005 scores for USDA Foods offered and delivered to NSLP participants in SY 2013-2014 were higher than in SY 2009-2010.** The component scores for USDA Foods delivered were higher for total fruit, both vegetable components, whole grains (which increased from 0.7 to 2.2), sodium, and calories from SoFAAS. Component scores were lower for total grains and oils, and unchanged for whole fruit, milk, and meat and beans.

The Emergency Food Assistance Program

TEFAP provides emergency food assistance to income-eligible individuals of all ages; foods provided to participants are intended to supplement their diets. The USDA makes available high-quality foods to State Distributing Agencies; the foods are then distributed to organizations that serve individuals and households in need of assistance. Participating organizations distribute the foods to those in need, either for home use or on-site consumption (i.e., prepared meals). State agency demand for USDA Foods through TEFAP is driven by several factors, including the need to

acquire items that food banks typically lack in food donations from private entities. States also attempt to maximize the amount of USDA Foods they can get for their dollars, and to select foods appropriate to their storage facilities. USDA Foods are typically only a small part of what a TEFAP recipient receives from a soup kitchen or food bank.

- **In FY 2014, 746 million pounds of USDA Foods were delivered to TEFAP recipients.** Vegetables, fruit, meat, and juice accounted for approximately equal amounts of USDA Foods delivered by weight, and nearly 80 percent of the total weight of USDA Foods delivered.

- **USDA Foods delivered to State agencies through TEFAP achieved an HEI-2005 score of 86.2 and an HEI-2010 score of 85.5.** These scores are considerably higher than the HEI-2010 scores for the U.S. food supply (55.0) in 2010 and the average American diet (59.0) in 2011-2012, as well as the HEI-2005 score for the average American diet (57.5), and the average diet of SNAP participants (51.9) in 1999-2004.

- **When compared with the FY 2009 food packages, 16 million more pounds of USDA Foods were delivered in FY 2014.** The packages delivered in 2009 and 2014 differed in composition, with the 2014 package providing more fruit and juice as a percentage of weight, and less meat, peanut butter and dried beans, and vegetables.

- **The HEI-2005 scores for USDA Foods delivered to State agencies through TEFAP in FY 2014 were lower than in FY 2009** (2.7 points lower for the as-delivered package with bonus foods). Component scores for USDA Foods delivered were higher for whole fruit and whole grains; lower for milk and oils; and unchanged for total fruit, both vegetable components, total grains, meat and beans, saturated fat, sodium, and calories from SoFAAS.

Child and Adult Care Food Program

CACFP centers, like schools participating in NSLP, can select from a wide variety of USDA Foods that help them meet regulatory meal pattern requirements. Centers are permitted to receive USDA Foods or cash in lieu of USDA Foods. Fewer than 20 percent of CACFP-participating child care institutions opted to receive USDA Foods in FY 2009.

- **CACFP centers that received USDA Foods rather than cash received slightly more than 1.7 million pounds of food in FY 2014.** These centers selected more vegetables, by weight, than any other group of USDA Foods. Fruit (29 percent), meat (19 percent), and cheese (10 percent) made up the bulk of the remaining amount of USDA Foods delivered. CACFP centers select USDA Foods that meet their particular needs given factors that include local market conditions for comparable food items and their own capacities for storage. As a result, the mix of USDA Foods selected and

delivered to CACFP providers in FY 2014 differed from the mix of USDA Foods offered.

- **USDA Foods delivered to CACFP providers achieved an HEI-2005 score of 71.2 and an HEI-2010 score of 76.6.** These scores are considerably higher than the HEI-2010 scores for the U.S. food supply (55.0) in 2010, the average American diet (59.0) and that of children ages 2-17 years (55.1) in 2011-2012, as well as the HEI-2005 score for the average diet of SNAP participants (51.9) in 1999-2004.

- **When compared with the FY 2009 food packages, 100,000 fewer pounds of USDA Foods were delivered in FY 2014.** The packages delivered in 2009 and 2014 differed in composition, with the 2014 package providing more vegetables as a percentage of weight, and less cheese, grains, meat, and oil.

- **The HEI-2005 scores for USDA Foods offered and delivered to CACFP providers in FY 2014 were higher than in FY 2009** (11.9 points higher for as-offered foods and 2.7 points higher for as-delivered foods). Component scores for USDA Foods delivered were higher for total fruit and both vegetable groups and calories from SoFAAS, lower for total grains, oils, and sodium, and unchanged for whole fruit, whole grains, milk, meat and beans, and saturated fat.

Background 1

1.1 Introduction

The mission of the U.S. Department of Agriculture, Food and Nutrition Service (FNS) is to "increase food security and reduce hunger by providing children and low-income people access to food, a healthful diet and nutrition education in a way that supports American agriculture and inspires public confidence."[5] To achieve this goal, the FNS administers 15 nutrition assistance programs in partnership with State agencies. Participants in several programs receive USDA Foods[6] in one of three ways:

1. **Meals served in schools and institutions,** such as the Child and Adult Care Food Program (CACFP), the National School Lunch Program (NSLP), the Nutrition Services Incentive Program (NSIP), and the Summer Food Service Program (SFSP);

2. **Foods provided to households,** such as the Commodity Supplemental Food Program (CSFP), the Food Distribution Program on Indian Reservations (FDPIR), and the Emergency Food Assistance Program (TEFAP); and

3. **Foods provided through outlets,** such as disaster food assistance and the Bureau of Prisons.[7]

This report presents findings from nutrient and food group analyses of USDA Foods distributed through CSFP, FDPIR, TEFAP, and CACFP in fiscal year (FY) 2014, and through NSLP in school year (SY) 2013-2014.[8] The analyses examined the nutrient and food group content of USDA Foods

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[5] U.S. Department of Agriculture Food and Nutrition Service, *About FNS*. Published 9/14/2015. Accessed September 2015. http://www.fns.usda.gov/about-fns.

[6] USDA Foods are foods purchased by the USDA and donated to Contracting Entities for use in their food service operations.

[7] Roberts, S. *Anti-poverty food and nutrition programs in the USA. A History of Commodity Programs*. FDD Operations Branch, 2008. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/1-03-ProgramHistory-Overview.pdf.

[8] This report is the second in series to assess the Nutrient and Food Group content of USDA food packages offered and delivered through these five programs. The first report was published in 2012; U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, *Nutrient and MyPyramid Analysis of USDA Foods in Five of Its Food and Nutrition Programs* by Thea Palmer Zimmerman, Sujata Dixit-Joshi, Brenda Sun, Deirdre Douglass, Jason Hu, Fred Glantz, Elaine Eaker. Project Officer Dennis Ranalli. Report FD-12-USDAFOODS. Alexandria, VA: January 2012. Accessed June 2015. http://www.fns.usda.gov/nutrient-and-mypyramid-analysis-usda-foods-five-its-food-and-nutrition-programs-0.

offered to States and local administering agencies, as well as the nutrient and food group content of USDA Foods selected by administering agencies and participants (i.e., the foods delivered). The nutrient and food group content of USDA Foods as offered and as delivered for each program were compared with four dietary standards: the Dietary Reference Intakes (DRIs), the USDA's Thrifty Food Plan (TFP), the 2010 USDA Food Pattern recommendations from the *Dietary Guidelines for Americans 2010* (DGA), the Healthy Eating Index (HEI-2005 and HEI-2010). The nutrient and food group content of the NSLP food package also was compared with NSLP meal pattern and nutrition standards.

1.1.1 History of Food Distribution Programs

The USDA Foods program began during the economic depression in the 1930s, in response to the rise in unemployment and hunger, as well as farm surpluses. During this time, the agriculture market experienced excess farm commodities, with insufficient demands.[9] To prevent food spoilage, the Commodity Credit Corporation Act was established in 1933 with the intent of providing loans to farmers for building storage facilities for non-perishable farm commodities. The government accepted loan payments in the form of crops and established a means of donating agriculture surplus through domestic and international programs. In 1935, Congress passed Public Law (P.L.) 74-320, through which funds were designated for school food purchases. Under Section 32, the USDA received authorization to purchase surplus agricultural products, thereby removing them from commercial channels of distribution and promoting consumption through schools and other non-profit avenues. This law provided the basis for purchasing and delivering surplus USDA Foods through several Federal domestic food programs administered by the USDA.[10]

In 1953, program administration changes shifted control from Federal to State agencies, and in 1961, the first executive order issued by President Kennedy mandated an increase in the quantity and variety of foods donated to households in need. This executive order shifted the primary purpose of food distribution programs from surplus disposal to providing nutritious foods to households. Subsequent program changes included establishment of a minimum level of USDA Foods in NSLP, and institutionalization of USDA Foods donations to domestic food programs, such as the School Breakfast Program (SBP), the Child Care Food Program (expanded and renamed to Child and Adult

[9] U.S. Department of Agriculture Food and Nutrition Service, *Food Distribution: FDD – History and Background.* Accessed June 2015. http://www.fns.usda.gov/fdd/fdd-history-and-background.

[10] Ibid.

Care Food Program, or CACFP), the Summer Food Service Program (SFSP), the Nutrition Program for the Elderly (renamed the National Services Incentive Program, or NSIP), and emergency feeding programs. The USDA continues to make program updates so as to better align nutrition assistance programs with the nutritional needs of program participants and the *Dietary Guidelines for Americans* (DGA).[11]

1.1.2 Overview of Food Distribution Process

The FNS, Food Distribution Division (FDD) is responsible for publishing the list of the types and quantities of USDA Foods expected to be available to nutrition assistance programs during the upcoming fiscal year. The FDD also is responsible for coordinating and processing USDA Food orders received from State Distributing Agencies. The FNS also works collaboratively with the USDA's Agricultural Marketing Service (AMS), the Farm Service Agency (FSA) Commodity Operations Office, and the Food Safety and Inspection Service (FSIS) to obtain foods, ensure their safety, and make them available to States implementing the nutrition assistance programs.[12] The AMS purchases Group A USDA Foods (including meat, poultry, fish, fruits, and vegetables), and the FSA purchases Group B USDA Foods (including dairy products, cereals, grains, peanut products, and vegetable oils).[13] When there are surpluses of particular foods, bonus USDA Foods (Group A and Group B) are made available to programs at no cost to the participating agencies.[14] Since bonus USDA Foods are available due to agricultural surplus, the types and quantities of available items vary from year to year.[15] The FSIS ensures the safety of donated USDA Foods through standards and specifications for the handling of USDA Foods.[16] In FY 2014, the USDA purchased more than 2.2 million pounds of raw and processed foods worth over $2.1 billion, with meat products, fruits, and vegetables accounting for the top three food groups by weight of USDA Foods purchased.[17]

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[11] U.S. Department of Agriculture, Title IV Nutrition. *Summary of Improvements to Nutrition Programs*; pp. 3, 17. Accessed June 2015. http://www.usda.gov/documents/07title4.pdf.

[12] U.S. Department of Agriculture, Food and Nutrition Service, *FD Program Overview*. Accessed May 2015. http://www.fns.usda.gov/fdd/aboutfd/fd_overview.htm.

[13] Ibid.

[14] A USDA Food that is not charged against the State's entitlement and the recipient agency's planned assistance level amount.

[15] U.S. Department of Agriculture Food and Nutrition Service. *Schools/CN Commodity Programs Frequently Asked Questions*. Accessed May 2015. http://origin.www.fns.usda.gov/fdd/_Drupal/programs/schcnp/schcnp_faqs.htm.

[16] U.S. Department of Agriculture Food Safety and Inspection Service, FSIS Directive. *Processing USDA – Donated Commodities*. 1989. Accessed June 2015. http://www.fsis.usda.gov/OPPDE/rdad/FSISDirectives/7010-1.pdf.

[17] USDA Food and Nutrition Service, National Data Bank U.S. Summary: Data Facts. September 14, 2015.

Authorized State agencies are responsible for program administration; entering agreements with subdistribution agencies and providing them guidance; providing recipient agencies with information regarding commodity assistance levels (entitlement funds), ordering options, available foods, and commodity values; ordering and allocating USDA Foods based on participation data for nutrition assistance programs; and permitting recipient agencies to refuse all or some portion of USDA Foods prior to delivery, and to change orders for Group B and unlimited bonus USDA Foods prior to order submission.[18]

Since 1994, the USDA also has partnered with the Department of Defense (DoD) Defense Supply Center Philadelphia (DSCP) to purchase U.S.-grown fresh fruits and vegetables for NSLP and FDPIR (the DoD Fresh Fruit and Vegetable Program).[19] States participating in school meal programs and FDPIR have the option of allocating any portion of their commodity entitlement funds toward purchasing fruits and vegetables from the DoD Fresh Fruit and Vegetable Program.[20] Schools or State agencies may order produce directly from the DoD, and the DoD then bills the USDA for the product it delivers.

1.2 Description of USDA Nutrition Assistance Programs

The USDA estimates that in any given year, about one in four Americans participate at some point in at least one of the 15 USDA nutrition assistance programs.[21] Eligibility to participate in the USDA's nutrition assistance programs is based on household income in relation to Federal poverty guidelines. Participants can receive benefits from multiple programs, and guidelines are available to State and local agencies to determine the acceptable overlap in program participation. The overlap in the populations served by the nutrition assistance programs is seen mostly in children; the eligibility application for several programs is waived if the family/child participates in certain other programs. For example, if a child is a member of a family receiving Supplemental Nutrition Assistance Program

[18] Subchapter B – General Regulations and Policies – Food Distribution. Part 250 – Donation of Foods for Use in the United States, its territories and possessions and areas under its jurisdiction; pp. 557-558. Accessed June 2015. http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title07/7cfr250_main_02.tpl.

[19] U.S. Department of Agriculture Food and Nutrition Service, *DoD Fresh Fruit and Vegetable Program.* Accessed June 2015 http://www.fns.usda.gov/fdd/dod-fresh-fruit-and-vegetable-program.

[20] USDA does not impose a cap on the amount of entitlement used through the DoD program.

[21] Oliveira, V. *The Food Assistance Landscape. FY 2014 Annual Report.* ERS. March 2015. Accessed June 2015. http://www.ers.usda.gov/media/1806461/eib137.pdf.

(SNAP) benefits, the child also can participate in NSLP and CACFP. The following section provides a brief overview of the five programs examined in this evaluation.

1.2.1 Commodity Supplemental Food Program

CSFP is authorized under section 4(a) of the Agriculture and Consumer Protection Act of 1973. The program was initially designed to serve income-eligible pregnant and postpartum women and their young children up to 6 years of age, and was expanded to include the elderly. In the mid-1990s, the program served approximately similar numbers of these two groups (women/infants/children and elderly participants). Subsequently, in the 1990s, there was a steady decline in the number of woman/infant/child participants and an increase in the elderly participants. In keeping with the participation trends, CSFP program eligibility was amended in the Agricultural Act of 2014 (P.L. 11379); women, infants, and children who were certified and received CSFP benefits as of February 6, 2014, will continue to receive assistance until they are no longer eligible under the program rules in effect on February 6, 2014. Women, infants, and children who applied for CSFP benefits on February 7, 2014, or later were no longer certified to participate in the program. Such individuals may be eligible for other nutrition assistance programs such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), SNAP, and other nutrition assistance programs.[22] In FY 2014, the total average monthly participation was approximately 600,000, of which less than 1,000 were woman/infant/child participants.[23]

CSFP Eligibility Requirements. The FNS provides USDA Foods to help State and local agencies meet the nutritional needs of income-eligible and elderly persons, or residents of one of the Indian reservations that participate in CSFP. States establish an income limit for the elderly that is at or below 130 percent of the Federal poverty level.

CSFP Participation and Funding. In FY 2009, USDA Foods were made available to CSFP participants in 32 States. Because the caseloads allotted for each individual State are often smaller than the number of eligible seniors and families, CSFP is not available statewide in most of the

[22] Oliveira, V. *The Food Assistance Landscape. FY 2014 Annual Report.* ERS. March 2015. Accessed June 2015. http://www.ers.usda.gov/media/1806461/eib137.pdf.

[23] Antonson, E. U.S. Department of Agriculture, Food and Nutrition Service, Food Distribution Division. CSFP Overview. Program History, Legislation, Regulation, and Policy. February 2014. Accessed July 2015. http://www.fns.usda.gov/sites/default/files/csfp/2015_CSFP_Orientation_CSFP_Overview_History_Policy.pdf.

participating States.[24] In FY 2014, Congress funded CSFP at $203 billion, reaching an average 573,000 people each month, the majority of whom were elderly.[25]

Distribution of USDA Foods Through CSFP. The FNS assigns caseloads and allocates administrative funds to State agencies, which in turn may select local agencies to administer the program within local areas.[26] The State and local agencies share the tasks of ordering USDA Foods for distribution, storing and distributing USDA Foods, and establishing procedures for resolving complaints about USDA Foods. State and local agencies may contract with commercial facilities to store and distribute USDA Foods, and must ensure that these adhere to the required standards for warehousing and distribution systems. The local agency is responsible for issuing food to participants. The local agency distributes a package of USDA Foods to participants each month, or a 2-month supply every other month, in accordance with the CSFP Maximum Monthly Distribution Rates (Appendix A) established by the FNS.[27] These distribution rates specify the quantities of USDA Foods that must be provided from the food categories defined by the USDA. Agencies select from these foods and within these distribution guides based on participant preferences, storage capabilities, and delivery mechanisms.

USDA Foods Offered Through CSFP. USDA Foods offered in CSFP include nonfat dry and ultra-high temperature (UHT) pasteurized fluid milk, juice, farina, oats, ready-to-eat cereal, rice, pasta, peanut butter, dry beans; canned meat, poultry, and fish; and canned fruits and vegetables. USDA Foods offered through CSFP are in forms and quantities appropriate for household use. As noted previously, the quantities and types of USDA Foods offered to participants in CSFP are defined by the age of the participant, according to the Distribution Rates (Appendix A). The CSFP food package is not intended to provide a complete diet; rather, USDA Foods are considered a good

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[24] Finegold, K., Kramer, F.D., Saloner, B., and Parnes, J. *The Role of Commodity Supplemental Food Program (CSFP) in Nutritional Assistance to Mothers, Infants, Children, and Seniors*. Contractor and Cooperator Report No. 48; p. 10. Accessed June 2015. http://naldc.nal.usda.gov/download/32850/PDF.

[25] U.S. Department of Agriculture, Food and Nutrition Service. *Commodity Supplemental Food Program Frequently Asked Questions*. Last published 07/07/2014. Accessed September 2015. http://www.fns.usda.gov/csfp/frequently-asked-questions.

[26] Electronic Code of Federal Regulations. Title 7: Agriculture, Part 247 – Commodity Supplemental Food Program. Accessed August 2015. http://www.ecfr.gov/cgi-bin/text-idx?SID=1df35e9cd32b52b4209e6ccf5b606979&mc=true&node=pt7.4.247&rgn=div5.

[27] U.S. Department of Agriculture, Food and Nutrition Service. *Commodity Supplemental Food Program (CSFP): Revised Food Package Maximum Monthly Distribution Rates and Potential Impact of Juices in Plastic Containers*. Effective date Jan 13, 2011. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/CSFP_Rev_Max_Monthly_Dist_Rates_UHTMilk.pdf.

source of the nutrients typically lacking in the diets of the target population.[28,29] In FY 2009, CSFP delivered a total 147.7 million pounds of USDA Foods, including 0.3 million pounds delivered to infants, 8.8 million pounds delivered to children and non-elderly women, and 138.6 million pounds delivered to elderly participants. Compared with an HEI-2005 score of 58 for the average American diet, the CSFP food package delivered to nonelderly women and children had an HEI-2005 score of 73.9 and the package delivered to the elderly had an HEI-2005 score of 76.6, reflecting a balance of fruits, vegetables, grains, dairy, and protein foods.[30]

1.2.2 Food Distribution Program on Indian Reservations (FDPIR)

FDPIR is authorized under section 4(b) of the Food and Nutrition Act of 2008 and section 4(a) of the Agriculture and Consumer Protection Act of 1973. FDPIR is administered locally by either the Indian Tribal Organization (ITO) or the State agency. As of July 2014, about 100 ITOs and five State agencies provide benefits to members of 276 tribes on Federally recognized Indian reservations, in American Indian households located in approved areas near reservations or in Oklahoma, and among Alaska Natives.[31] Many households participate in FDPIR as an alternative to SNAP because they do not have easy access to SNAP offices or authorized food stores.[32]

FDPIR Eligibility Requirements. ITOs and State agencies administering FDPIR are responsible for determining applicant eligibility. Income-eligible American Indian and non-Indian households that reside on a reservation, and households living in approved areas near a reservation or in Oklahoma that contain at least one person who is a member of a Federally recognized tribe are eligible to participate in FDPIR. Households are certified based on financial (income) and non-

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[28] Weimer, J. *Factors Affecting Nutrient Intake of the Elderly*. Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 769; p. iii. Accessed June 2015. http://www.ers.usda.gov/publications/aer-agricultural-economic-report/aer769.aspx.http://www.ers.usda.gov/publications/aer769/aer769.pdf.

[29] National CSFP Association. *Commodity Supplemental Food Program. Fact Sheet.* Accessed June 2015. http://www.ncsfpa.org/about.

[30] U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, *Nutrient and MyPyramid Analysis of USDA Foods in Five of Its Food and Nutrition Programs* by Thea Palmer Zimmerman, Sujata Dixit-Joshi, Brenda Sun, Deirdre Douglass, Jason Hu, Fred Glantz, Elaine Eaker. Project Officer Dennis Ranalli. Report FD-12-USDAFOODS. Alexandria, VA: January 2012. Accessed June 2015. http://www.fns.usda.gov/nutrient-and-mypyramid-analysis-usda-foods-five-its-food-and-nutrition-programs-0.

[31] U.S. Department of Agriculture, Food and Nutrition Service. Food Distribution Fact Sheet. *Food Distribution Program on Indian Reservations*. Accessed May 2015 http://www.fns.usda.gov/sites/default/files/pfs-fdpir.pdf.

[32] U.S. Department of Agriculture, Food and Nutrition Service. *Food Distribution Program on Indian Reservations.* Accessed September 2015. http://www.fns.usda.gov/sites/default/files/pfs-fdpir.pdf.

financial standards set by the Federal government, and must be recertified at least every 12 months. Elderly and disabled households may be certified for up to 24 months. Households may not participate in FDPIR and SNAP in the same month. Foods provided through FDPIR are intended for the entire household, and benefit levels are based on the number of individuals in the household. The household composition (age, gender, activity level, energy requirement) is not considered in determining the types and quantities of food contained in the package; rather, it is based on the total number of individuals in the household. Similarly, all eligible households receive the same benefits regardless of household income or resources.[33]

FDPIR Participation and Funding. In FY 2014, the FDPIR budget was $104 million and the average monthly participation was 85,397 individuals.[34]

Distribution of USDA Foods Through FDPIR. The USDA defines FDPIR food categories and quantities that must be provided within those categories; these guidelines are published in the Monthly Distribution Guide Rates[35] (Appendix A). From the list of USDA Foods offered in FDPIR, ITOs and State agencies choose which items they can provide based on the capacity of storage facilities, delivery mechanisms, and participant preferences[36] within the distribution guide rates, which are updated periodically (Appendix A). The FNS purchases and ships the ordered foods directly to ITOs and State agencies, or through a contracted warehouse. Until 1995, most FDPIR foods were shelf-stable, dry, or canned products; however, in 1995 the DoD Fresh Fruit and Vegetable Program was extended to FDPIR participants to increase their access to fresh produce.[37]

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[33] U.S. Department of Agriculture, Food and Nutrition Service. Food Distribution Fact Sheet. *Food Distribution Program on Indian Reservations*. Accessed May 2015. http://www.fns.usda.gov/fdpir/about-fdpir.

[34] U.S. Department of Agriculture, Food and Nutrition Service. USDA Food and Nutrition Program: Quick Facts. *Food Distribution Program on Indian Reservations.* Accessed May 2015. http://www.fns.usda.gov/sites/default/files/pfs-fdpir.pdf.

[35] U.S. Department of Agriculture, Food and Nutrition Service. *FNS Handbook 501: The Food Distribution Program on Indian Reservations*, Exhibit O, *Food Distribution Program on Indian Reservations: Monthly Distribution Guide Rates by Household Size.* Effective April 10, 2014. Accessed May 2015. http://www.fns.usda.gov/sites/default/files/fdpir/Exhibit_O_MonthlyDistributionGuideRatesEffective_4_10_2014.pdf.

[36] Harper, E., Orbeta, R., Southworth, L., Meade, K., Cleveland, R., Gordon, S., Buckley, M., and Hirschman, J. *FDPIR Food Package Nutritional Quality. Report to Congress.* Report FD-08-FDPIR. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis. November 2008; p. 2. Accessed June 2015. http://www.fns.usda.gov/fdpir-food-package-nutritional-quality-report-congress.

[37] DoD Fresh Fruit and Vegetable Program. *About DoD Fresh Fruit and Vegetable Program.* Accessed June 2015. http://www.fns.usda.gov/sites/default/files/DOD_FreshFruitandVegetableProgram2011.pdf.

USDA Foods Offered Through FDPIR. USDA Foods provided to FDPIR participants are in forms and quantities appropriate for household use. The USDA makes nearly 80 different products available through FDPIR. Foods are offered in shelf-stable, dry, canned, and frozen (chicken, ground beef, and beef roast) forms.[38] Available foods include meat, poultry, and fish; canned fruits, vegetables, soups, and spaghetti sauce; macaroni and cheese, pastas, cereal, rice, and other grains; cheese, egg mix, low-fat milk, nonfat dry milk, and evaporated milk; flour, cornmeal, bakery mix, and reduced-sodium crackers; low-fat refried beans, dried beans, and dehydrated potatoes; juices and dried fruit; peanuts and peanut butter; and vegetable oil.[39] In addition, participants on most reservations can choose fresh produce instead of canned fruits and vegetables.[40] The USDA has not established criteria for the expected contribution of FDPIR foods to the diets of participating households. In FY 2009, FDPIR delivered about 78 million pounds of USDA Foods to program participants, or about 2.2 pounds per participant per day. USDA Foods delivered to FDPIR participants in FY 2009 had an HEI-2005 score of 85.3.[41]

1.2.3 National School Lunch Program (NSLP)

NSLP was established under the National School Lunch Act in 1946. Currently, the program operates in over 101,000 public and non-profit private schools and residential child care centers. The FNS administers the program at the Federal level. At the State level, NSLP is usually administered by State agencies, which operate the program through agreements with school food authorities.[42] The Healthy, Hunger-Free Kids Act of 2010 (HHFKA) required the USDA to align the nutritional standards of school meals with the current dietary guidance; provide more fruits, vegetables, whole grains; and reduce saturated fat and *trans* fat, in age-appropriate portion size and calories. The USDA

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[38] Ibid.

[39] U.S. Department of Agriculture Food and Nutrition Service, *Foods Available for 2015, Food Distribution Program on Indian Reservations (FDPIR)*. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/fdpir/FY2015_FDPIR.pdf.

[40] Ibid.

[41] U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, *Nutrient and MyPyramid Analysis of USDA Foods in Five of Its Food and Nutrition Programs* by Thea Palmer Zimmerman, Sujata Dixit-Joshi, Brenda Sun, Deirdre Douglass, Jason Hu, Fred Glantz, Elaine Eaker. Project Officer Dennis Ranalli. Report FD-12-USDAFOODS. Alexandria, VA: January 2012. Accessed June 2015. http://www.fns.usda.gov/nutrient-and-mypyramid-analysis-usda-foods-five-its-food-and-nutrition-programs-0.

[42] U.S. Department of Agriculture Food and Nutrition Service, *National School Lunch Program Fact Sheet*; p. 1. May 2015. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/NSLPFactSheet.pdf.

also set targets for gradual reductions in sodium levels for school meals over the course of 10 years, with the final sodium target taking effect in SY 2022-2023.[43]

NSLP Eligibility Requirements. Any child at a participating school may purchase a meal through NSLP. Children from families with incomes at or below 130 percent of the Federal poverty level are eligible to receive free meals; those with incomes between 130 percent and 185 percent of the Federal poverty level are eligible for reduced-price meals, for which students can be charged no more than 40 cents. Children from families with incomes over 185 percent of the Federal poverty level pay full price, though their meals are still subsidized to some extent. Local school food authorities set their own prices for full-price (paid) meals, but must operate their meal services as non-profit programs.[44]

NSLP Participation and Funding. In FY 2014, 99,953 public and nonprivate schools (grades K-12) and residential child care institutions served NSLP meals to more than 30 million students; the NSLP operating cost was $12.6 billion.[45] School districts participating in NSLP receive cash subsidies and USDA Foods for each meal served; subsidies are larger for free and reduced-price meals than for full-price meals.[46]

Distribution of USDA Foods Through NSLP. In addition to NSLP operating costs, States can receive USDA Foods for use in school lunches, based on the State's entitlement.[47] In 1974, Congress amended the National School Lunch Act to require the USDA to use NSLP funds to purchase

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[43] Nutritional standards in the National School Lunch and School Breakfast Programs. Final Rule. Federal Registry, vol. 77 no. 17, January 26, 2012. Accessed June 2015. http://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf.

[44] U.S. Department of Agriculture Food and Nutrition Service, *National School Lunch Program Fact Sheet*; p. 1. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/NSLPFactSheet.pdf.

[45] U.S. Department of Agriculture Economic Research Service, *National School Lunch Program* Accessed September 2015. http://www.ers.usda.gov/topics/food-nutrition-assistance/child-nutrition-programs/national-school-lunch-program.aspx.

[46] U.S. Department of Agriculture, Food and Nutrition Service, White Paper. USDA Foods in the National School Lunch Program. May 2010; p. 4. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/WhitePaper.pdf.

[47] Under Section 6 of the Richard B. Russell National School Lunch Act, States are guaranteed assistance for USDA Foods at 11 cents per meal, which is adjusted annually for inflation. This guaranteed assistance is referred to as the State's USDA Foods entitlement. USDA uses a formula mandated by the law; this formula multiplies the number of lunches served during the previous year by a per meal rate, which is adjusted annually for inflation. The Bureau of Labor Statistics' Producer Price Index for Foods Used in Schools and Institutions serves as a basis for the per meal rate. U.S. Department of Agriculture, Food and Nutrition Service, White Paper. USDA Foods in the National School Lunch Program. May 2010; pp. 3, 9. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/WhitePaper.pdf.

USDA Foods to maintain the annual programmed level of assistance to schools.[48] USDA Foods account for about 15 to 20 percent of foods served in school meals, with the remaining 85 percent being purchased commercially.[49]

The FNS publishes an annual list of USDA Foods available and the corresponding dollar value of each product. State agencies may allow local school districts to select individual USDA Foods from the available offerings. Schools choose items from the USDA Foods list for a variety of reasons, including cost (the cost of a USDA Foods item may be cheaper than a commercially available product), versatility (many of USDA Foods items can be further processed into items desired by a particular school), and the food safety and quality assurances provided by the USDA (which may not be matched by commercially available products). The decision of which foods to purchase is based not only on school preferences, but also on historical demand and on market and yield projections.[50]

State agencies order products from the list of offerings until the dollar value in their entitlement balance is depleted. In addition, bonus products are offered to States throughout the year on a fair share basis. When placing orders, States specify the delivery location for USDA Foods; deliveries may be to warehouses under contract with the State or owned by the State, school districts, commercial distributors, or manufacturers for further processing. Commodity processing "allows the processor to receive USDA-donated food like bulk chicken as an ingredient in the production of a finished end product like chicken nuggets or patties."[51] Through the DoD Fresh Fruit and Vegetable Program, the USDA offers schools a wide variety of fresh produce. The USDA also works with schools to promote connections with local small farmers who may be able to provide fresh produce.[52]

USDA Foods Offered Through NSLP. In SY 2013-2014, the list of USDA Foods offered to school districts through NSLP included more than 200 products. The estimated value of USDA

[48] Ralston, K., Newman, C., Clauson, A., Guthrie, J., and Buzby, J. *The National School Lunch Program. Background, Trends, and Issues*. Economic Research Report Number 61. U.S. Department of Agriculture. July 2008; p. 8. Accessed June 2015. http://www.ers.usda.gov/media/205594/err61_1_.pdf.

[49] U.S. Department of Agriculture, Food and Nutrition Service, *USDA Foods: Healthy Choices for Our Schools.* Alexandria, VA: FNS, 2011; p. 1. Accessed July 2015. http://www.fns.usda.gov/sites/default/files/8_USDAFHCFUS.pdf.

[50] Food Research and Action Center. *Commodity Foods and the Nutritional Quality of the National School Lunch Program: Historical Role, Current Operations, and Future Potential*; p. 5. Accessed June 2015. http://frac.org/newsite/wp-content/uploads/2009/09/commodities08.pdf.

[51] U.S. Department of Agriculture, Food and Nutrition Service. *Food Distribution Fact Sheet. Commodity Processing*. Accessed May 2015. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/pfs-processing.pdf.

[52] U.S. Department of Agriculture, Food and Nutrition Service. *Food Distribution: DoD Fresh Fruit and Vegetable Program*. Accessed June 2015. http://www.fns.usda.gov/fdd/dod-fresh-fruit-and-vegetable-program.

Foods makes up about one-fifth of Federal resources spent on food for school lunch. USDA Foods provided through NSLP are primarily packaged for institutional use, though some products are provided in ready-to-serve form, such as frozen sliced apples, or ready-to-cook form, such as an 8-piece cut-up chicken.[53] The USDA offers whole grain and enriched bread products; fresh, frozen, dried and canned vegetables; lean meat and meat alternatives; and *trans* fat free and low saturated fat oils for school meals.[54] Although USDA Foods are not intended to constitute 100 percent of items served at school lunch, their contribution to the dietary intake at lunch of participating children has not been reported. In SY 2009-2010, participating schools received about 1.3 billion pounds of USDA Foods, and the HEI-2005 score for foods delivered through NSLP was 74.9.[55]

1.2.4 The Emergency Food Assistance Program (TEFAP)

TEFAP was authorized in 1981 as the Temporary Emergency Food Assistance Program. The 1988 Hunger Prevention Act authorized funds to be appropriated for the purchase of USDA Foods specifically for TEFAP.[56] Under the 1990 farm bill, the program name was changed to The Emergency Food Assistance Program. TEFAP helps supplement the diets of income-eligible Americans by providing them with emergency food and nutrition assistance at no cost.

TEFAP Eligibility Requirements. Each State sets criteria for determining which households are eligible to receive food for home consumption. Income standards may, at the State's discretion, be met through participation in other Federal, State, or local food, health, or welfare programs for which eligibility is based on income. States can adjust the income criteria in order to ensure that assistance is provided only to those households most in need. Organizations that provide meals (as opposed to foods for home consumption) are eligible to receive USDA Foods if they serve predominantly individuals in need. Individuals who receive meals from these organizations (or

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[53] U.S. Department of Agriculture Food and Nutrition Service, Food Distribution, NSLP USDA Foods Fact Sheets, Accessed May 2015. http://www.fns.usda.gov/fdd/nslp-usda-foods-fact-sheets.

[54] Ibid.

[55] U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, *Nutrient and MyPyramid Analysis of USDA Foods in Five of Its Food and Nutrition Programs* by Thea Palmer Zimmerman, Sujata Dixit-Joshi, Brenda Sun, Deirdre Douglass, Jason Hu, Fred Glantz, Elaine Eaker. Project Officer Dennis Ranalli. Report FD-12-USDAFOODS. Alexandria, VA: January 2012. Accessed June 2015. http://www.fns.usda.gov/nutrient-and-mypyramid-analysis-usda-foods-five-its-food-and-nutrition-programs-0.

[56] U.S. Department of Agriculture, Food and Nutrition Service, Food Distribution Fact Sheet. *The Emergency Food Assistance Program.* July 2014. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/pfs-tefap.pdf.

settings such as shelters and congregate settings) are considered to be in need and are not subject to a means test (i.e., are exempt from providing evidence of income eligibility).[57]

TEFAP Participation and Funding. Participation rates for TEFAP are not available. In FY 2014, Congress appropriated $318.15 million for TEFAP through normal appropriations.[58] In addition to USDA Foods purchased with appropriated funds, TEFAP distributes bonus foods purchased by the USDA to support agriculture markets.

Distribution of USDA Foods Through TEFAP. Under TEFAP, the FNS makes USDA Foods available to State Distributing Agencies. The amount of food that is provided to each State is based on the number of unemployed persons and the number of people with incomes below the Federal poverty level in the State. The States then handle the administration and distribution of the donated USDA Foods through local organizations, usually food banks, which then distribute the foods to soup kitchens and food pantries that directly serve the public. States also may provide the food to community action agencies for distribution to eligible households.

USDA Foods Offered Through TEFAP. The available food products usually include items with a longer shelf life, such as canned fruits and vegetables, dried egg mix, beans, rice, pasta, canned soups, and juices. UHT milk and canned and frozen meat, poultry, and fish also are provided. Foods are provided in forms and quantities usable by households rather than institutions.[59] USDA Foods account for only a small part of the foods that a TEFAP participant receives; for example, a study of Emergency Food Assistance System Providers reported that TEFAP USDA Foods account for about 14 percent of all foods distributed,[60] and large fluctuations in the types and amounts of foods delivered are common.[61] In FY 2009, 729.6 million pounds of USDA Foods were delivered to TEFAP organizations. USDA Foods distributed through TEFAP had an HEI-2005 score of 88.9.[62]

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[57] U.S. Department of Agriculture, Food and Nutrition Service, *The Emergency Food Assistance Program. Nutrition Program Fact Sheet*. July 2014. Accessed May 2015. http://www.fns.usda.gov/sites/default/files/pfs-tefap.pdf.

[58] Ibid.

[59] Ibid.

[60] Ohls, J., and F. Saleem-Ismail. 2002. *The Emergency Food Assistance System—Findings from the Provider Survey, Volume I: Executive Summary*. FANRR-16-1. USDA, Economic Research Service; p. 55. Accessed June 2015. http://www.ers.usda.gov/publications/fanrr-food-assistance-nutrition-research-program/fanrr16-1.aspx.

[61] U.S. Department of Agriculture Economic Research Service, *Effects of Food Assistance and Nutrition Programs on Nutrition and Health*. Chapter 9, The Emergency Food Assistance Program. FANRR-19-3; p. 259. Accessed June 2015. http://www.ers.usda.gov/media/873018/fanrr19-3_002.pdf.

[62] U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, *Nutrient and MyPyramid Analysis of USDA Foods in Five of Its Food and Nutrition Programs* by Thea Palmer Zimmerman, Sujata Dixit-Joshi, Brenda Sun, Deirdre Douglass, Jason Hu, Fred Glantz, Elaine Eaker. Project Officer Dennis Ranalli. Report FD-12-

1.2.5 Child and Adult Care Food Program (CACFP)

CACFP is authorized under section 17 of the National School Lunch Act (42 U.S.C. 1766). Program regulations are issued by the USDA under section 7 CFR, part 226. In 2011, the IOM reviewed CACFP and developed recommendations for the program.[63] Based on the IOM recommendations, the USDA released a proposed rule in 2015, requiring meals served to children and adults in day care to include a greater variety of vegetables and fruits, more whole grains, and less sugar and fat.[64] This proposed rule is the first major update of CACFP meal patterns since the program's inception in 1968. The USDA designed meal pattern changes that would not increase cost for providers. The proposed rule focuses on incremental changes that reflect the science behind the nutritional needs of CACFP's diverse participants, and that are practical and achievable for the program's varied service providers to implement. Along with the updated meal patterns, the USDA is proposing best practices as a guide for providers when choosing to take additional steps to offer high-quality and nutritious meals to participants.[65,66] The FNS administers CACFP through grants to States. The program is administered in most States by the State educational agency, but is administered in a few States by an alternate agency, such as the State health or social services department. The child care component (child care centers, day care homes, "at risk" afterschool programs, and emergency shelters) and the adult day care component of CACFP may be administered by different agencies within a State at the discretion of the Governor.[67]

The State administering agency is responsible for approving sponsoring organizations and independent centers to operate the program at the local level. The sponsoring organizations and independent centers enter into agreements with the State agency and assume administrative and financial responsibility. The FNS provides annual funds to each State, so as to reimburse participating

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USDAFOODS. Alexandria, VA: January 2012. Accessed June 2015. http://www.fns.usda.gov/nutrient-and-mypyramid-analysis-usda-foods-five-its-food-and-nutrition-programs-0.

[63] Abt Associates. *Nutritional Assessment of the CACFP: Final Report Volume II*. Contract # 53-3198-3-018. Prepared for: John Endahl, Office of Analysis and Evaluation, Food and Consumer Service, U.S. Department of Agriculture. May 1997; p. 21. Accessed June 2015. http://www.abtassociates.com/reports/D19971210.pdf.

[64] Child and Adult Care Food Program: Meal Pattern Revisions Related to the Healthy Hunger-Free Kids Act of 2010. Proposed Rule. 1/15/2015. Accessed June 2015. https://www.federalregister.gov/articles/2015/01/15/2015-00446/child-and-adult-care-food-program-meal-pattern-revisions-related-to-the-healthy-hunger-free-kids-act.

[65] National CACFP Sponsors Association, *CACFP News*. Accessed June 2015. https://www.cacfp.org/news-events-conferences/nutrition-news-feed.

[66] The CACFP results presented in this report precede implementation of the meal pattern rules for CACFP; findings are not compared with CACFP meal patterns.

[67] U.S. Department of Agriculture Food and Nutrition Service, Child and Adult Care Food Program. *Why CACFP is Important*. Accessed May 2015. http://www.fns.usda.gov/cnd/care/CACFP/aboutcacfp.htm.

institutions for their costs in connection with food service operations, including administrative expenses for the program. Participating facilities have the option of receiving USDA Foods or cash in lieu; about 20 percent of childcare facilities receive USDA Foods and the remaining facilities receive cash in lieu.[68]

CACFP Eligibility Requirements. CACFP provides subsidized nutritious meals and snacks to infants and children in participating day care facilities, emergency shelters, and at-risk afterschool programs, as well as to adults who receive day care in participating facilities. The program serves the following categories of individuals: children age 12 and under; persons age 15 and under who are children of migrant workers; persons of any age who have one or more disabilities, as determined by the State, and who are enrolled in an institution or child care facility serving a majority of persons who are age 18 and under; persons age 18 and under who are in emergency shelters; and persons age 18 and under at the start of the school year who are in at-risk afterschool care centers. The program also serves adult participants who are enrolled in an adult day care center and who are functionally impaired or 60 years of age or older. The adult component of CACFP is targeted to individuals who remain in the community and reside with family members. Adults who reside in institutions are not eligible for CACFP benefits.[69]

To serve the wide range of participant subgroups, CACFP is operated by various facilities, including child care centers, family day care homes, afterschool care programs, homeless shelters, and adult day care facilities. Participating facilities determine the eligibility for each enrolled participant. Participants from households at or below 130 percent of the Federal poverty level are eligible for free meals; those from household incomes between 130 and 185 percent of the Federal poverty level are eligible for reduced-price meals. Children from households who receive benefits from SNAP, FDPIR, or State programs funded through the Temporary Assistance for Needy Families (TANF) are categorically eligible for free meals. Similarly, children who participate in Head Start and Even Start programs, those in foster care, and those experiencing homelessness are automatically eligible for free meals. Adults participating in SNAP, receiving Social Security income, or receiving Medicaid benefits are categorically eligible for free meals.[70]

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[68] U.S. Department of Agriculture, Food and Nutrition Service. Food Distribution. Schools/USDA Food Programs – FAQs. Accessed July 2015. http://www.fns.usda.gov/fdd/schoolsusda-foods-programs-faqs.

[69] U.S. Department of Agriculture Food and Nutrition Service, Child and Adult Care Food Program. *Why CACFP is Important*. Accessed May 2015. http://www.fns.usda.gov/cnd/care/CACFP/aboutcacfp.htm.

[70] Ibid.

CACFP Participation and Funding. In FY 2014, more than 3.3 million children and 120,000 adults[71] received CACFP meals and snacks on an average day; the total cost to the USDA in 2012 was $1.171 billion.[72]

Distribution of USDA Foods Through CACFP. The State agency requires institutions to indicate their preference to receive USDA Foods or cash in lieu of USDA Foods. Approximately 20 percent of child care centers currently request USDA Foods.[73] State agencies must annually provide institutions with information on foods available, and submit a list of institutions that have elected to receive USDA Foods. Each State is responsible for establishing application procedures to determine eligibility of institutions and review the total number of enrolled participants, as well as the number of enrolled participants eligible for free, reduced-price, and paid meals. CACFP reimburses participating day care and adult day care centers for serving nutritious meals. The level of assistance for lunches and suppers served by CACFP is the same rate as the rate for school lunches (i.e., 22.75 cents per meal).[74] In addition to funds, the FNS also makes donated foods available to institutions (but not family day care homes) participating in CACFP.[75]

USDA Foods Offered Through CACFP. USDA Foods offered to institutions participating in CACFP include a wide assortment of fresh, frozen, and non-perishable food items such as canned, fresh, or frozen meat, poultry or fish; canned, fresh or frozen fruits and vegetables; oats; grain products such as flour, cornmeal, rice, and grits; cheese; pasta products; peanut butter and oils. Foods generally are packaged for institutional use, though many products are provided in a ready-to-serve form, such as frozen apple slices, or ready-to-cook form, such as frozen breaded chicken pieces.[76] In FY 2009, CACFP centers that chose USDA Foods in lieu of cash received 2.2 million pounds of food, and USDA Foods delivered through CACFP had an HEI-2005 score of 71.3.[77]

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[71] U.S. Department of Agriculture Economic Research Service, Child Nutrition Programs. *Child and Adult Care Food Program*. Accessed May 2015. http://www.fns.usda.gov/cacfp/child-and-adult-care-food-program.

[72] U.S. Department of Agriculture Food and Nutrition Service, Food Distribution Fact Sheet. *Schools/Child Nutrition Commodity Programs*. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/pfs-schcnp_final_revised-11-26-12%282%29.pdf.

[73] Ibid.

[74] Ibid.

[75] Ibid.

[76] U.S. Department of Agriculture Food and Nutrition Service, *Foods* USDA Foods Available List for School Year 2016 for Schools and Institutions. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/fdd/USDA_Foods_Available_List_SY15-16.pdf.

[77] U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, *Nutrient and MyPyramid Analysis of USDA Foods in Five of Its Food and Nutrition Programs* by Thea Palmer Zimmerman, Sujata Dixit-Joshi, Brenda Sun, Deirdre Douglass, Jason Hu, Fred Glantz, Elaine Eaker. Project Officer Dennis Ranalli. Report FD-12-

1.2.6 Summary

The USDA's nutrition assistance programs are designed to alleviate food insecurity while providing healthy food choices to a large number of income-eligible women, infants, children, elderly, and households. The USDA continues to explore ways to offer healthier food choices to program participants that are in keeping with the DGA and the USDA Food Patterns. Besides the emphasis on serving healthy options, USDA Foods are purchased in bulk and may be less expensive (and more affordable for participating States) than identical products in commercial markets.

In reviewing the findings of this report, it is important to note that USDA Foods alone are not expected to meet the nutrient requirement of a reference participant each day. For example, CSFP food packages do not provide a complete diet, but are a good source of the nutrients typically lacking in the diets of the target population.[78] Similarly, schools participating in NSLP receive a relatively small portion of their annual Federal support in the form of USDA Foods and a much larger portion as cash payments. USDA Foods comprise an average of 15 to 20 percent of the foods served in school lunches nationwide, while the remaining foods are procured from commercial vendors.[79] The contribution of USDA Foods to meeting the DRI,[80] the TFP,[81] the DGA,[82] the HEI-2005,[83] the HEI-2010,[84] and the School Meal Pattern dietary standards[85] for a reference participant is a function

USDAFOODS. Alexandria, VA: January 2012. Accessed June 2015. http://www.fns.usda.gov/nutrient-and-mypyramid-analysis-usda-foods-five-its-food-and-nutrition-programs-0.

[78] U.S. Department of Agriculture Food and Nutrition Service, Commodity Supplemental Food Program. *Frequently Asked Questions*. Accessed June 2015. http://www.fns.usda.gov/fdd/programs/csfp/csfp_faqs.htm.

[79] U.S. Department of Agriculture, Food and Nutrition Service. White Paper. *USDA Foods in the National School Lunch Program*. 2010; p. 3. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/WhitePaper.pdf.

[80] Institute of Medicine, Food and Nutrition Board. Food and Nutrition Information Center, National Agricultural Library. *DRI Tables*. 2010. Accessed June 2015. http://www.nal.usda.gov/fnic/DRI/DRI_Tables/RDA_AI_vitamins_elements.pdf.

[81] Carlson, A., et al. *Thrifty Food Plan 2006*. April 2007. Accessed June 2015. http://www.cnpp.usda.gov/sites/default/files/usda_food_plans_cost_of_food/TFP2006Report.pdf.

[82] U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans,* 2010. 7th Edition. Washington: U.S. Government Printing Office, 2010. Accessed June 2015. www.health.gov/dietaryguidelines/dga2010/dietaryguidelines2010.pdf.

[83] Guenther, P.M., et al. *Development and Evaluation of the Healthy Eating Index-2005: Technical Report.* s.l.: U.S. Department of Agriculture, Center for Nutrition Policy and Promotion, November 2007. Accessed June 2015. http://www.cnpp.usda.gov/sites/default/files/healthy_eating_index/HEI-2005TechnicalReport.pdf.

[84] Guenther, P.M., Casavale, K.O., Reedy, J., Kirkpatrick, S.I., Hiza, H.A., Kuczynski, K.J., Kahle, L.L., and Krebs-Smith, S.M. Update of the Healthy Eating Index: HEI-2010. *J Acad Nutr Diet* 2013; 113(4):569-580. Accessed June 2015. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3810369.

[85] U.S. Department of Agriculture, Food and Nutrition Service. 7 CFR Parts 210 and 220. *Nutrition Standards in the National School Lunch and School Breakfast Programs; Final Rule.* January 26, 2012; p. 24. Accessed January 2015. http://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf.

of the quantity of USDA Foods provided to each participant in relation to the total food offered. The use of weighted average dietary standards for a reference participant allows assessment of the contribution of USDA Foods to the participant's nutrient needs. This weighted standard does not translate to exact nutrient targets for specific individuals because of the heterogeneity of requirements among different age and sex groups. The report also presents amounts of food pattern equivalent groups per 2,000 kcal and calculation of the HEI-2005 and HEI-2010 values for all programs. All three calculations are standardized by calories (either per 2,000 kcal or, for the HEI values, per 1,000 kcal), and thus are not dependent on the dietary requirements of the reference participant.

Methods 2

2.1 Introduction

This chapter presents the methodology used to determine the nutrient and food group content of the USDA Foods offered and delivered to participants in each of the five nutrition assistance programs. Specifically, this chapter describes the methods used to:

1. Develop a customized nutrient database of USDA Foods offered and delivered in FY 2014,[86] i.e., the USDA Foods Nutrient Database (FND-2014);
2. Compute the nutrient and food group content of USDA Food packages offered and delivered in the five nutrition assistance programs;
3. Compare the nutrient and food group content of USDA Food packages offered and delivered to dietary standards; and
4. Compare the nutrient and food group content of 2014 USDA Food packages to 2009 packages.

2.2 Develop USDA Foods Nutrient Database – FND-2014

The FND-2014 includes a complete list of all USDA Foods offered and delivered, along with the corresponding nutrient values and food pattern equivalent (FPE) values per 100 grams as well as yield factors to convert USDA Foods from the form purchased to the form as consumed. The USDA Food and Nutrient Database for Dietary Studies 2011-12 (FNDDS11-12)[87] is the primary source of nutrient values for the USDA Foods. The FNDDS11-12 nutrient values were supplemented with data from the USDA National Nutrient Database for Standard Reference,

[86] USDA Foods offered and delivered in FY 2014 for CACFP, CSFP, FDPIR, and TEFAP; offered and delivered in SY 2013-2014 for NSLP.

[87] U.S. Department of Agriculture, Agricultural Research Service. 2014. *USDA Food and Nutrient Database for Dietary Studies, 2011-2012*. Food Surveys Research Group. Accessed June 2015. http://www.ars.usda.gov/Services/docs.htm?docid=12068.

Release 26 (SR26),[88] the USDA Foods Fact Sheets,[89] and the USDA Food Patterns Equivalents Database 2011-2012 (FPED11-12).[90] Linking USDA Foods to the FNDDS enables determination of nutrient and food group values for foods as eaten (cooked, when appropriate). Appendix B provides detailed documentation of the development of the FND-2014.

The FND-2014 contains values for 65 FNDDS nutrients and 37 FPED variables. Consistent with the previous report, the findings are reported for a subset of nutrients and FPED variables (Tables 2-1 and 2-2).

Table 2-1. Nutrients Selected/Computed for Analysis

Calories (kcal)	α-linolenic acid (g)	Zinc (mg)
Protein (g)	α-linolenic acid (% kcal)*	Vitamin A (µg RAE)
Protein (% kcal)*	Cholesterol (mg)	Vitamin C (mg)
Carbohydrate (g)	Total dietary fiber (g)	Vitamin E (mg)
Carbohydrate (% kcal)*	Calcium (mg)	Vitamin D2 + D3 (µg)
Total fat (g)	Copper (mg)	Thiamin (mg)
Total fat (% kcal)*	Iron (mg)	Riboflavin (mg)
Saturated fat (g)	Magnesium (mg)	Niacin (mg)
Saturated fat (% kcal)*	Phosphorus (mg)	Vitamin B6 (mg)
Linoleic acid (g)	Potassium (mg)	Vitamin B12 (µg)
Linoleic acid (% kcal)*	Sodium (mg)	Folate (µg DFE)

*Not contained in FND-2014, computed for reporting purposes, using variables contained in FND-2014

[88] U.S. Department of Agriculture, Agricultural Research Service. 2013. *USDA National Nutrient Database for Standard Reference, Release 26*. Nutrient Data Laboratory. Accessed June 2015. http://www.ars.usda.gov/Services/docs.htm?docid=23634.

[89] U.S. Department of Agriculture Food and Nutrition Service, Food Distribution. *USDA Foods Fact Sheets*. Accessed June 2015. http://www.fns.usda.gov/fdd/frequently-asked-questionsfact-sheets.

[90] Bowman, S.A., Clemens, J.C., Friday, J.E., Thoerig, R.C., and Moshfegh, A.J. 2014. Food Patterns Equivalents Database 2011-12: Methodology and User Guide [Online]. Food Surveys Research Group, Beltsville Human Nutrition Research Center, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, Maryland. Accessed June 2015. http://www.ars.usda.gov/Services/docs.htm?docid=23871.

Table 2-2. USDA Food Pattern Equivalent Database Food Groups Selected/Computed for Analysis

Food group	FPED variable	Description (units)
Fruits	F_TOTAL	Total intact fruits (whole or cut) and fruit juices (cup equiv.)
Vegetables	V_TOTAL	Total dark green, red, and orange; starchy; and other vegetables; excludes legumes (cup equiv.)
Dark green	V_DRKGR	Dark green vegetables (cup equiv.)
Red and orange	V_REDOR_TOTAL	Total red and orange vegetables (tomatoes and tomato products + other red and orange vegetables) (cup equiv.)
Legumes	V_LEGUMES	Beans and peas (legumes) computed as vegetables (cup equiv.)
Starchy	V_STARCHY_TOTAL	Total starchy vegetables (white potatoes + other starchy vegetables) (cup equiv.)
Other	V_OTHER	Other vegetables not in the vegetable components above (cup equiv.)
Total grains	G_TOTAL	Total whole and refined grains (oz. equiv.)
Whole	G_WHOLE	Grains defined as whole grains that contain the entire grain kernel — the bran, germ, and endosperm (oz. equiv.)
Refined	G_REFINED	Refined grains that do not contain all of the components of the entire grain kernel (oz. equiv.)
Protein foods	PF_TOTAL	Total meat, poultry, organ meat, cured meat, seafood, eggs, soy, and nuts and seeds; excludes legumes (oz. equiv.)
Seafood	PF_SEAFD_HI	Seafood (finfish, shellfish, other seafood) high in n-3 fatty acids (oz. equiv.)
	PF_SEAFD_LOW	Seafood (finfish, shellfish, and other seafood) low in n-3 fatty acids (oz. equiv.)
Eggs	PF_EGGS	Eggs (chicken, duck, goose, quail) and egg substitutes (oz. equiv.)
Nuts, seeds, soy products	PF_NUTSDS	Peanuts, tree nuts, and seeds; excludes coconut (oz. equiv.)
	PF_SOY	Soy products, excluding calcium-fortified soy milk and immature soybeans (oz. equiv.)
Dairy	D_TOTAL	Total milk, yogurt, cheese, and whey. For some foods, the total dairy values could be higher than the sum of D_MILK, D_YOGURT, and D_CHEESE because Miscellaneous dairy component (composed of whey) is not included in FPED as a separate variable. (cup equiv.)
Oils	OILS	Fats naturally present in nuts, seeds, seafood; unhydrogenated vegetable oils, except palm oil, palm kernel oil, and coconut oils; fat present in avocado and olives above the allowable amount; 50 percent of fat present in stick/tub margarines and margarine spreads (grams)
Maximum SoFAS*	SOLID_FATS	Fats naturally present in meat, poultry, eggs, and dairy (lard, tallow, and butter); hydrogenated or partially hydrogenated oils; shortening, palm, palm kernel and coconut oils; fat naturally present in coconut meat and cocoa butter; and 50 percent of fat present in stick and tub margarines and margarine spreads (grams)
	ADD_SUGARS	Foods defined as added sugars (tsp. equiv.)

*Calculated value based on calories provided by SOLID_FATS and ADD_SUGARS food group values. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

2.3 Compute Nutrient and Food Group Content of USDA Foods

This section details the process to derive the amount of nutrients and food groups for USDA Foods offered and delivered through each of the five nutrition assistance programs. The selection of nutrients and food groups in this analysis was consistent with those included in the 2008 *FDPIR Food Package Nutritional Quality: Report to Congress*[91] and the 2012 report *Nutrient and MyPyramid Analysis of USDA Foods in Five of Its Food and Nutrition Programs.*[92]

2.3.1 Nutrients and Food Groups Included in the Analysis

The nutrient and food group content of program-specific USDA Food packages were computed using the methodology used for the 2012 report. Table 2-1 lists the nutrients and Table 2-2 lists the FPED variables included in the analysis. These computed variables were used to calculate the nutrient and food group content per participant per day for CSFP, FDPIR, and NSLP[93] and the nutrient and food group density[94] for all five programs.

The following four variables were used to compute the nutrient and food group content of CSFP, FDPIR, and NSLP food packages offered and delivered per participant per day: (1) number of participants, (2) number of program operating days, (3) amount of USDA Foods offered, and (4) amount of USDA Foods delivered.

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[91] Harper, E., Orbeta, R., Southworth, L., Meade, K., Cleveland, R., Gordon, S., Buckley, M., and Hirschman, J. *FDPIR Food Package Nutritional Quality. Report to Congress.* Report FD-08-FDPIR. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis. November 2008). Accessed June 2015. http://www.fns.usda.gov/fdpir-food-package-nutritional-quality-report-congress.

[92] U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, *Nutrient and MyPyramid Analysis of USDA Foods in Five of Its Food and Nutrition Programs* by Thea Palmer Zimmerman, Sujata Dixit-Joshi, Brenda Sun, Deirdre Douglass, Jason Hu, Fred Glantz, Elaine Eaker. Project Officer Dennis Ranalli. Report FD-12-USDAFOODS. Alexandria, VA: January 2012. Accessed June 2015. http://www.fns.usda.gov/nutrient-and-mypyramid-analysis-usda-foods-five-its-food-and-nutrition-programs-0.

[93] For CACFP and TEFAP, nutrient and food group content per participant/per day was not computed because number of participants and/or number of distribution days is not available for these programs.

[94] Nutrient density of USDA Food packages reflects the proportion of nutrients relative to the amount of calories; it was computed as the nutrient content of USDA Food packages per 2,000 kcal.

2.3.2 Number of Participants

The FNS provided the participant count for three of the five programs: NSLP, CSFP and FDPIR. Since data on the number of participants in CACFP[95] and TEFAP are not tracked, the nutrient analysis of food packages for these two programs was limited to examining the nutrient density, HEI-2005 and HEI-2010 scores.

As with the previous report and per instructions received from the FNS, the participation numbers for NSLP were adjusted to exclude participants in Kansas. The State of Kansas does not receive USDA Foods; therefore the number of participants in Kansas was subtracted from the total number of NSLP participants. Additionally, there are school districts within other States that opt to receive cash in lieu of USDA Foods. The ratio of NSLP participants to the total number of students enrolled in each State was derived, and multiplied by the number of students in the school district opting to receive cash in lieu, to determine the number of NSLP participants within the State who would not receive USDA Foods. This number also was subtracted from the total number of NSLP participants. (See Appendix D for NSLP participation count.)

2.3.3 Number of Distribution Days

For CSFP, FDPIR, and NSLP, the total amount of food was equally distributed over the number of days a participant could have received food. There were 365 distribution days for CSFP and FDPIR, and 175 distribution days for NSLP.[96] As stated in 2.4.1, the analysis for CACFP and TEFAP was limited to nutrient density and HEI-2005 and HEI-2010 scores because of the lack of data on the number of distribution days.

2.3.4 As Offered: Entitlement Only and Entitlement Plus Bonus USDA Foods

The nutrient and food group content of the 2014 entitlement and entitlement plus bonus USDA Foods as offered was derived using either USDA-issued guides that establish the amounts of foods

[95] FNS tracks the number of participants in CACFP, but most providers in CACFP opt for cash in lieu of receiving USDA Foods. Therefore there is no accurate count of the number of participants who receive USDA Foods.

[96] The value of 175 days was based on data provided by the FNS indicating that weather and other disruptions reduced the average number of school days from 180 days, which was the figure used in the 2012 report.

offered to participants on a monthly basis (for FDPIR and CSFP), or an algorithm based on the foods available to the program in 2014 (for NSLP, CACFP and TEFAP).

FDPIR and CSFP Food Packages

For FDPIR and CSFP, the USDA defines the food groups and quantities of foods required from each category. The food packages offered to participants in FDPIR and CSFP reflect equal selection of all program-specific USDA Food options available within each food category. The constructed food packages contain a mix of foods in exact proportion to the selection and substitution rules outlined for each program's monthly distribution guide. (Appendix A provides the Distribution Guides for both FDPIR and CSFP.) The relative weight for each food item offered through the programs was computed and used to derive the gross weight for each USDA Food. For example, participants in FDPIR may select one box of dry cereal from the four kinds of cereal available. If the list of USDA Foods available to FDPIR included six different packages options for the four kinds of cereal, one-sixth of the nutrients from each of the cereal items on the USDA Foods Available List (FA) were added together to make one "average" cereal box. (Appendix C provides the FA lists.)

NSLP, CACFP, and TEFAP

These three nutrition assistance programs do not have distribution guides or limits on the combination of foods offered. The as-offered package was developed using the 2014 FA, the average cost of each food,[97] and the total funds allocated to the program in either SY 2013-2014 (for NSLP) or FY 2014 (for CACFP and TEFAP). All USDA Foods available in 2014 were assigned to major food groups, and an equal portion of the total funds allocated to the program was allotted to each major food group. (Appendix C provides the FA lists.) Funds allotted to a major food group were then further divided equally and allotted to subgroups and finally to individual USDA Foods. The average price per food was used to calculate the amount of USDA Food that could have been purchased with the funds allotted. (See Appendix E for the groups of USDA Foods developed and the methodology to compute amount of USDA Foods per group.)

[97] The cost of USDA Foods in FY 2014 (TEFAP and CACFP) and SY 2013-2014 (NSLP) were obtained from the Entitlement and Bonus Detail Status Reports or directly from FNS; all USDA Foods on the FA lists were included in the as-offered calculations.

2.3.5 As Delivered: Entitlement Only and Entitlement Plus Bonus USDA Foods

The as-delivered 2014 entitlement and entitlement plus bonus USDA Food packages were computed by summing the amount of each USDA Food delivered annually in each program provided in (1) the FNS Entitlement and Bonus Detail Report, (2) the Food Issuance Report, (3) the Multi-Food Requisition Reports, and (4) the DoD reports of fresh produce deliveries.

The analysis for CSFP required additional adjustments to the delivered data, primarily to accommodate the participant subgroups. All analysis was limited to the elderly program participants.[98] Information from two data sources was combined to estimate the amount of food delivered to the elderly: (1) the Food Issuance Report, which lists the number of units of USDA Foods issued to non-elderly (children and women) or elderly participants, and (2) the CSFP Quantity and Value of Commodities Report for FY 2014, which lists pounds of food delivered to CSFP as a whole. The Food Issuance Report data was used to derive the ratio of each USDA Food delivered to the non-elderly and elderly participants. This ratio was then used to determine the pounds of each USDA Food delivered to non-elderly and elderly participants. Only the foods offered and delivered to elderly participants were retained in the analytic file.

2.3.6 Calculations to Derive Nutrient and Food Group Content of USDA Foods

The calculations to derive the nutrient and food group content of USDA Foods varied by program, as described below.

[98] As stated in Section 1.2.1, as of February 7, 2014, CSFP did not certify women, infants, and children.

FDPIR, CSFP, NSLP

These programs track the number of participants receiving USDA Foods, allowing for analysis on a per-participant, per-day basis. The following process was used to compute the nutrient and food group content of USDA Food packages:

1. Compute the amount of USDA Food "x" offered/delivered per participant per day.
2. Apply yield factors to the amount of USDA Food "x" offered/delivered per participant per day. The weights of foods as offered and as delivered per participant per day were reduced by five percent to account for food lost to waste and spoilage, based on the 2006 Thrifty Food Plan Report[99] and in keeping with the assumption made in the 2008 FDPIR report to Congress. The adjusted weights were multiplied by the yield factor in the FND-2014, and this final weight was used to determine the nutrient and food group values for each USDA Food.
3. Compute the amount of nutrient or food group "y" contained in USDA Food "x" offered/delivered per participant per day.
4. Sum the amount of each nutrient or food group across all USDA Foods to obtain the amount of nutrient or food group "y" offered/delivered per participant per day.
5. Sum the nutrients and food group values per USDA Food for the as-offered and as-delivered food packages to obtain the daily total nutrient and food group values.

In keeping with the 2012 report, Appendices F-H detail the nutrient and food group content of the USDA Foods offered and delivered per participant per month for CSFP, FDPIR, and NSLP.

CACFP, TEFAP

Because these programs do not track the number of participants receiving USDA Foods, it was not possible to calculate nutrient and food group content of the packages as offered and as delivered on a per participant, per day basis. The following process was used to compute the nutrient and food group content of USDA Food packages for these programs:

1. Compute the amount of USDA Food "x" offered/delivered in FY 2014.

[99] Carlson, A., Lino, M., WenYen, J., Hanson, K., and Basiotis, P.P. *Thrifty Food Plan, 2006*. U.S. Department of Agriculture, Center of Nutrition Policy and Promotion, April 2007. Accessed June 2015. http://www.cnpp.usda.gov/sites/default/files/usda_food_plans_cost_of_food/TFP2006Report.pdf.

2. Apply yield factors to the amount of USDA Food "x" offered/delivered in FY 2014. The weights of foods as offered and as delivered was reduced by five percent to account for food lost to waste and spoilage (as above); these adjusted weights were multiplied by the yield factor in the FND-2014; and this final weight was used to determine the nutrient and food group values for each USDA Food.

3. Compute the amount of nutrient or food group "y" contained in USDA Food "x" offered/delivered in FY 2014.

4. Sum the amount of each nutrient or food group across all USDA Foods to obtain the amount of nutrient or food group "y" offered/delivered in FY 2014.

5. Compute the amount of nutrient "y" offered/delivered per 2,000 kcal in FY 2014 using the ratio of nutrient "y" to obtain the total calories offered/delivered in FY 2014.

2.4 Compare Nutrient and Food Group Content of USDA Foods to Dietary Standards

For the five nutrition assistance programs, the USDA does not intend USDA Foods to provide the entire day's intake for program participants; instead, these foods are intended to supplement other foods purchased for consumption. However, a comparison of the nutrients provided to daily nutrient standards serves as a means of assessing the contribution of USDA Foods to the overall diet. The nutrient content and food group equivalent values of the program-specific food packages as offered and as delivered were compared to the weighted average dietary standard for the reference participant for each program and to the Dietary Reference Intake (DRI), the Thrifty Food Plan (TFP), and the USDA Food Patterns recommendations per 2,000 kcal. The nutrient analysis and food group equivalent values were used to compute program-specific HEI-2005 and HEI-2010 scores, and these program-specific component and total HEI-2005 scores were compared with HEI-2005 scores for the U.S. population as reported by Cole, et al.[100] HEI-2010 scores for the 2014 food packages were also compared to HEI-2010 scores for the U.S. population (2011-2012) as reported by Wilson, et al.[101] and available on the CNPP website.[102]

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[100] Cole, N. and Fox, M.K. *Diet Quality of Americans by Food Stamp Participation Status: Data from the National Health and Nutrition Examination Survey, 1999-2004*. U.S. Department of Agriculture, Food and Nutrition Service, July 2008; p. C-34. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/NHANES-FSP.pdf.

[101] Wilson, M.M., Reedy, J., and Krebs-Smith, S.M. American diet quality: where it is, where it is heading, and what it could be. J Acad Nutr Diet 2016; 116:302-310.

[102] U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. *Healthy Eating Index*. Accessed February 29, 2016. **http://www.cnpp.usda.gov/healthyeatingindex**.

This report includes the following four dietary standards:

1. **Dietary Reference Intakes.** The DRIs are standards developed by the Institute of Medicine's Food and Nutrition Board (part of the U.S. National Academy of Sciences) to assess the adequacy and quality of nutrient intakes.[103] Infants and children through eight years of age have the same DRIs, regardless of gender. For ages nine and up, the DRIs are gender-based. The DRI standards include:

   - **Estimated Average Requirement (EAR).** The level of intake estimated to meet the requirements of half of the healthy individuals in a particular age and gender group; also used to calculate the RDA for intake of nutrients by individuals.

   - **Recommended Dietary Allowance (RDA).** The recommended level of intake established to meet the needs of almost all (97-98 percent) individuals in a group.

   - **Adequate Intake Level (AI).** A level provided for nutrients when data for the nutrient is insufficient to estimate requirements; believed to cover the needs of all individuals in the group.

   - **Tolerable Upper Intake Level (UL).** The maximum level of intake likely to pose no risk of adverse effects for all individuals in the group. As the UL for magnesium applies only to intake of magnesium from pharmacological agents and does not apply to magnesium from food, the data tables do not present the values for magnesium. The UL for vitamin E, folic acid, and niacin apply only to synthetic forms of the vitamins, as would be found in supplements or added to foods during fortification. Values for added vitamin E and folic acid are included in FNDDS and thus the FND-2014, but added niacin is not available. The tables of results compare total niacin to the UL.

   - **Acceptable Macronutrient Distribution Ranges (AMDR).** Ranges of intakes that are associated with reduced risk of chronic disease while providing recommended intakes of other essential nutrients.

2. **Thrifty Food Plan Dietary Standards.** The USDA Center for Nutrition Policy and Promotion developed the TFP as a national standard for a nutritious diet at minimal cost. The TFP is the basis for SNAP benefits. The cost of a TFP food is based on a reference family defined as a male and female ages 20 to 50, and two children ages 6 to 8 and 9 to 11. The DGA, the DRIs (primarily the RDAs and AIs), and USDA Food Patterns form the basis of the TFP dietary standards.

   The TFP market basket for each age/gender group provides 100 percent or more of the group's RDA for 16 essential nutrients: protein, vitamin A, vitamin C, vitamin B_6, vitamin B_{12}, thiamin, riboflavin, niacin, folate, calcium, phosphorus, magnesium, iron,

[103] Institute of Medicine, Food and Nutrition Board. Food and Nutrition Information Center, National Agricultural Library. *DRI Tables.* 2010. Accessed: February 2011. http://www.nal.usda.gov/fnic/DRI/DRI_Tables/RDA_AI_vitamins_elements.pdf.

zinc, copper, and fiber. Because the AI for potassium and the RDA for vitamin E were difficult to meet within the cost constraints for market baskets, the standards were adjusted to at least 63 percent of the RDA for vitamin E and at least 70 percent of the AI for potassium.[104] The TFP comparisons include many of the same nutrients listed in the DRI comparison.

3. **2010 USDA Food Patterns.** The 2010 DGA standards[105] include the 2010 USDA Food Patterns, which provide quantities of foods to consume from specific food groups and subgroups in order to achieve a diet consistent with the DGA. The guidelines apply to individuals over 2 years of age. The 2010 USDA Food Patterns provide food group recommendations for a variety of daily calorie levels. The recommendations include goals for the amounts to eat from a number of food groups as well as limits for some dietary components, such as added sugars and discretionary fats.

   Determination of the food groups in the offered and delivered USDA Food packages enables comparisons with the 2010 USDA Food Patterns recommendations, rather than nutrient-level comparisons with the DRIs. Comparing the food groups provided by the food package per 2,000 kcal to the 2010 USDA Food Pattern recommendations per 2,000 kcal allows an assessment of USDA Foods offered and delivered to participants on a density basis. As the calculation of food groups per 2,000 kcal does not rely on participant numbers served by USDA Foods, this report presents the results of this comparison for all five nutrition assistance programs.

4. **Healthy Eating Index.** The USDA's Center for Nutrition Policy and Promotion developed the HEI[106] as a way to assess compliance with Federal dietary guidelines. This report includes two versions of the HEI: the HEI-2005 and the HEI-2010. Both the HEI-2005 and the HEI-2010 contain 12 components, use a density approach in setting standards, and employ least-restrictive standards. The HEI-2010 standards are based on the amount of each component per 1,000 kcal, and the food groups and nutrients comprising the HEI scores reflect the key recommendations of the 2010 DGA.

   The HEI-2005 and the HEI-2010 components and scoring system are shown in Tables 2-3 and 2-4, respectively. As shown, the Greens and Beans component in the HEI-2010 replaces the Dark Green and Orange Vegetables and Legumes component in the HEI-2005; the HEI-2010 includes a new component for Seafood and Plant Proteins; and Fatty Acids (ratio of polyunsaturated [PUFAs] and monounsaturated [MUFAs] to saturated fatty acids [SFAs]) in the HEI-2010 replaces Oils and Saturated Fat from the

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[104] Carlson, A., Lino, M., WenYen, J., Hanson, K. and Basiotis, P.P. *Thrifty Food Plan 2006*. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion April 2007. Dietary Standards; p. 14. Accessed June 2015. http://www.cnpp.usda.gov/sites/default/files/usda_food_plans_cost_of_food/TFP2006Report.pdf.

[105] U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2010*. 7th Edition. Washington, D.C.: U.S. Government Printing Office, 2010; p. 79. Accessed June 2015. www.health.gov/dietaryguidelines/dga2010/dietaryguidelines2010.pdf.

[106] Guenther, P.M., Reedy, J., Krebs-Smith, S.M., Reeve, B.B., and Basiotis, P.P. *Development and Evaluation of the Healthy Eating Index-2005: Technical Report.* s.l.: U.S. Department of Agriculture, Center for Nutrition Policy and Promotion, November 2007. Accessed June 2015. http://www.cnpp.usda.gov/sites/default/files/healthy_eating_index/HEI-2005TechnicalReport.pdf.

HEI-2005.[107] The Calories from SoFAAS component from the HEI-2005 has been renamed as Empty Calories in the HEI-2010. Additionally, the Refined Grains component replaces Total Grains to assess over-consumption by assigning a maximum number of servings as the standard for a minimum score of zero, similar to the scores for sodium and empty calories. Thus, each component in the HEI calculation represents a specific aspect of healthful diet and the overall HEI score provides a summary measure of diet quality; higher HEI scores are indicative of meeting recommendations.

The HEI-2005 and the HEI-2010 scores of the offered and delivered USDA Food packages were compared with the average scores for diets of Americans and SNAP participants. The HEI scores for diets of Americans and SNAP participants are based on actual consumption data; the program-specific HEI scores are not based on consumption data, rather they represent the score possible if individuals consumed the foods in quantities provided through the program.

Table 2-3. Healthy Eating Index-2005 scoring system

HEI-2005 Component	Max. points	Standard for maximum score	Standard for minimum score of zero
Total fruit	5	≥ 0.8 cup equiv. per 1,000 kcal	No fruit
Whole fruit	5	≥ 0.4 cup equiv. per 1,000 kcal	No whole fruit
Total vegetables	5	≥ 1.1 cup equiv. per 1,000 kcal	No vegetables
Dark green and orange vegetables and legumes	5	≥ 0.4 cup equiv. per 1,000 kcal	No dark green or orange vegetables or legumes
Total grains	5	≥ 3.0 oz. equiv. per 1,000 kcal	No grains
Whole grains	5	≥ 1.5 oz. equiv. per 1,000 kcal	No whole grains
Milk	10	≥ 1.3 cup equiv. per 1,000 kcal	No milk
Meat and beans	10	≥ 2.5 oz. equiv. per 1,000 kcal	No meat or beans
Oils	10	≥ 12 grams per 1,000 kcal	No oil
Saturated fat	10	≤ 7% of energy	≥ 15% of energy
Sodium	10	≤ 0.7 gram per 1,000 kcal	≥ 2.0 grams per 1,000 kcal
Calories from SoFAAS*	20	≤ 20% of energy	≥ 50% of energy

* The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

[107] Guenther, P.M., Casavale, K.O., Reedy, J., Kirkpatrick, S.I., Hiza, H.A., Kuczynski, K.J., Kahle, L.L., and Krebs-Smith, S.M. Update of the Healthy Eating Index: HEI-2010. *J Acad Nutr Diet* 2013; 113(4):569-580. Accessed June 2015. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3810369.

Table 2-4. Healthy Eating Index-2010 scoring system

HEI-2010 Component	Max. points	Standard for maximum score	Standard for minimum score of zero
Total fruit	5	≥ 0.8 cup equiv. per 1,000 kcal	No fruit
Whole fruit	5	≥ 0.4 cup equiv. per 1,000 kcal	No whole fruit
Total vegetables	5	≥ 1.1 cup equiv. per 1,000 kcal	No vegetables
Greens and beans	5	≥ 0.2 cup equiv. per 1,000 kcal	No dark green vegetables, beans, or peas
Whole grains	10	≥ 1.5 oz. equiv. per 1,000 kcal	No whole grains
Dairy	10	≥ 1.3 cup equiv. per 1,000 kcal	No dairy
Total protein foods	5	≥ 2.5 oz. equiv. per 1,000 kcal	No protein foods
Seafood & plant proteins	5	≥ 0.8 oz. equiv. per 1,000 kcal	No seafood or plant proteins
Fatty acids	10	(PUFAs+MUFAs)/SFAs ≥2.5*	(PUFAs+MUFAs)/SFAs ≤1.2
Refined grains	10	≤ 1.8 oz. equiv. per 1,000 kcal	≥ 4.3 oz. equiv. per 1,000 kcal
Sodium	10	≤ 1.1 gram per 1,000 kcal[5]	≥ 2.0 grams per 1,000 kcal
Empty calories	20	≤ 19% of energy	≥ 50% of energy

*PUFAs = polyunsaturated fatty acids; MUFAs = monounsaturated fatty acids; SFAs = saturated fatty acids

NSLP Meal Pattern and Nutrition Standards. The determination of food groups made it possible to compare the NSLP food package in SY 2013-2014 with the Nutrition Standards in the National School Lunch Programs.[108] HHFKA required the USDA to issue new science-based nutrition standards to improve the nutritional quality of school meals. The standards are based on the recommendations of the Institute of Medicine[109] and are aligned with the 2010 Dietary Guidelines for Americans. The lunch standards specify weekly and daily requirements for low/non-fat fluid milk, fruits, vegetables, meat/meat alternates, and whole grain-rich items. The standards also set specifications for calories, sodium, saturated fat, and *trans* fat (Table 2-5).

The HHFKA provisions for NSLP were phased in over several years. During school year 2012-2013, two provisions went into effect: (1) school food authorities (SFAs) were required to include both a fruit and a vegetable during lunch (instead of a fruit or a vegetable), and (2) at least one-half of the grains offered during lunch had to meet the whole grain-rich criteria. The following year, 2013-2014, one-half of grains offered during breakfast had to be whole grain-rich. During school year 2014-2015, SFAs were required to: (1) offer one cup of fruit or vegetable to all age/grade groups at breakfast (the third year of meal pattern implementation), (2) offer all whole grain-rich products at breakfast and lunch, and (3) meet sodium (Target 1 levels) for school breakfast and lunch. The sodium content of the offered and delivered food packages was not compared with the

[108] U.S. Department of Agriculture, Food and Nutrition Service. 7 CFR Parts 210 and 220. *Nutrition Standards in the National School Lunch and School Breakfast Programs; Final Rule.* January 26, 2012; p. 24. Accessed January 2015. http://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf.

[109] Renamed the National Academy of Medicine, effective July 1, 2015.

sodium requirements, since these are not quantifiable but call for "reducing sodium" in SY 2013-2014.

Table 2-5. Meal pattern and nutrition standards for NSLP lunches, SY 2013-2014

Meal Pattern/Nutrient	Lunch Meal Pattern and Nutrition Standards		
	Grades K-5	Grades 6-8	Grades 9-12
	Amount of food per week (minimum per day)		
Fruit (cups)	2½ (½)	2½ (½)	5 (1)
Vegetables (cups)	3¾ (¾)	3¾ (¾)	5 (1)
Dark green	½	½	½
Red/orange	¾	¾	1¼
Beans/peas (legumes)	½	½	½
Starchy	½	½	½
Other	½	½	¾
Additional veg. to reach total	1	1	1½
Grains (oz. equiv.)	8-9 (1)	8-10 (1)	10-12 (2)
Whole grains	At least half of grains must be whole-grain rich.		
Meat/meat alternates (oz. equiv.)	8-10 (1)	9-10 (1)	10-12 (2)
Fluid milk (cups)	5 (1)	5 (1)	5 (1)
	Must be fat-free (unflavored/flavored) or 1% low fat (unflavored).		
Min.-max. calories (kcal)	550-650	600-700	750-850
Saturated fat (% total calories)	<10	<10	<10
Sodium	Reduce	Reduce	Reduce
Trans fat	Nutrition label or manufacturer specifications must indicate zero grams of *trans* fat per serving.		

Weighted Average Dietary Standards

There is considerable age variability in the participants served by each of the five programs. For example, NSLP serves only school children, FDPIR serves families, and CSFP, CACFP, and TEFAP serve population subgroups of varying ages. Because dietary guidelines vary by age, an average dietary guideline, weighted by the mix of ages and genders served by each program, was developed. This weighted average dietary standard represents the dietary recommendations for a "reference participant" in the nutrition assistance program. For NSLP, CSFP, and FDPIR (the programs that track the number of participants), the age distribution of the participants served by each program was determined using the references shown in Table 2-6.

Table 2-6. Age definitions of participants by USDA nutrition assistance program

Program	Focus	Ages	% Population	Reference for age distribution
NSLP	School children	6-7 yrs.	15.6%	School Nutrition Dietary Assessment IIII[110]
		8-10 yrs.	32.9%	
		11-13 yrs.	25.5%	
		14-15 yrs.	12.5%	
		16-18 yrs.	13.5%	
CSFP	Elderly	>60 yrs.	100%	Provided by the FNS: CSFP Participation Report – FY 2014
FDPIR	Households	6-8 yrs.	25%	Reference household for determining SNAP benefits: one man and one woman ages 20-50, and two children ages 6-8 and 9-11
		9-11 yrs.	25%	
		M 20-50 yrs.	25%	
		F 20-50 yrs.	25%	

NSLP. The School Nutrition Dietary Assessment (SNDA) III[111] provided the reference for age distribution in NSLP because it provides the most recent estimate of the age distribution of NSLP participants. Neither the SNDA IV[112] nor the 2011-2012 data from National Center for Education Statistics (NCES)[113] contain estimates of NSLP participants by age. The NCES tables do not differentiate the count of students who receive free- or reduced-price meals from students who pay full price for meals. In addition, the NCES categorizes students participating in the free or reduced price lunch programs by school level rather than by age (i.e., 6-7 years, 8-10 years, 11-13 years, 14-15 years, and 16-18 years). Since the ratio of primary, middle, and high school NSLP participants reported by the NCES is comparable to the SNDA III distribution, the breakdown of ages is likely to be similar in the 2011-2012 data. The use of reference age distribution from SNDA III resulted in refined weighted dietary standards.

CSFP. Previously, CSFP served infants, children, mothers, and elderly participants, but as discussed in chapter 1, in 2014 infants, children, and mothers were phased out of CSFP, which now serves only elderly participants. For this report, only USDA Food deliveries to elderly participants in CSFP

[110] SNDA III provided the most recent estimates of NSLP participant by age (see text).

[111] Gordon, A., Fox, M.K., Clark, M., Nogales, R., Condon, E., Gleason, P., and Sarin, A. *School Nutrition Dietary Assessment Study-III: Volume II: Student Participation and Dietary Intakes.* Final Report. Mathematica Policy Research. November 2007; p. 84. Accessed June 2015. http://www.fns.usda.gov/sites/default/files/SNDA-IV_Vol2_0.pdf.

[112] Fox, M.K., Condon, E., Crepinsek, M.K., et al. *Nutrition Dietary Assessment Study IV, Vol. I: School Food Service Operations, School Environments, and Meals Offered and Served.* Final Report. Mathematica Policy Research. November 2012; pp. 2-6 (footnote). Accessed June 2015. http://www.fns.usda.gov/sites/default/files/SNDA-IV_Vol1Pt1_0.pdf.

[113] Schools and Staffing Survey. National Center for Education Statistics. Table 1. Total Number of Schools and Students, and Percentage of Schools and Students that Participated in Title I and Federal Free- and reduced-price lunch programs, by school type and selected school characteristics: 2011-2012. Accessed June 2015. http://nces.ed.gov/surveys/sass/tables/sass1112_2013312_s12n_001.asp.

were analyzed. The weighted average dietary standards were created by selecting the highest nutrient requirement for the elderly participants; this represents the dietary standard for a reference participant in CSFP.

FDPIR. The reference household for SNAP (7 USC 2012 (u).c) was used to calculate a weighted average dietary standard for FDPIR. Using the percentage of each age group in the nutrition assistance program, a weighted average dietary standard was calculated by multiplying the fraction of the population for each age group by the dietary standard for any nutrient or food group; the weighted average dietary standard is the sum of all the fractional values for the age groups. Within any age/gender range, the highest nutrient requirement was selected to represent the dietary standard for the "reference participant." Table 2-7 presents an example of the development of the weighted average standard for the reference participant in NSLP.

Table 2-7. Development of weighted average Vitamin A requirement in NSLP

NSLP	% Population	Highest DRI nutrient requirement for age range	Population fraction x DRI
6-7 yrs.	15.6	400	62.4
8-10 yrs.	32.9	600	197.4
11-13 yrs.	25.5	600	153.0
14-15 yrs.	12.5	900	112.5
16-18 yrs.	13.5	900	121.5
	Weighted average RDA		646.8

2.5 Compare Nutrient and Food Group Content of USDA Foods in 2014 and 2009

To examine the changes in nutrient and food group content of USDA Food packages over time, an analysis compared the extent to which the program-specific food packages met the dietary standards in FY 2014 and FY 2009 or SY 2013-2014 compared to SY 2009-2010. The change in nutrient and food group values from 2009 to 2014 was computed as change in amount and percentage change.

2.6 Strengths and Limitations of the Evaluation

This evaluation provides information on the nutritional content of USDA Food packages as offered and as delivered through five USDA nutrition assistance programs. The findings provide a

comprehensive understanding of the quantity and quality of USDA Food packages; the macro- and micronutrient and food group content; and the contribution of USDA Foods to meeting the recommended daily nutrient levels and food groups for the reference participants in each program. The findings also provide information on changes in the composition, nutrient, and food group content of USDA Foods since 2009. The major strengths and limitations of this evaluation are:

Strengths

- **Use of methodology in this evaluation that is consistent with that used in the previous report.** Using a consistent method allows for comparison with the previously reported values.

- **Development of an updated customized food and nutrient database, incorporating nutrient and food group values for all USDA Foods, as well as fresh fruits and vegetables provided by the DoD.** Nutrient values (sodium and vitamin C) and yields were adjusted to account for the foods specific to the USDA nutrition assistance programs. Development of the database did not rely primarily on the description of foods from the FNDDS or SR26, but also consulted the nutrient labels available for most USDA Foods to increase the confidence of the match between the food and the database values. This increased the accuracy of the nutrient profile of USDA Foods. For example, the sodium values for canned USDA Foods reflect the information on the USDA fact sheets.

- **Examination of the similarities and differences in the as-offered and as-delivered food packages.** Participating agencies are offered a list of USDA Foods to select from, and their preferences play a role in the USDA Foods delivered to each program. Such data serve to adjust the offerings in the USDA package as well as to obtain buy-in for nutrient-dense foods that may be selected less often.

- **Examination of the unique and combined contribution of entitlement and bonus foods.** Comparison of food packages without and with bonus foods reveals the additional contribution of bonus foods to meeting the nutrient and food group needs of program participants. In FY 2014, bonus foods were offered and delivered to only two of the five programs, CSFP and TEFAP. Inclusion of bonus foods increased the amount of juice in CSFP and juice and meat in TEFAP.

- **Determination of program participation numbers.** As with the previous evaluation, the analysis did not utilize the national NSLP participation numbers to compute the per-person contribution of the food packages. Rather, the analysis excluded participants at schools that opted not to receive USDA Foods. Note that in SY2009-2010, the number of participants receiving cash in lieu was calculated using the total enrollment count rather than the percent of total enrollment participating in NSLP by state; the calculated number of students receiving cash in lieu was therefore higher than the actual number. Including the national participation numbers would have resulted in an overestimate of the total number of participants receiving USDA Foods, thereby

leading to an underestimate of the dietary contribution of USDA Foods. While this approach can be seen as a strength, it must be noted that the participation numbers for NSLP may still overestimate the number of participants who actually received USDA Foods.

- **Derivation of weighted average nutrient/food group standards based on the age and gender of participants in each program.** All five programs serve males and females of varying ages. Therefore, the weighting of the nutrient/food group recommendations enabled assessment of the adequacy of the USDA Food package for each of the five nutrition assistance programs.

- **Comparison of nutritional quality against the HEI-2005 and HEI-2010 scores.** The HEI scores provide an assessment of the extent to which the USDA Food packages align with the most recent dietary guidelines.

Limitations

- **Selection of the highest level of recommended amounts of nutrients for all age groups.** Consistent with the previous evaluation, the analysis has been adjusted to reflect the gender and age composition of program participants. It is important to note that the analysis used the highest level of the recommended amounts for the age groups and genders in each program. As ages, genders, height, weight, and activity levels may vary widely across participants within a nutrition assistance program, this method may lead to an underestimation of the true contribution of USDA Foods to a particular individual participant. The approach used in this analysis therefore errs on the side of underestimating the dietary contribution of USDA Foods for younger children, females, and those with lower nutrient requirements because of their smaller body size and lower weight.

- **The lack of program specific per-participant nutrient recommendations for CSFP and FDPIR, limiting the ability to examine the extent to which USDA Foods contribute to meeting program-specific nutrient recommendations.** However, this evaluation compared the contribution of USDA Foods to the per-participant daily recommendations for the three nutrition assistance programs (and program-specific guidelines for NSLP), thereby making it possible to compare and contrast the role of USDA Foods across the three programs. For example, evidence that USDA Foods are providing more than the daily recommended amount of sodium or fat can be used to make changes in USDA Foods, even in the absence of program-specific guidelines.

- **For NSLP, TEFAP, and CACFP, a lack of distribution guides for an as-offered USDA Food package.** A method was developed for deriving an as-offered package based on the foods available in 2009, the total amount of entitlement funds allocated for 2009, and the average price per USDA Food to the programs in 2009. Funds were allocated evenly among the various groups to calculate a weight of each food offered on the basis of price per pound. This method may lead to overrepresentation of less-

expensive foods in the as-offered package. Comparisons of as-offered and as-delivered food packages in these programs must be viewed with caution.

- **For the as-offered packages for FDPIR and CSFP, the use of an equal proportion of each type of food to create the as-offered quantity for that food item.** For example, elderly participants in CSFP may select either one 24-ounce canned meat product or two 6- to 14.75-ounce canned or dried meat products each month. With seven canned/dried meat products offered, the as-offered package was assumed to consist of one-seventh of each product, and the product weights were adjusted for the difference in the distribution rates. The nutrients provided to an actual participant will obviously reflect their selections, and for that reason may differ from those in the as-offered package.

Results and Discussion 3

This chapter presents the program-specific food and nutrient content of 2014 USDA Foods as offered and as delivered, including entitlement foods and (where applicable) bonus foods. Specifically, this chapter describes:

1. The food group composition of USDA Foods as offered and as delivered;
2. Comparison of the nutrient and food group content of USDA Foods with dietary standards: the DRI, the TFP, the DGA, the HEI-2005, and the HEI-2010 (and for USDA Foods delivered to NSLP participants, comparison with NSLP Meal Pattern and Nutrition Standards); and
3. Comparison of the nutrient and food group content of the 2014 USDA Foods with that of the 2009 USDA Foods.

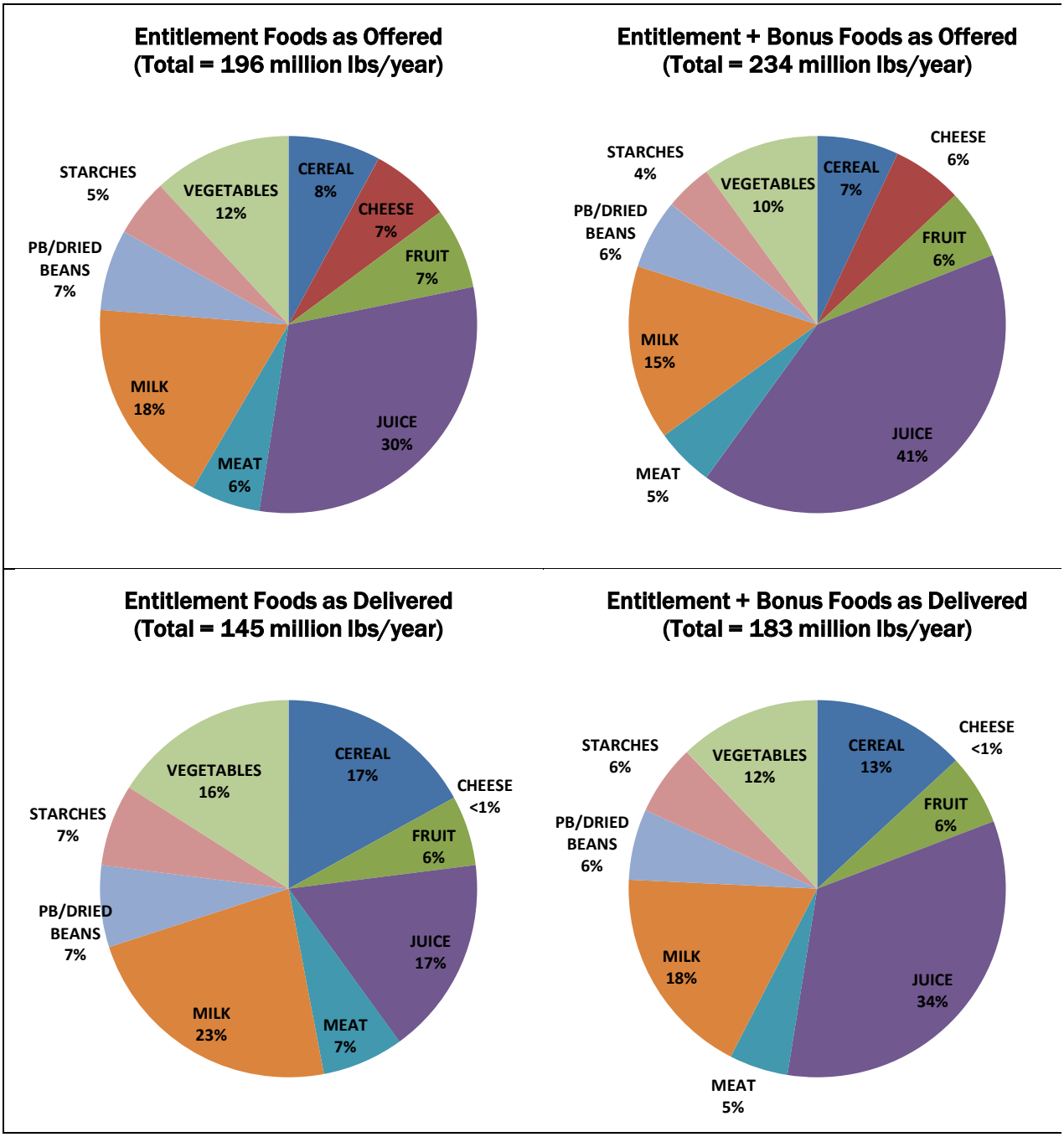
3.1 Commodity Supplemental Food Program (CSFP)

The FY 2014 CSFP Maximum Monthly Distribution Rates specify the amounts and kinds of foods offered to State and local agencies (Appendix A). The as-offered CSFP food packages, without and with bonus foods, contained approximately 196 million pounds and 234 million pounds of USDA Foods, or 432 g/participant/day and 517 g/participant/day, respectively. The as-delivered packages, with and without bonus foods, contained approximately 145 million pounds and 183 million pounds of USDA Foods, or 320 g/participant/day and 404 g/participant/day, respectively.

The as-offered and as-delivered CSFP food packages, without and with bonus foods, included foods from nine food groups.[114] Compared with the as-offered package without bonus foods, the as-offered package with bonus foods included more juice and less or similar amounts of cereal, cheese, fruit, meat, milk, peanut butter/dried beans, starches, and vegetables. The same pattern held true for the as-delivered packages. Compared with the as-offered packages with and without bonus foods, the as-delivered packages included less cheese and juice and but more cereal, milk, starches, and vegetables (Figure 3-1).

[114] Food groups shown are as defined in the CSFP Maximum Monthly Distribution Rates.

Figure 3-1. Food group* composition by weight of CSFP USDA Foods as a percentage of the total weight of foods offered and delivered



*Food groups are those in the CSFP distribution guide (Appendix A).

Food Sources of Calories. An examination of calories by food product in CSFP food packages as offered and as delivered is indicative of preferences. Although CSFP has distribution rates, administering agencies and participants can select specific products within broad food groups (e.g., cereal or canned vegetables). As described in Section 2.3.3, the as-offered food package was

developed by assuming equal representation of all products within a food category. In reality, participants can substitute one product for another, so a comparison of calories by food product in the as-offered package and the as-delivered package provides a glimpse into the relative popularity of products. Appendix F presents the nutrients for each food product offered or delivered to a reference participant on a monthly basis for CSFP.

Participants may select ready-to-eat (RTE) cereal, farina, rolled oats or grits within the cereal group. Six different RTE cereals are offered, in relatively equal amounts (there are slight differences due to different package weights), but bran flakes provided the most calories from RTE cereal. Far more farina was delivered than offered, while less oats and grits were delivered. While canned vegetables provided similar amount of calories in the as-delivered and as-offered package, canned pinto and kidney beans provided more calories in the as-delivered food package than did other beans. Compared with the as-offered package, the as-delivered package had fewer calories from applesauce and canned apricots, slightly fewer calories from meat products, and far fewer calories from cheese, but slightly more calories from peanut butter.

3.1.1 Food Group Assessment of CSFP USDA Foods

Food Group Comparison. The as-offered CSFP food package without bonus foods provided one quarter of the recommended amount of fruits; with the addition of juice from bonus foods, the as-offered food package provided 40 percent of the recommended amount of fruit. The as-delivered package without bonus foods provided 12 percent of the recommended amount of fruit, and 28 percent with the addition of bonus foods. The as-offered packages provided nearly identical amounts of all other food groups, with or without bonus foods, meeting less than 50 percent of the recommended amount for all food groups except legumes (72 percent) and nuts/seeds/soy products (75 percent). The as-offered packages did not exceed the recommended amount of oil or calories from SoFAS. The as-delivered package without bonus foods provided less of all food groups than did the as-offered package, with the exception of the grains and refined grains subgroup, and the nuts/seeds/soy products subgroup. The as-delivered package without bonus foods did not exceed the recommended amount of oil or calories from SoFAS (Table 3-1).

Table 3-1. Food group and subgroup content of CSFP USDA Foods compared to the weighted average 2010 USDA Food Pattern recommendations for the reference participant

Food Group	USDA Food Pattern[1]	Offered				Delivered			
		Entitlement Foods		Entitlement + Bonus Foods		Entitlement Foods		Entitlement + Bonus Foods	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup eq.)	2	0.5	24%	0.8	40%	0.2	12%	0.6	28%
Vegetables (cup eq.)	3	0.4	12%	0.4	12%	0.3	9%	0.3	9%
Dark green	0.3	<0.1	10%	<0.1	10%	<0.1	5%	<0.1	5%
Red and orange	0.9	0.2	23%	0.2	23%	0.1	11%	0.1	11%
Legumes	0.3	0.2	72%	0.2	72%	0.1	45%	0.1	45%
Starchy	0.9	0.1	9%	0.1	9%	0.1	10%	0.1	10%
Other	0.7	<0.1	6%	<0.1	6%	0.1	8%	0.1	8%
Total grains (oz eq.)	8	1.8	22%	1.8	22%	2.3	29%	2.3	29%
Whole	4	0.6	14%	0.6	14%	0.5	13%	0.5	13%
Refined	4	1.2	30%	1.2	30%	1.8	45%	1.8	45%
Protein foods (oz eq.)	6.5	1.1	17%	1.1	17%	1.1	16%	1.1	16%
Seafood	1.4	0.2	14%	0.2	14%	0.1	10%	0.1	10%
Meat, poultry, eggs	4.4	0.4	8%	0.4	8%	0.3	7%	0.3	7%
Nuts, seeds, soy products	0.7	0.5	75%	0.5	75%	0.6	87%	0.6	87%
Dairy (cup eq.)	3	1.2	41%	1.2	41%	0.7	22%	0.7	22%
Oils (grams)	31	2.8	9%	2.8	9%	3.3	11%	3.3	11%
Maximum SoFAS (kcal)[2]	330	36.7	11%	36.7	11%	20.3	6%	20.3	6%
Maximum SoFAS (% kcal)	14%	7%	✓	6%	✓	4%	✓	4%	✓

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] Weighted average USDA Food Pattern recommended amount

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Food Groups Comparison per 2,000 kcal. On a 2,000 kcal basis, the as-offered CSFP food package without bonus foods provided more than the recommended amount of several food groups: legumes, total grains, refined grains, nuts/seeds/soy products, and dairy; nearly the recommended amount of fruit and red/orange vegetables; and more than 50 percent of the recommended amount of all other food groups with the exception of starchy vegetables, other vegetables, and meat/poultry/eggs. The addition of bonus foods, which were all juices, increased the amount of fruits, but other food groups were essentially the same. Neither food package exceeded the recommended amount of oils or calories from SoFAS per 2,000 kcal. The as-delivered CSFP food package without bonus foods also provided more than the recommended amount of legumes, total grains, refined grains, and nuts/seeds/soy products. Although the food package without bonus foods provided just 50 percent of the recommended amount of fruit, the addition of bonus foods increased this to just over the recommended amount per 2,000 kcal. The as-delivered CSFP food

package without bonus foods provided 93 percent of the recommended amount of dairy, and more than 50 percent of the recommended amount of red/orange vegetables, starchy vegetables, whole grains, total protein foods, and seafood. Because the added bonus foods also increased the total calories provided by the food package without increasing the amount of any food groups other than fruits, the CSFP food package with bonus foods provided slightly less of every food group other than fruit per 2,000 kcal. Neither as-delivered food package exceeded the recommended amount of oil or SoFAS per 2,000 kcal (Table 3-2).

Table 3-2. Food group and subgroup content of CSFP USDA Foods per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food Group	USDA Food Pattern[1]	Offered				Delivered			
		Entitlement Foods		Entitlement + Bonus Foods		Entitlement Foods		Entitlement + Bonus Foods	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup eq.)	2	1.8	92%	2.8	142%	1.0	50%	2.1	107%
Vegetables (cup eq.)	2.5	1.4	54%	1.3	50%	1.1	44%	1.0	40%
Dark green	0.2	0.1	57%	0.1	53%	0.1	31%	0.1	29%
Red and orange	0.8	0.8	98%	0.7	91%	0.4	54%	0.4	50%
Legumes	0.2	0.8	409%	0.8	381%	0.6	282%	0.5	261%
Starchy	0.7	0.3	43%	0.3	40%	0.4	54%	0.3	50%
Other	0.6	0.1	25%	0.1	23%	0.2	37%	0.2	34%
Total grains (oz eq.)	6	6.6	111%	6.2	103%	9.7	161%	8.9	149%
Whole	3	2.2	72%	2.0	67%	2.2	72%	2.0	67%
Refined	3	4.5	149%	4.2	139%	7.5	250%	6.9	231%
Protein foods (oz eq.)	5.5	4.1	75%	3.8	69%	4.4	81%	4.1	74%
Seafood	1.1	0.7	66%	0.7	61%	0.6	52%	0.5	48%
Meat, poultry, eggs	3.7	1.4	38%	1.3	35%	1.3	36%	1.2	34%
Nuts, seeds, soy products	0.6	2.0	331%	1.8	308%	2.5	419%	2.3	388%
Dairy (cup eq.)	3	4.6	154%	4.3	143%	2.8	93%	2.6	86%
Oils (grams)	27	10.8	40%	10.0	37%	13.6	51%	12.6	47%
Maximum SoFAS (kcal)[2]	258	139.0	54%	129.4	50%	84.4	33%	78.0	30%
Maximum SoFAS (% kcal)	13%	7%	✓	6%	✓	4%	✓	4%	✓

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] USDA Food Pattern recommended amount per 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

3.1.2 Nutrient Assessment of CSFP USDA Foods

CSFP food packages do not provide a complete diet, but are good sources of the nutrients typically lacking in the diets of the target population. The following section describes the nutrient content of CSFP food packages in relation to the DRI and the TFP dietary standards.

Comparison With DRI

Energy. The as-offered and as-delivered CSFP food packages with and without bonus foods provided between 482 and 567 calories, representing between 20 and 24 percent of the recommended amount for the reference participant (Table 3-3).

Macronutrients. The only bonus foods provided in CSFP food packages were juice products, so few macronutrient differences are seen when comparing the food packages with or without bonus foods. The as-offered packages provided very similar amounts of most macronutrients, only differing in the amount of carbohydrate, where the package without bonus foods provided 64 percent and the package with bonus foods provided 72 percent of the recommended amount. The as-delivered packages also provided very similar amounts of all macronutrients other than carbohydrate, where the package without bonus foods provided 62 percent and the package with bonus foods provided 70 percent of the recommended amount. All food packages met the AMDR standards for protein as a percent of calories, and were below the standards for fat as a percent of calories; the as-offered package with bonus foods and both of the as-delivered packages exceeded the AMDR standard for carbohydrate as a percent of calories (Table 3-3).

Minerals. All CSFP food packages provided similar amounts of calcium (38 to 43 percent of the RDA), copper (41 to 45 percent), magnesium (25 to 30 percent), and potassium (16 to 24 percent of the AI). All food packages met the RDA for iron, with both as-delivered packages providing twice the RDA for iron; the amount of iron provided was much higher in the as-delivered package compared to the as-offered, due in large part to the amount of farina in the as-delivered packages. The as-offered packages both provided the recommended amount of phosphorus, while the as-delivered packages provided 62 to 64 percent. None of the packages exceeded the weighted average AI for sodium (Table 3-3); additionally, none of the packages provided minerals in excess of the ULs (Table 3-4).

Table 3-3. Nutrient content of CSFP USDA Foods compared to the weighted average recommended nutrient needs (DRIs) for the reference participant

Nutrient/ Macronutrient	DRI[1]	Offered				Delivered			
		Entitlement Foods		Entitlement + Bonus Foods		Entitlement Foods		Entitlement + Bonus Foods	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Calories[2]	2,400	527	22%	567	24%	482	20%	521	22%
Protein, g	56	25.8	46%	26.0	46%	21.8	39%	22.0	39%
Protein, % kcal	10-35	20%	✓	18%	✓	18%	✓	17%	✓
Carbohydrate, g	130	83.4	64%	93.1	72%	81.0	62%	90.7	70%
Carbohydrate, % kcal	45-65	63%	✓	66%	↑	67%	↑	70%	↑
Total fat, g	ND	11.1	N/A	11.2	N/A	8.9	N/A	9.0	N/A
Total fat, % kcal	20-35	19%	↓	18%	↓	17%	↓	15%	↓
Saturated fat, g	low	4.0	N/A	4.0	N/A	2.4	N/A	2.4	N/A
Saturated fat, % kcal	ND	7%	N/A	6%	N/A	4%	N/A	4%	N/A
Linoleic acid, g	14	2.0	14%	2.0	14%	2.1	15%	2.1	15%
Linoleic acid, % kcal	5-10	3%	↓	3%	↓	4%	↓	4%	↓
α-Linolenic acid, g	1.6	0.1	8%	0.1	9%	0.1	6%	0.1	7%
α-Linolenic acid, % kcal	0.6-1.2	0%	↓	0%	↓	0%	↓	0%	↓
Cholesterol, mg	low	26.7	N/A	26.7	N/A	13.8	N/A	13.8	N/A
Total dietary fiber, g	30	7.7	26%	7.9	26%	7.3	24%	7.5	25%
Minerals									
Calcium, mg	1200	504.8	42%	512.3	43%	452.7	38%	460.2	38%
Copper, mg	0.9	0.4	43%	0.4	45%	0.4	41%	0.4	43%
Iron, mg	8	7.8	98%	7.9	99%	16.5	207%	16.6	208%
Magnesium, mg	420	119.8	29%	125.7	30%	104.6	25%	110.5	26%
Phosphorus, mg	700	694.8	99%	703.3	100%	436.0	62%	444.6	64%
Potassium, mg	4700	1026.3	22%	1120.9	24%	766.5	16%	861.1	18%
Sodium, mg[3]	1300	807.8	62%	810.9	62%	434.2	33%	437.3	34%
Zinc, mg	11	4.6	42%	4.6	42%	5.9	53%	5.9	54%
Vitamins									
Vitamin A, µg (RAE)	900	313.0	35%	313.5	35%	308.8	34%	309.3	34%
Vitamin C, mg	90	38.7	43%	63.1	70%	30.2	34%	54.6	61%
Vitamin D, µg	20	3.1	15%	3.1	15%	3.1	15%	3.1	15%
Vitamin E, mg	15	2.6	17%	2.6	17%	3.7	24%	3.7	25%
Thiamin, mg	1.2	0.6	53%	0.7	54%	0.9	77%	0.9	78%
Riboflavin, mg	1.3	0.8	64%	0.9	66%	1.0	80%	1.1	82%
Niacin, mg	16	6.8	43%	7.0	43%	12.2	76%	12.3	77%
Vitamin B6, mg	1.7	0.6	38%	0.7	40%	1.0	56%	1.0	58%
Vitamin B12, µg	2.4	2.1	88%	2.1	88%	2.7	114%	2.7	114%
Folate, µg (DFE)	400	236.4	59%	240.2	60%	379.3	95%	383.1	96%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard or within AMDR; ↓= below AMDR; ↑= exceeds AMDR

[1] Weighted average nutrient standard for reference participant

[2] Calorie recommendation from *Dietary Guidelines for Americans*, 2010.

[3] The *Dietary Guidelines for Americans*, 2010, note that Americans consume too much sodium; therefore, the AI is not the level of concern for most participants, but rather the UL.

Vitamins. The as-offered CSFP food packages generally provided slightly less of all vitamins than the as-delivered food packages, with the exception of vitamin C: The package without bonus foods provided 43 percent and the package with bonus foods provided 70 percent of the recommended amount, while the as-delivered packages provided 34 and 61 percent, respectively. The as-delivered packages both provided more than the recommended amount of vitamin B12, and the as-offered packages both provided 88 percent. The as-delivered packages provided at least 75 percent of thiamin, riboflavin, niacin, and folate. None of the packages provided vitamins in excess of the ULs (Table 3-4).

Table 3-4. Nutrient content of CSFP USDA Foods compared to the weighted average ULs for the reference participant

Nutrient	Weighted Average UL	Offered		Delivered	
		Entitlement Foods	Entitlement + Bonus Foods	Entitlement Foods	Entitlement + Bonus Foods
		Amount	Amount	Amount	Amount
Minerals					
Calcium, mg	2500	504.8	512.3	452.7	460.2
Copper, mg	10	0.4	0.4	0.4	0.4
Iron, mg	45	7.8	7.9	16.5	16.6
Phosphorus, mg	4000	694.8	703.3	436.0	444.6
Potassium, mg	ND	1026.3	1120.9	766.5	861.1
Sodium, mg	2300	807.8	810.9	434.2	437.3
Zinc, mg	40	4.6	4.6	5.9	5.9
Vitamins					
Vitamin A, µg (RAE)	3000	313.0	313.5	308.8	309.3
Vitamin C, mg	2000	38.7	63.1	30.2	54.6
Vitamin D, µg	100	3.1	3.1	3.1	3.1
Vitamin E (added), mg[1]	1000	0.6	0.6	2.0	2.0
Thiamin, mg	ND	0.6	0.7	0.9	0.9
Riboflavin, mg	ND	0.8	0.9	1.0	1.1
Niacin, mg[1]	35	6.8	7.0	12.2	12.3
Vitamin B6, mg	100	0.6	0.7	1.0	1.0
Vitamin B12, µg	ND	2.1	2.1	2.7	2.7
Folate, µg (folic acid)[1]	1000	86.7	86.7	180.9	180.9

[1] ULs for vitamin E, niacin, and folate apply only to synthetic forms obtained from supplements and/or fortified foods. Values for vitamin E and folate shown here are only the amounts added to foods; values for niacin have not been adjusted.

Comparison With TFP Dietary Standards

As the TFP dietary standard differs little from the DRI, results for most nutrients duplicate those seen in the previous comparison. The recommended amount of calories for the reference participant

in CSFP is slightly higher (2,600 kcal) than that used in the DRI comparison (2,400 kcal) (taken from the *Dietary Guidelines for Americans*, 2010), but this does not significantly change the percentage of the standard met by the CSFP food packages.

There are three nutrients for which the TFP standard differs from the DRI: sodium, potassium, and vitamin E. All CSFP food packages met the TFP standard for sodium. The TFP standards for both potassium and vitamin E are ranges; the as-offered packages provided 25 and 27 percent of the lower-bound TFP standard for potassium, while the as-delivered packages provided 19 and 21 percent. The as-offered packages provided 24 and 25 percent of the lower-bound TFP standard for vitamin E, while the as-delivered packages provided 35 percent (Table 3-5).

Table 3-5. Nutrient content of CSFP USDA Foods compared to the weighted average TFP standard for the reference participant

Nutrient/ Macronutrient	DRI[1]	Offered				Delivered			
		Entitlement Foods		Entitlement + Bonus Foods		Entitlement Foods		Entitlement + Bonus Foods	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Calories	2,600	527	20%	567	22%	482	19%	521	20%
Protein, g	ND	25.8	N/A	26.0	N/A	21.8	N/A	22.0	N/A
Protein, % kcal	10-35	20%	✓	18%	✓	18%	✓	17%	✓
Carbohydrate, g	ND	83.4	N/A	93.1	N/A	81.0	N/A	90.7	N/A
Carbohydrate, % kcal	45-65	63%	✓	66%	↑	67%	↑	70%	↑
Total fat, g	ND	11.1	N/A	11.2	N/A	8.9	N/A	9.0	N/A
Total fat, % kcal	20-35	19%	↓	18%	↓	17%	↓	15%	↓
Saturated fat, g	ND	4.0	N/A	4.0	N/A	2.4	N/A	2.4	N/A
Saturated fat, % kcal	< 10	7%	✓	6%	✓	4%	✓	4%	✓
Linoleic acid, g	14	2.0	14%	2.0	14%	2.1	15%	2.1	15%
Linoleic acid, % kcal	5-10	3%	↓	3%	↓	4%	↓	4%	↓
α-Linolenic acid, g	1.6	0.1	8%	0.1	9%	0.1	6%	0.1	7%
α-Linolenic acid, %kcal	0.6-1.2	0%	↓	0%	↓	0%	↓	0%	↓
Cholesterol, mg	<= 300	26.7	✓	26.7	✓	13.8	✓	13.8	✓
Total dietary fiber, g	30	7.7	26%	7.9	26%	7.3	24%	7.5	25%
Minerals									
Calcium, mg	1200	504.8	42%	512.3	43%	452.7	38%	460.2	38%
Copper, mg	0.9	0.4	43%	0.4	45%	0.4	41%	0.4	43%
Iron, mg	8	7.8	98%	7.9	99%	16.5	207%	16.6	208%
Magnesium, mg	420	119.8	29%	125.7	30%	104.6	25%	110.5	26%
Phosphorus, mg	700	694.8	99%	703.3	100%	436.0	62%	444.6	64%
Potassium, mg[2]	4136	1026.3	25%	1120.9	27%	766.5	19%	861.1	21%
Sodium, mg	<=2300	807.8	✓	810.9	✓	434.2	✓	437.3	✓
Zinc, mg	11	4.6	42%	4.6	42%	5.9	53%	5.9	54%

Table 3-5. Nutrient content of CSFP USDA Foods compared to the weighted average TFP standard for the reference participant (continued)

Nutrient/ Macronutrient	DRI[1]	Offered				Delivered			
		Entitlement Foods		Entitlement + Bonus Foods		Entitlement Foods		Entitlement + Bonus Foods	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Vitamins									
Vitamin A, µg (RAE)	900	313.0	35%	313.5	35%	308.8	34%	309.3	34%
Vitamin C, mg	90	38.7	43%	63.1	70%	30.2	34%	54.6	61%
Vitamin D, µg	ND	3.1	N/A	3.1	N/A	3.1	N/A	3.1	N/A
Vitamin E, mg[2]	10.5	2.6	24%	2.6	25%	3.7	35%	3.7	35%
Thiamin, mg	1.2	0.6	53%	0.7	54%	0.9	77%	0.9	78%
Riboflavin, mg	1.3	0.8	64%	0.9	66%	1.0	80%	1.1	82%
Niacin, mg	16	6.8	43%	7.0	43%	12.2	76%	12.3	77%
Vitamin B6, mg	1.7	0.6	38%	0.7	40%	1.0	56%	1.0	58%
Vitamin B12, µg	2.4	2.1	88%	2.1	88%	2.7	114%	2.7	114%
Folate, µg (DFE)	400	236.4	59%	240.2	60%	379.3	95%	383.1	96%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard or within AMDR; ↓= below AMDR; ↑= exceeds AMDR

[1] Weighted average nutrient standard for reference participant

[2] Value for % Met is the percent of the lower value (shown) in the acceptable range for the standard; acceptable range for potassium = 4136-4606 mg; acceptable range for vitamin E= 10.5-12.75 mg

3.1.3 Healthy Eating Index for CSFP USDA Foods

HEI-2005 Score

The as-offered CSFP food packages without and with bonus foods achieved HEI-2005 scores of 83.6 and 83.3 respectively. The HEI-2005 scores for the as-delivered CSFP food package without and with bonus foods were two points higher (85.2 and 85.5) than that achieved by the as-offered food packages.

Despite comparable total HEI-2005 scores for the food packages with and without bonus foods, compared with the as-offered and as-delivered food packages without bonus foods, the as-offered and as-delivered food packages with bonus foods achieved higher component score for whole fruit and sodium and lower component scores for total vegetables, dark green/orange vegetables and legumes, whole grains, and oils. These differences in component scores are attributable to the inclusion of juice as a bonus food; the addition of juice led to an increase in servings of whole fruit and total calories in the bonus food package. The increase in total calories resulted in slightly lower

density for the overall package and lower component scores for the vegetable, grain, and oil subgroups.

The differences in the HEI-2005 sodium component score for the as-offered and as-delivered food packages reflect food preferences of participating agencies in the as-offered food package. The foods providing the most sodium in the as-offered package included reduced-fat processed American cheese, dry milk, peanut butter, and 1 percent UHT milk. Reduced-fat processed American cheese was delivered in much smaller quantities than ordered, and was not a top source of sodium in the as-delivered food package; top sources of sodium in the as-delivered food package included dry milk, 1 percent UHT milk, peanut butter, and farina (Appendix F).

These scores are considerably above those achieved by the average American ages 60 years and older, both for all persons (68.4) and SNAP participants (62.7) (NHANES 1999-2004).[115] CSFP participants consuming foods in ratios offered and delivered in the food package would have HEI-2005 scores for the food packages about 25 points higher than those the achieved by Americans and approximately 30 points higher than those achieved by SNAP participants (Table 3-6, Figure 3-2).

HEI-2010 Score

The as-offered and as-delivered CSFP food packages had an overall HEI-2010 score of 80.0 and 82.0, respectively; the as-offered and as-delivered packages with bonus foods had slightly higher scores of 81.0 and 83.6, respectively. As indicated above, juice was the only bonus food offered and delivered in CSFP, which led to an increase in the amount of fruit and calories for the bonus food packages. This increase in total calories affected the food group density; it reduced the amount of all other food groups offered and delivered per 1,000 kcal, thereby resulting in lower HEI-2010 component scores for total vegetables, greens and beans and whole grains in the as-offered and as-delivered bonus food packages, and dairy in the as-delivered bonus food package. The increased calories improved the component scores for the "moderation components," refined grains and sodium, though there was no change in the component score in the as-delivered package, as the as-delivered package had the maximum possible score. The inclusion of juice did not affect the fatty acid component score as the fatty acid component score is not dependent on total calories.

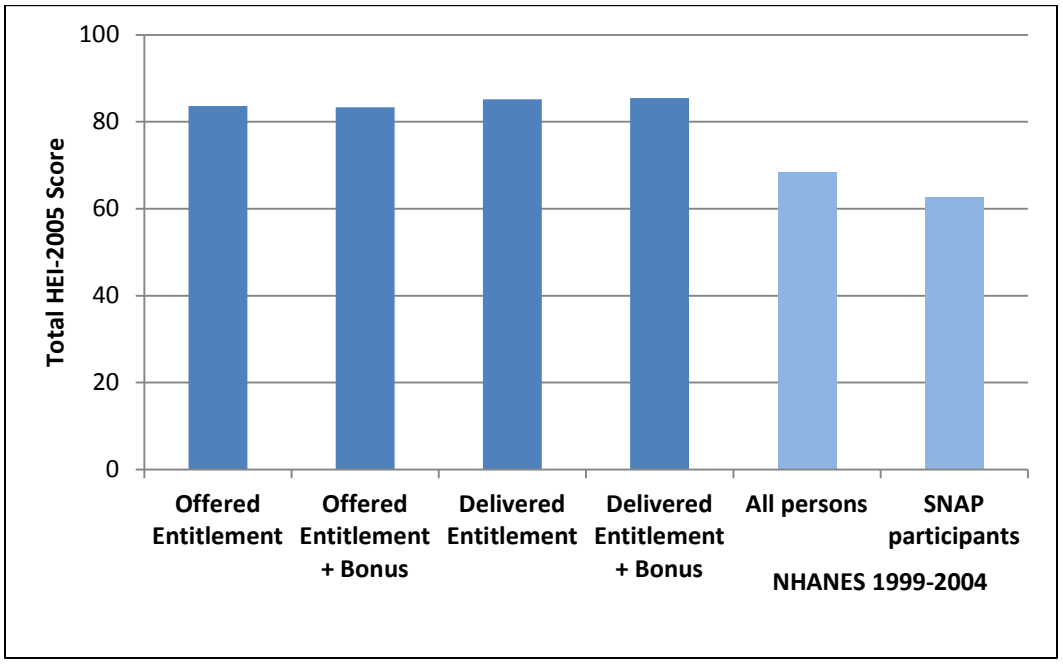
[115] Cole, N. and Fox, M.K. *Diet Quality of Americans by Food Stamp Participation Status: Data from the National Health and Nutrition Examination Survey, 1999-2004*. U.S. Department of Agriculture, Food and Nutrition Service, July 2008, page C-37. http://www.fns.usda.gov/sites/default/files/NHANES-FSP.pdf.

Table 3-6. HEI-2005 scores for CSFP USDA Foods and all NHANES 1999-2004 participants ages 60 years and older as well as SNAP participants ages 60 years and older

Component	Maximum Component Score	Offered		Delivered		All Persons	SNAP Participants
		Entitlement Foods	+ Bonus Foods	Entitlement Foods	+ Bonus Foods		
1. Total fruit	5	5.0	5.0	3.1	5.0	4.6	4.1
2. Whole fruit	5	1.9	2.1	1.4	1.6	5.0	4.9
3. Total vegetables	5	4.4	3.9	3.4	3.0	4.3	3.6
4. Dark green & orange veg & legumes	5	5.0	4.7	4.0	3.1	2.0	2.1
5. Total grains	5	5.0	5.0	5.0	5.0	5.0	5.0
6. Whole grains	5	3.6	3.4	3.6	3.3	1.6	1.3
7. Milk	10	10.0	10.0	10.0	9.9	5.9	4.9
8. Meat and beans	10	10.0	10.0	10.0	10.0	10.0	1.0
9. Oils	10	4.5	4.2	5.7	5.3	6.7	3.8
10. Saturated fat	10	10.0	10.0	10.0	10.0	3.1	3.0
11. Sodium	10	4.2	5.1	9.0	9.3	6.9	7.5
12. Calories from SoFAAS	20	20.0	20.0	20.0	20.0	10.8	9.8
Total HEI-2005 Score	**100**	**83.6**	**83.3**	**85.2**	**85.5**	**68.4**	**62.7**

Note: SoFAAS = Calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Figure 3-2. HEI-2005 overall scores for CSFP USDA Foods and all NHANES 1999-2004 participants ages 60 years and older as well as SNAP participants ages 60 years and older



The HEI-2010 score for the as-delivered CSFP food package with bonus foods was slightly higher than the as-offered food package without bonus foods. This difference is due to the higher component scores for the fatty acid and sodium and the lower refined grains component score in the as-delivered food package with bonus as compared to the as-offered food package with bonus. The lower fatty acid and sodium component scores reflect the smaller amount of reduced-fat processed American cheese in the as-delivered food package noted previously; the as-delivered food package with bonus had lower scores for whole fruit, all vegetable components, and much lower score for refined grain as compared to the as-offered food package with bonus. Cereal choices in the as-delivered food package with bonus account for the lower refined grain component score: although the as-offered food package with bonus offers relatively equal amounts of all ready-to-eat and cooked cereals, the as-delivered food package with bonus contains much more farina, corn flakes, rice crisp cereal, and corn and rice squares, all of which are refined grains (Appendix F).

The total HEI-2010 scores for the as-offered and as-delivered CSFP food packages were more than 20 points higher than those achieved by the average American diet (NHANES 2011-2012)[116] diet as well as the U.S. food supply in 2010 (the latest year for which HEI-2010 scores are available).[117] The HEI-2010 component scores for the as-offered CSFP food packages exceeded or were equal to those achieved by the average American diet and the U.S. food supply in 2010 for 10 of the 12 components, and were lower only for whole fruit and fatty acid ratio. HEI-2010 component scores for the as-delivered food packages met or exceeded those for the average American diet and the U.S. food supply for all components except whole fruit and refined grains, as well as total vegetables for the as-delivered food package with bonus (Table 3-7, Figure 3-3).

[116] Wilson, M.M., Reedy, J., and Krebs-Smith, S.M. American diet quality: where it is, where it is heading, and what it could be. J Acad Nutr Diet 2016; 116:302-310.

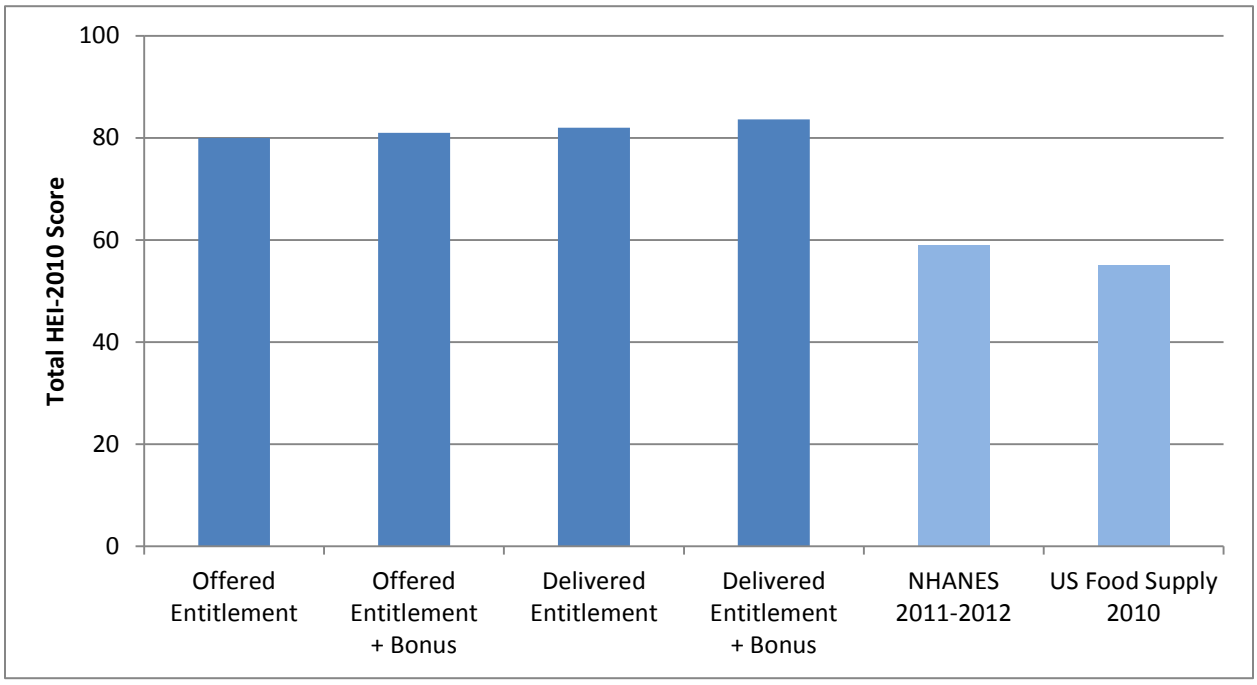
[117] Miller, P.E., Reedy, J., Kirkpatrick, S.I., and Krebs-Smith, S.M. The United States food supply is not consistent with dietary guidance: Evidence from an evaluation using the Healthy Eating Index2010. J Acad Nutr Diet 2015; 115:95-100.

Table 3-7. HEI-2010 scores for CSFP USDA Foods and all NHANES 2011-2012 participants ages 2 years and older as well as the U.S. Food Supply (2010)

Component	Maximum Component Score	Offered		Delivered		All persons 2011-12	U.S. Food Supply 2010
		Entitlement Foods	+ Bonus Foods	Entitlement Foods	+Bonus Foods		
1. Total fruit	5	5.0	5.0	3.1	5.0	3.0	1.8
2. Whole fruit	5	1.9	2.1	1.4	1.6	4.0	2.3
3. Total vegetables	5	4.4	3.9	3.4	3.0	3.4	2.6
4. Greens and beans	5	5.0	5.0	5.0	4.4	3.0	2.1
5. Whole grains	10	7.2	6.7	7.2	6.7	2.9	2.4
6. Dairy	10	10.0	10.0	10.0	9.9	6.4	4.8
7. Total protein foods	5	5.0	5.0	5.0	5.0	5.0	5.0
8. Seafood & plant proteins	5	5.0	5.0	5.0	5.0	3.7	3.8
9. Fatty acids	10	3.0	3.0	9.7	9.7	4.7	7.3
10. Refined grains	10	8.2	8.9	2.2	3.3	6.2	6.7
11. Sodium	10	5.2	6.3	10.0	10.0	4.2	0.3
12. Empty calories	20	20.0	20.0	20.0	20.0	12.6	15.7
Total HEI-2010 score	**100**	**80.0**	**81.0**	**82.0**	**83.6**	**59.0**	**55.0**

Note: Empty calories = Calories from solid fat, alcohol, and added sugar

Figure 3-3. HEI-2010 overall scores for CSFP USDA Foods and all NHANES 2011-2012 participants ages 2 years and older as well as the U.S. Food Supply (2010)



Discussion

Prior to 2014, CSFP served income-eligible seniors (age 60 and older), infants, children, and women, but participation for infants, children, and women was steadily declining. Section 4102 of the Farm Bill amended CSFP eligibility requirements, resulting in the phasing out of participation for infants, children and women, and transitioning CSFP to an income-eligible, seniors-only (age 60 and older) program.[118] Infants, children, and women who were enrolled in the program prior to February 6, 2014, continued to receive CSFP benefits, but others seeking to apply for benefits were referred to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

In FY 2014, infants, children, and women accounted for less than 3 percent of CSFP participants; since these subgroups were being phased out, the results presented in this section are for elderly participants only.[119]

- In FY 2014, USDA Foods offered and delivered through CSFP to participating State and local agencies included both entitlement and bonus foods. The as-offered and as-delivered CSFP food packages, with and without bonus foods, included a variety of foods from nine food groups. The additional juice offered in the bonus food package was the only difference between the as-offered packages. Preferences of participants and participating agencies are reflected in differences in the composition of the as-offered and as-delivered packages. Compared to the as-offered package, the as-delivered package included less juice, cheese, and starches, and slightly more milk, vegetables, and cereal.

- The as-offered CSFP food packages provided 20 percent or more of the weighted average 2010 USDA Food Pattern recommendations for total vegetables, total grains, and dairy. However, the as-delivered packages contained less vegetables from the dark green, red orange, and legumes groups, and contained more refined grains. When the nutrient content was examined per 2,000 kcal, both the as-offered and as-delivered packages exceeded the recommended amount of grains per 2,000 kcal; both exceeded the recommended amount of refined grains per 2,000 kcal, with the as-delivered packages containing substantially more refined grains than the as-offered packages. None of the CSFP food packages exceeded the recommended amount of oils or calories from solid fats and added sugars (SoFAS) per 2,000 kcal.

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[118] U.S. Department of Agriculture, Food and Nutrition Service, Food Distribution Division. Memo to Regional Directors, Special Nutrition Programs, State Directors, CSFP Agencies. Commodity Supplemental Food Program CSFP) – Implementation of the Agricultural Act of 2014 (P.L.113079). Accessed July 2015. http://www.fns.usda.gov/sites/default/files/CSFP_Farm_Bill_Implementation_Memo.pdf.

[119] As indicated in Chapter 2, the proportion of USDA foods offered and delivered to infants, children, and women was portioned out and the results represent the amount of foods offered and delivered to the elderly.

- In the as-offered package, American cheese provided the most calories, followed by peanut butter, dry milk, oats, and white rice. The major sources of calories in the as-delivered CSFP food packages were farina, peanut butter, dry milk, and macaroni.

- CSFP food packages do not provide a complete diet to participants, but contain good sources of the nutrients typically lacking in the diets of the target population.[120] The as-offered packages provided about 527 calories (567 calories with bonus foods) and the as-delivered packages provided 482 calories (521 calories with bonus foods). This is slightly less than 30 percent of the recommended amount of calories for a reference participant. The packages also provided 30 percent or less of the DRI for all macronutrients except carbohydrates. The as-offered and as-delivered packages provided more than two-thirds of the weighted average DRI for three and two of the eight minerals, respectively; both the as-offered and as-delivered packages provided more than the weighted average DRI for iron and phosphorus; the as-offered packages provided approximately twice as much of the weighted average DRI for sodium as did the as-delivered package (62 percent and 33 percent, respectively). Finally, the as-offered packages provided more than 60 percent of the weighted average DRI for two vitamins (riboflavin and vitamin B12), and the as-delivered packages provided more than 60 percent of the weighted average DRI for thiamin, riboflavin, niacin, vitamin B12, and folate.

- The TFP standards are identical to the DRI levels for most nutrients except calories, sodium, potassium, and vitamin E. CSFP food packages met the TFP standard for sodium and provided about 20 percent or more of potassium and vitamin E.

- The as-delivered CSFP food packages provided more than 100 percent of the DRI and TFP standards for iron and vitamin B12; the amount of iron did not exceed the UL (there is no UL for vitamin B12 because of its low toxicity).

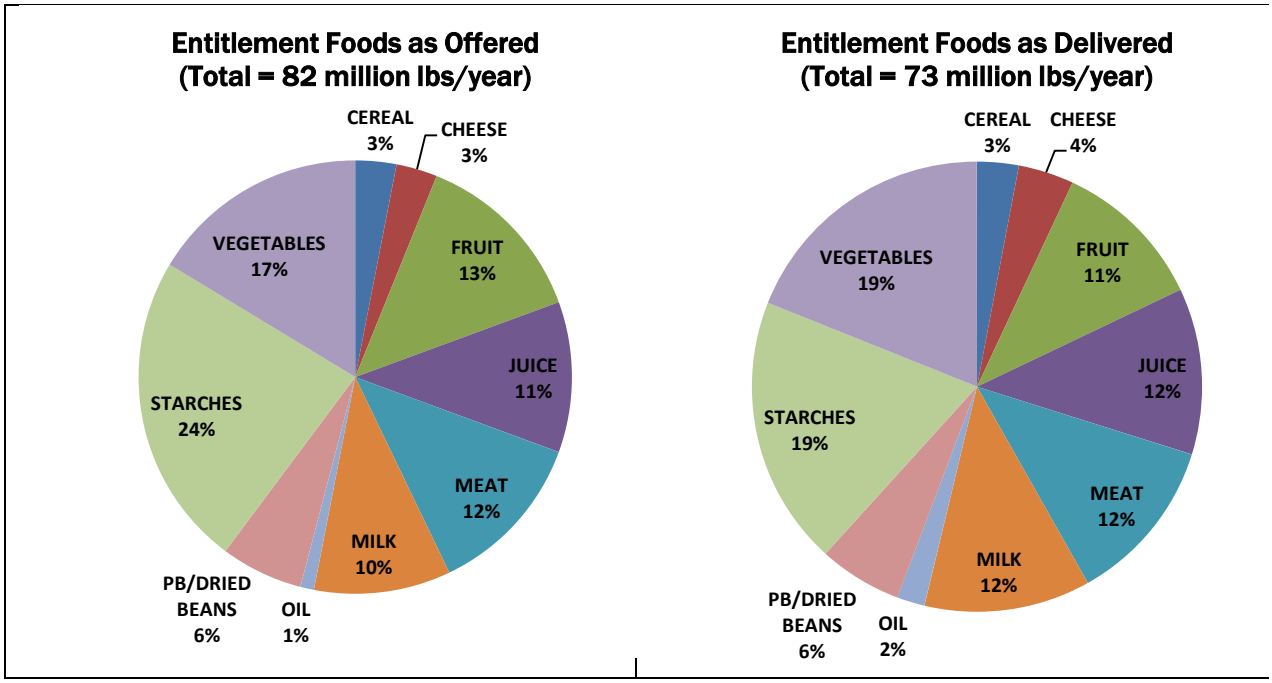
- In FY 2014, both the as-offered and as-delivered CSFP food packages had total HEI-2005 and HEI-2010 scores of more than 80. The as-delivered packages scored marginally higher than the as-offered package. As-offered and as-delivered food packages achieved the maximum possible HEI-2005 and HEI-2010 scores for six and five of the 12 components, respectively. Although the as-offered package achieved the maximum HEI-2005 score for total grains, it fell short of the maximum for the new HEI-2010 score for refined grains. The as-delivered package achieved the maximum score for the HEI-2010 score for saturated fat but fell far short of the maximum score for the new HEI-2010 fatty acid component. The as-delivered packages fell short of meeting the maximum HEI-2005 and HEI-2010 scores for whole fruit, total vegetables and whole grains. The as-delivered CSFP food package with bonus foods achieved an overall HEI-2010 that exceeded that of the 2010 U.S. food supply; scores for the package were also higher than the U.S. food supply for eight of the 12 components: total fruit, total vegetables, greens and beans, whole grains, dairy, seafood and plant protein, fatty acids, sodium, and empty calories.

[120] U.S. Department of Agriculture, Food and Nutrition Service. Commodity Supplemental Food Program. Nutrition Program Fact Sheet. Accessed July 2015. http://www.fns.usda.gov/csfp/about-csfp.

3.2 Food Distribution Program on Indian Reservations (FDPIR)

In FY 2014, the as-offered FDPIR food package provided 82 million pounds of USDA Foods, or 1,189 g/participant/day; the as-delivered FDPIR food package provided 73 million pounds of USDA Foods annually, or 1,065 g/participant/day. Both the as-offered and as-delivered FDPIR food packages contained foods from 10 food groups. (The variety of foods in the FDPIR food package is specified by the FDPIR Distribution Guides; see Appendix A.) Compared with the as-offered food package, the as-delivered FDPIR food package contained more cheese, juice, milk and oil and vegetables, and less fruit and starches, and the same amount of cereal, peanut butter/dried beans, and meat (Figure 3-4).

Figure 3-4. Food group* composition by weight of FDPIR USDA Foods as a percentage of the total weight of foods offered and delivered



*Food groups are those in the FDPIR Distribution Guides (Appendix A).

Food Sources of Calories. An examination of calories by food product for the as-offered and as-delivered FDPIR food packages is indicative of preferences; although FDPIR has distribution guides, participants and administering agencies can select specific products within broad food groups (such as cereal or canned vegetables), depending on participant preferences or transportation and storage capabilities. As described in Section 2.3.3, the as-offered food package was developed by assuming equal representation of all products within the distribution guide food categories. In

reality, one product may be substituted for another, so a comparison of calories by food product in the as-offered package with the as-delivered package provides a glimpse into the popularity of the food products. Appendix G presents the nutrients for each food offered or delivered to a reference participant on a monthly basis for FDPIR.

Within the dry cereal group, bran flakes provided the most calories for the as-offered package, while corn flakes provided the most calories for the as-delivered package. Macaroni and cheese provided the most calories from starches in the as-offered package, while spaghetti provided the most in the as-delivered package. Although white flour and whole wheat flour provided similar amounts of calories in the as-offered package, the as-delivered package had 16 times more calories from white flour than whole wheat. Corn provided the most calories from canned vegetables for both the as-offered and as-delivered packages, and potatoes the most calories for fresh vegetables. The as-offered package had similar amounts of calories from all varieties of canned beans and dried beans, while the as-delivered package had more calories from canned refried beans, canned pinto beans, and dried pinto beans than other beans. All varieties of canned fruits provided similar amounts of calories to the as-offered package; avocados provided the most calories from fresh fruit, and raisins the most calories from dried fruit. Canned peaches were the source of the most calories from canned fruit in the as-delivered package; mixed fruit, apples, and oranges provided the most calories from fresh fruit; and raisins and fruit-nut mix provided the most calories from dried fruit. Canned beef provided the most calories from the meat group in the as-offered package, while frozen ground beef provided the most calories in the as-delivered package. Although calories from peanuts and peanut butter were similar in the as-offered package, peanut butter provided three times the number of calories as peanuts in the as-delivered package. Processed American cheese provided nearly twice the number of calories as reduced fat cheese in the as-offered package, but over five times as many calories as reduced fat cheese in the as-delivered package. Though evaporated milk provided nearly the same number of calories to both the as-offered and as-delivered packages, the as-offered package contained fewer calories from 1 percent UHT milk and more calories from dry milk than the as-delivered package.[121] Vegetable oil was the largest source of calories from the oil group in both the as-offered and as-delivered packages.

[121] Note that an earlier version of this report erroneously stated that the amount of calories from dry milk was the same in the as-offered and as-delivered packages.

3.2.1 Food Group Assessment of FDPIR USDA Foods

Food Group Comparison. Both the as-offered and as-delivered FDPIR food packages provided more than the weighted average recommended amount for legumes, total grains, and nuts/seeds/soy products; the as-offered FDPIR food package also provided more than the weighted average recommended amount of whole grains. Both the as-offered and as-delivered FDPIR food packages provided almost three times the weighted average recommended amount for refined grains (297 percent and 282 percent, respectively), but neither food package exceeded the recommended amount of oils or calories from SoFAS (Table 3-8).

Table 3-8. Food group and subgroup content of FDPIR USDA Foods compared to the weighted average 2010 USDA Food Pattern recommendations for the reference participant

Food Group	USDA Food Pattern[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Fruits (cup equiv.)	2.0	1.2	58%	0.9	45%
Vegetables (cup equiv.)	2.8	1.1	39%	1.1	38%
Dark green	0.3	0.1	32%	<0.1	11%
Red and orange	0.8	0.3	44%	0.3	39%
Legumes	0.3	0.4	144%	0.4	142%
Starchy	0.8	0.3	37%	0.5	68%
Other	0.6	0.4	60%	0.2	31%
Total grains (oz equiv.)	7.0	14.7	210%	11.0	157%
Whole	3.6	4.3	119%	1.1	30%
Refined	3.5	10.4	297%	9.9	282%
Protein foods (oz equiv.)	5.9	4.7	80%	3.7	62%
Seafood	1.3	0.4	28%	0.1	6%
Meat, poultry, eggs	4.0	3.5	87%	2.7	68%
Nuts, seeds, soy products	0.6	0.9	152%	0.9	142%
Dairy (cup equiv.)	3.0	1.9	65%	2.0	68%
Oils (grams)	28.5	17.0	60%	21.8	77%
Maximum SoFAS (kcal)[2]	260.0	201.7	78%	192.5	74%
Maximum SoFAS (% kcal)	12%	10%	✓	11%	✓

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] Weighted average USDA Food Pattern recommended amount

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Food Groups Comparison per 2,000 kcal. The FDPIR food package provided slightly more than 2,000 kcal; therefore, standardizing the food groups provided to the 2,000 kcal level resulted in findings very similar to those presented for the food group comparison. The as-offered and as-delivered FDPIR food package per 2,000 kcal provided more than twice the recommended amount

of legumes, total grains, and nuts/seeds/soy products; the as-offered FDPIR food package also provided more than the recommended amount of whole grains. Both the as-offered and the as-delivered FDPIR food packages provided over three times the recommended amount of refined grains. The as-offered and as-delivered FDPIR food packages provided approximately half or less of the recommended amounts of fruits, vegetables, and seafood. Neither food package exceeded the recommended amount of oil or calories from SoFAS (Table 3-9).

Table 3-9. Food group and subgroup content of FDPIR USDA Foods per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food Group	USDA Food Pattern[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Fruits (cup equiv.)	2.0	1.1	57%	1.0	50%
Vegetables (cup equiv.)	2.5	1.1	43%	1.2	48%
Dark green	0.2	0.1	47%	<0.1	18%
Red and orange	0.8	0.3	43%	0.3	43%
Legumes	0.2	0.4	210%	0.5	236%
Starchy	0.7	0.3	41%	0.6	86%
Other	0.6	0.3	58%	0.2	35%
Total grains (oz equiv.)	6.0	14.3	239%	12.2	203%
Whole	3.0	4.2	139%	1.2	41%
Refined	3.0	10.1	338%	11.0	366%
Protein foods (oz equiv.)	5.5	4.6	84%	4.1	74%
Seafood	1.1	0.3	32%	0.1	8%
Meat, poultry, eggs	3.7	3.4	91%	3.0	82%
Nuts, seeds, soy products	0.6	0.9	148%	0.9	158%
Dairy (cup equiv.)	3.0	1.9	63%	2.3	75%
Oils (grams)	27.0	16.6	61%	24.3	90%
Maximum SoFAS (kcal)[2]	258.0	197.0	76%	214.1	83%
Maximum SoFAS (% kcal)	13.0%	10%	✓	11%	✓

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] USDA Food Pattern recommended amount per 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

3.2.1 Nutrient Assessment of FDPIR USDA Foods

Comparison With DRI

Energy. The as-offered FDPIR food package provided 95 percent of the weighted average recommended energy needs for the reference participant, while the as-delivered FDPIR food package provided 84 percent of the recommended amount of calories.

Macronutrients. The as-offered and as-delivered FDPIR food packages provided more than the weighted average recommended amount of protein and carbohydrate, and the as-delivered FDPIR food package provided more than the weighted average recommended amount of α-linolenic acid. Both the as-offered and as-delivered food packages met the AMDR guidelines for percentage of calories from protein, carbohydrate and linoleic acid, the as-delivered FDPIR food package also met the guidelines for percentage of calories from total fat and α-linolenic acid. The as-offered FDPIR food package provided the weighted average recommended amount of dietary fiber, while the as-delivered FDPIR food package provided 72 percent (Table 3-10).

Table 3-10. Nutrient content of FDPIR USDA Foods compared to the weighted average recommended nutrient needs (DRIs) for the reference participant

Nutrient/Macronutrient	DRI[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Calories[2]	2,150	2,048	95%	1,798	84%
Protein, g	38.8	84.8	219%	71.6	185%
Protein, % kcal	10-32.5	17%	✓	16%	✓
Carbohydrate, g	130	321.6	247%	260.4	200%
Carbohydrate, % kcal	45-65	63%	✓	58%	✓
Total fat, g	ND	50.5	N/A	53.7	N/A
Total fat, % kcal	22.5-35	22%	↓	27%	✓
Saturated fat, g	ND	14.2	N/A	15.7	N/A
Saturated fat, % kcal	as low as possible	6%	N/A	8%	N/A
Linoleic acid, g	12.8	11.7	91%	12.1	94%
Linoleic acid, % kcal	5-10	5%	✓	6%	✓
α-Linolenic acid, g	1.2	1.1	95%	1.4	116%
α-Linolenic acid, % kcal	0.6-1.2	1%	↓	1%	✓
Cholesterol, mg	ND	206.6	N/A	170.8	N/A
Total dietary fiber, g	29.8	29.6	99%	21.6	72%

Table 3-10. Nutrient content of FDPIR USDA Foods compared to the weighted average recommended nutrient needs (DRIs) for the reference participant (continued)

Nutrient/Macronutrient	DRI[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Minerals					
Calcium, mg	1075	1028.8	96%	1000.4	93%
Copper, mg	0.7	1.4	195%	1.0	148%
Iron, mg	11	24.1	219%	19.9	181%
Magnesium, mg	277.5	357.0	129%	259.8	94%
Phosphorus, mg	787.5	1753.4	223%	1413.0	179%
Potassium, mg	4425	2734.3	62%	2265.9	51%
Sodium, mg[3]	≤1425	1772.1	124%	1506.1	106%
Zinc, mg	8	13.3	167%	10.8	136%
Vitamins					
Vitamin A, µg (RAE)	650	730.8	112%	543.9	84%
Vitamin C, mg	58.8	77.2	131%	64.6	110%
Vitamin D, µg	15	6.8	46%	5.7	38%
Vitamin E, mg	12	9.1	76%	7.8	65%
Thiamin, mg	1.0	2.3	233%	1.9	192%
Riboflavin, mg	1.0	2.4	237%	2.0	197%
Niacin, mg	12.5	25.9	207%	22.0	176%
Vitamin B6, mg	1.0	1.9	191%	1.5	151%
Vitamin B12, µg	2.0	4.3	213%	3.6	182%
Folate, µg (DFE)	325	882.7	272%	775.2	239%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = within AMDR; ↓ = below AMDR; ↑ = above AMDR

[1] Weighted average nutrient standard for the reference participant

[2] Calorie recommendation from *Dietary Guidelines for Americans*, 2010.

[3] The *Dietary Guidelines for Americans*, 2010, note that Americans consume too much sodium; therefore, the AI is not the level of concern for most participants, but rather the UL.

Minerals. The mineral profiles of the as-offered and as-delivered FDPIR food packages were similar when compared with the weighted average RDA. Both the as-offered and as-delivered FDPIR food packages provided more than 100 percent of the weighted average RDA for copper, iron, phosphorus, sodium, and zinc; the as-offered FDPIR food package also provided more than 100 percent of the weighted average RDA for magnesium. The as-offered and as-delivered FDPIR provided 96 percent and 93 percent of the weighted average RDA for calcium, and 62 and 51 percent of the weighted average RDA for potassium, respectively (Table 3-10). The mineral levels in the as-offered and as-delivered FDPIR food packages were below the UL for all minerals (Table 3-11).

Table 3-11. Nutrient content of FDPIR USDA Foods compared to the weighted average ULs for the reference participant

Nutrient	Weighted Average UL	Offered Amount	Delivered Amount
Minerals			
Calcium, mg	2625	1028.8	1000.4
Copper, mg	7	1.4	1.0
Iron, mg	42.5	24.1	19.9
Phosphorus, mg	3750	1753.4	1413.0
Potassium, mg	ND	2734.3	2265.9
Sodium, mg	2175	1772.1	1506.1
Zinc, mg	28.75	13.3	10.8
Vitamins			
Vitamin A, µg (RAE)	2150.0	730.8	543.9
Vitamin C, mg	1462.5	77.2	64.6
Vitamin D, µg	93.8	6.8	5.7
Vitamin E (added), mg[1]	725.0	1.8	0.9
Thiamin, mg	ND	2.3	1.9
Riboflavin, mg	ND	2.4	2.0
Niacin, mg[1]	26.3	25.9	22.0
Vitamin B6, mg	75.0	1.9	1.5
Vitamin B12, µg	ND	1.4	1.0
Folate, µg (folic acid)[1]	750.0	366.4	315.3

[1] ULs for vitamin E, niacin, and folate apply only to synthetic forms obtained from supplements and/or fortified foods. Values for vitamin E and folate shown here are only the amounts added to foods; values for niacin have not been adjusted correspondingly.

Vitamins. When compared with the weighted average recommended amount, the as-offered and as-delivered FDPIR food packages provided more than twice the recommended amount of folate; the as-offered FDPIR food package also provided more than twice the weighted average RDA for thiamin, riboflavin, niacin and vitamin B12, more than 100 percent of the weighted average RDA for vitamins A and C, 76 percent of the weighted average RDA of vitamin E and 46 percent for vitamin D. The as-delivered FDPIR food package provided more than 100 percent of the weighted average RDA for all vitamins except vitamins A, D and E (Table 3-10). The vitamin levels in the as-offered and as-delivered FDPIR food packages were below the UL for all vitamins (Table 3-11).

Comparison With TFP Standards

The TFP dietary standards are very similar to the DRIs; therefore, most of the results of comparison to the TFP dietary standards are similar to those in the section above. The TFP standards differ

from the DRIs for three nutrients: sodium, potassium, and vitamin E.[122] Both the as-offered and as-delivered FDPIR food packages met the TFP standard for sodium. The as-offered and as-delivered FDPIR food packages provided less than the TFP standard for potassium (76 and 63 percent, respectively) and vitamin E (93 and 80 percent, respectively) (Table 3-12).

3.2.3 Healthy Eating Index for FDPIR USDA Foods

HEI-2005 Score

The as-offered and as-delivered FDPIR food packages achieved overall HEI-2005 scores of 88.1 and 86.5, respectively. Compared with the as-offered FDPIR package, the as-delivered food package had lower component scores for five of the 12 components, most notably the whole grain component score, which was three points lower than that of the as-offered package. Although the as-offered package contains approximately equal amounts of the ready-to-eat cereals, the as-delivered package contained far more cornflakes and corn squares and less bran flakes; similarly, the as-delivered package contained far less whole grain rotini than the as-offered package (Appendix G). The as-delivered package also had lower component scores for whole fruit and legumes, but higher scores for milk and oils.

FDPIR participants consuming foods in quantities contained in FDPIR food packages would have HEI-2005 scores about 30 points above those achieved by Americans and 35 points above those achieved by SNAP participants, respectively (NHANES 1999-2004)[123] (Table 3-13, Figure 3-5).

[122] The TFP standard for sodium is set to the median consumption or the UL for sodium, whichever is higher; the standards for potassium and vitamin E are provided as a range.

[123] Cole, N. and Fox, M.K. *Diet Quality of Americans by Food Stamp Participation Status: Data from the National Health and Nutrition Examination Survey, 1999-2004*. U.S. Department of Agriculture, Food and Nutrition Service, July 2008, page C-34. http://www.fns.usda.gov/sites/default/files/NHANES-FSP.pdf.

Table 3-12. Nutrient content of FDPIR USDA Foods compared to the weighted average TFP standard for the reference participant

Nutrient/Macronutrient	DRI[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Calories	2,150	2,048	95%	1,798	84%
Protein, g	N/A	84.8	N/A	71.6	N/A
Protein, % kcal	10-32.5	17%	✓	16%	✓
Carbohydrate, g	N/A	321.6	N/A	260.4	N/A
Carbohydrate, % kcal	45-65	63%	✓	58%	✓
Total fat, g	N/A	50.5	N/A	53.7	N/A
Total fat, % kcal	22.5-35	22%	↓	27%	✓
Saturated fat, g	N/A	14.2	N/A	15.7	N/A
Saturated fat, % kcal	<10	6%	✓	8%	✓
Linoleic acid, g	12.75	11.7	91%	12.1	94%
Linoleic acid, % kcal	5-10	5%	✓	6%	✓
α-Linolenic acid, g	1.2	1.1	95%	1.4	116%
α-Linolenic acid, % kcal	0.6-1.2	1%	↓	1%	✓
Cholesterol, mg	≤ 300	206.6	✓	170.8	✓
Total dietary fiber, g	29.8	29.6	99%	21.6	72%
Minerals					
Calcium, mg	1075.0	1028.8	96%	1000.4	93%
Copper, mg	0.7	1.4	195%	1.0	148%
Iron, mg	11.0	24.1	219%	19.9	181%
Magnesium, mg	277.5	357.0	129%	259.8	94%
Phosphorus, mg	787.5	1753.4	223%	1413.0	179%
Potassium, mg[2]	3590 - 4041	2734.3	76%	2265.9	63%
Sodium, mg	≤ 2175.0	1772.1	✓	1506.1	✓
Zinc, mg	8.0	13.3	167%	10.8	136%
Vitamins					
Vitamin A, µg (RAE)	650.0	730.8	112%	543.9	84%
Vitamin C, mg	58.8	77.2	131%	64.6	110%
Vitamin D, µg	N/A	6.8	N/A	5.7	N/A
Vitamin E, mg[2]	9.8-10.5	9.1	93%	7.8	80%
Thiamin, mg	1.0	2.3	233%	1.9	192%
Riboflavin, mg	1.0	2.4	237%	2.0	197%
Niacin, mg	12.5	25.9	207%	22.0	176%
Vitamin B6, mg	1.1	1.9	191%	1.5	151%
Vitamin B12, µg	2.0	4.3	213%	3.6	182%
Folate, µg (DFE)	325.0	882.7	272%	775.2	239%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard or within AMDR; ↓= below AMDR

[1] Weighted average nutrient standard for reference participant

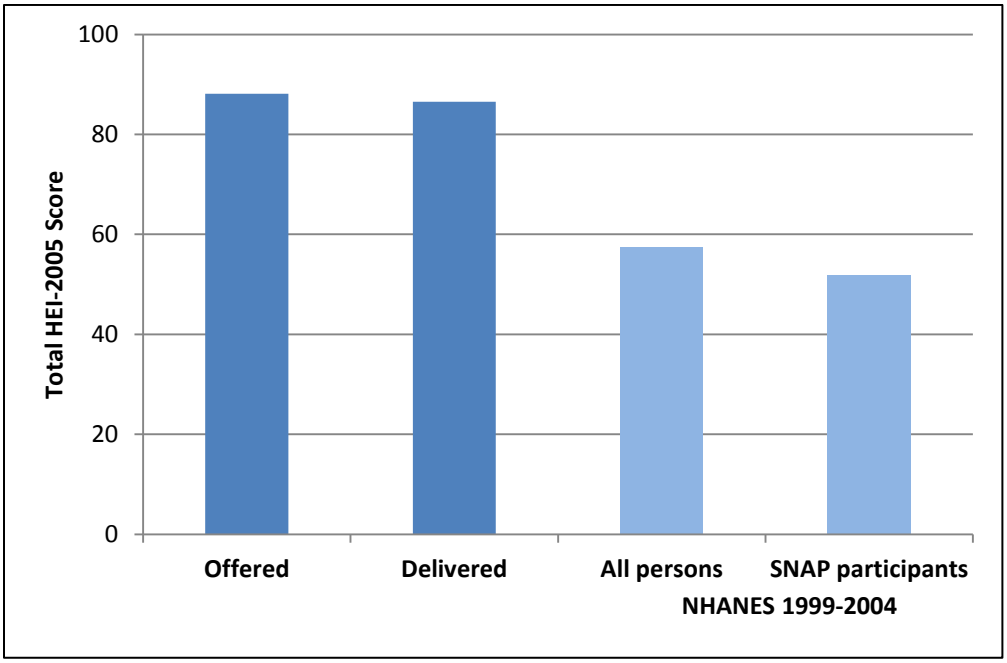
[2] Value for % Met is the percentage of the lower value in the acceptable range for the standard.

Table 3-13. HEI-2005 scores for FDPIR USDA Foods and all NHANES 1999-2004 participants ages 2-59 years as well as SNAP participants ages 2-59 years

Component	Maximum Component Score	Offered	Delivered	All Persons	SNAP Participants
1. Total fruit	5	3.5	3.1	3.1	2.8
2. Whole fruit	5	4.4	3.2	3.5	2.5
3. Total vegetables	5	3.2	3.3	3.2	2.9
4. Dark green & orange veg & legumes	5	3.5	2.4	1.4	1.3
5. Total grains	5	5.0	5.0	5.0	5.0
6. Whole grains	5	5.0	2.0	1.0	0.7
7. Milk	10	7.3	8.7	6.3	5.6
8. Meat and beans	10	10.0	10.0	10.0	10.0
9. Oils	10	6.9	10.0	6.3	4.7
10. Saturated fat	10	10.0	9.4	3.9	3.8
11. Sodium	10	9.2	9.3	6.2	6.3
12. Calories from SoFAAS	20	20.0	20.0	7.2	5.7
Total HEI-2005 score	**100**	**88.1**	**86.5**	**57.5**	**51.9**

Note: SoFAAS = calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Figure 3-5. HEI-2005 overall scores for FDPIR USDA Foods and all NHANES 1999-2004 participants ages 2-59 years as well as SNAP participants ages 2-59 years



HEI-2010 Score

The HEI-2010 scores for the as-offered and as-delivered FDPIR food packages were 81.4 and 73.0, respectively. The lower HEI-2010 score for the as-delivered food package was due to lower component scores for five of the 12 components, particularly the much lower component score for whole grains as compared to that for the as-offered food package. The as-delivered whole grain score was 4.1 compared to a score of 10 for the as-offered food package. Both as-offered and as-delivered food packages had scores of zero for refined grains, but achieved the maximum component scores for total protein, sodium and calories from SoFAAS.

These total HEI-2010 scores for the as-offered and as-delivered FDPIR food packages were more than 14 points higher than those achieved by the average American diet (NHANES 2011-2012), both for all persons ages 2 years and older[124] and children ages 2 to 17 years,[125] and the U.S. food supply in 2010 (the latest year for which HEI-2010 scores are available).[126] The HEI-2010 component scores for the as-offered FDPIR food package exceeded or were equal to those of the average American diet for 10 of the 12 components for all persons (lower only for total vegetable and refined grains), and eight of the 12 components for children (lower for total and whole fruit, dairy and refined grains). The HEI-2010 component scores for the as-delivered FDPIR food packages exceeded or were equal to those of the average American diet for 10 of the 12 components for all persons (lower only for whole fruit and refined grains) and eight of the 12 components for children (lower for total fruit, whole fruit, dairy and refined grains). The HEI-2010 component scores for the as-offered food package exceeded or were equal to those of the U.S. food supply for 11 of the 12 components for the as-offered food package, and 10 of 12 for the as-delivered package. Both FDPIR food packages had lower refined grain component scores and the as-delivered package also had a slightly lower fatty acid component score (Table 3-14, Figure 3-6).

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[124] Wilson, M.M., Reedy, J., and Krebs-Smith, S.M. American diet quality: where it is, where it is heading, and what it could be. J Acad Nutr Diet 2016; 116:302-310.

[125] U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. *Healthy Eating Index.* Accessed February 29, 2016. **http://www.cnpp.usda.gov/healthyeatingindex**

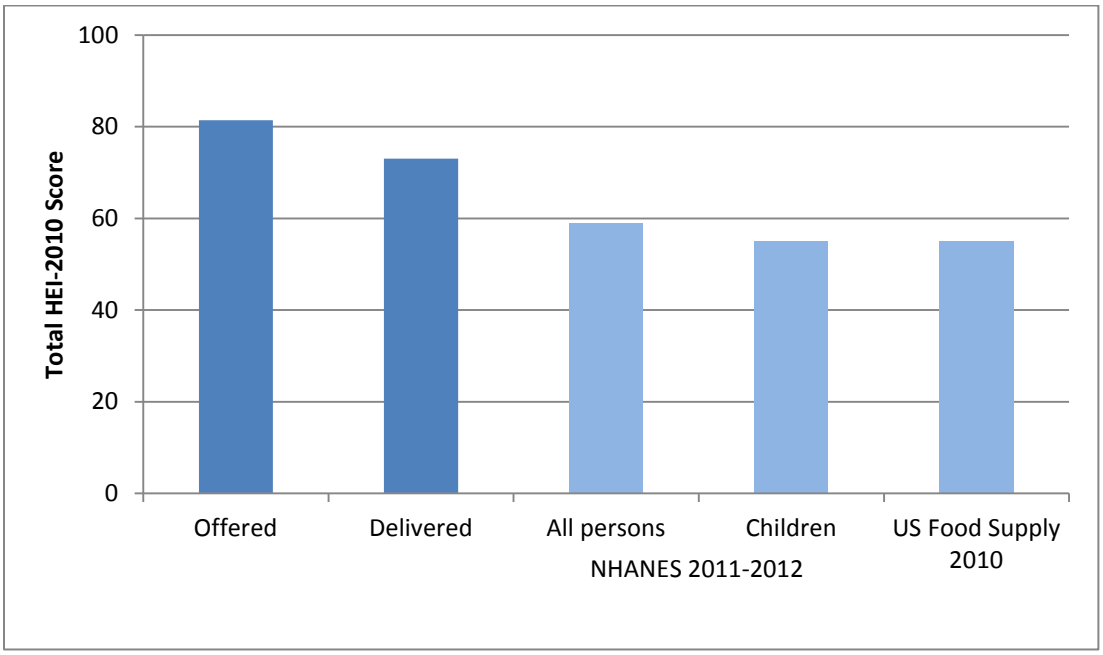
[126] Miller, P.E., Reedy, J., Kirkpatrick, S.I., and Krebs-Smith, S.M. The United States food supply is not consistent with dietary guidance: Evidence from an evaluation using the Healthy Eating Index2010. J Acad Nutr Diet 2015; 115:95-100.

Table 3-14. HEI-2010 scores for FDPIR USDA Foods, NHANES 2011-2012 participants ages 2 years and older (all persons) as well as participants ages 2 to 17 years (children), and the U.S. Food Supply (2010)

Component	Maximum Component Score	Offered	Delivered	All Persons 2011-12	Children 2011-12	U.S. Food Supply 2010
1. Total fruit	5	3.5	3.1	3.0	3.9	1.8
2. Whole fruit	5	4.5	3.2	4.0	4.8	2.3
3. Total vegetables	5	3.2	3.3	3.4	2.1	2.6
4. Greens and beans	5	5.0	3.5	3.0	0.7	2.1
5. Whole grains	10	10.0	4.1	2.9	2.5	2.4
6. Dairy	10	7.3	8.7	6.4	9.0	4.8
7. Total protein foods	5	5.0	5.0	5.0	4.4	5.0
8. Seafood & plant proteins	5	5.0	5.0	3.7	3.1	3.8
9. Fatty acids	10	7.8	7.2	4.7	3.3	7.3
10. Refined grains	10	0.0	0.0	6.2	4.9	6.7
11. Sodium	10	10.0	10.0	4.2	4.9	0.3
12. Empty calories	20	20.0	20.0	12.6	11.5	15.7
Total HEI-2010 score	**100**	**81.4**	**73.0**	**59.0**	**55.1**	**55.0**

Note: Empty calories = calories from solid fat, alcohol, and added sugar

Figure 3-6. HEI-2010 overall scores for FDPIR USDA Foods, NHANES 2011-2012 participants ages 2 years and older (All persons) as well as participants ages 2 to 17 years (Children), and the U.S. Food Supply (2010)



Discussion

The USDA Food package provided to FDPIR participants is based on the number of individuals in the household. The FDPIR Food Package Review Work Group[127] reviews the food package on an ongoing basis; discussion topics range from ways to add new products or eliminate existing products, increase choices within food categories, improve packaging, change packaging size of products, revise the guide rate for a product, and improve the quality and nutrient profile of USDA Foods. Improvements in the food package are intended to align the food package with the Dietary Guidelines for Americans.

- In FY 2014, FDPIR food packages did not contain any bonus foods. The as-offered and as-delivered FDPIR food package included foods from ten food groups. The proportion of food groups by weight differed in the two packages; compared with the as-offered food package, the as-delivered FDPIR food package contained more cheese, juice, meat, milk, oil, and vegetables, and less fruit and starches.
- Both the as-offered and as-delivered FDPIR food packages contained almost three times the weighted average recommended amount for refined grains, but neither food package exceeded the recommended amount of oils or calories from SoFAS.
- In the as-delivered package, white flour and vegetable oil were the largest source of calories, and canned tuna, canned turkey, and lima beans provided the least amount of calories.
- The as-offered and as-delivered FDPIR food packages provided 2,048 and 1,798 calories, respectively, translating to 95 percent and 84 percent of the DRI recommendations. When compared with the DRI and the TFP standards, both the as-offered and as-delivered packages provided more than the recommended amount for five to six of the eight minerals and seven to eight of the ten vitamins examined. The vitamin D level of as-offered and as-delivered packages was less than 50 percent of the recommended DRI amount, and the potassium level was about 75 percent of the recommended DRI amount.
- In FY 2014, both the as-offered and as-delivered FDPIR food packages had total HEI-2005 and HEI-2010 scores of more than 80 and more than 70, respectively. The as-offered package scored marginally higher than the as-delivered package. The as-offered and as-delivered food packages achieved the maximum possible HEI-2005 and HEI-2010 scores for four of the 12 components, respectively. The as-delivered package fell short of meeting the maximum HEI-2005 and HEI-2010 scores for total fruit, whole fruit, total vegetables, dark green and orange vegetables/legumes, whole grains, and

[127] The FDPIR Food Package Review Work Group was formed in 2009 and is comprised of officials from the National Association of Food Distribution Programs on Indian Reservations, representatives of Indian Tribal Organizations, State agencies that administer FDPIR, Federal and Tribal health professionals, USDA commodity procurement specialists, and the FNS Regional and National staff.

milk. Although the as-offered and as-delivered packages achieved the maximum HEI-2005 score for total grains, both packages exceeded the upper limit for refined grains and scored the minimum HEI-2010 score for the refined grain component. The HEI-2010 score for the as-delivered FDPIR food package exceeded the scores for the average American diet (NHANES 2011-2012) and the U.S. Food Supply in 2010; the package also scored higher than the U.S. food supply for 9 of the 12 components.

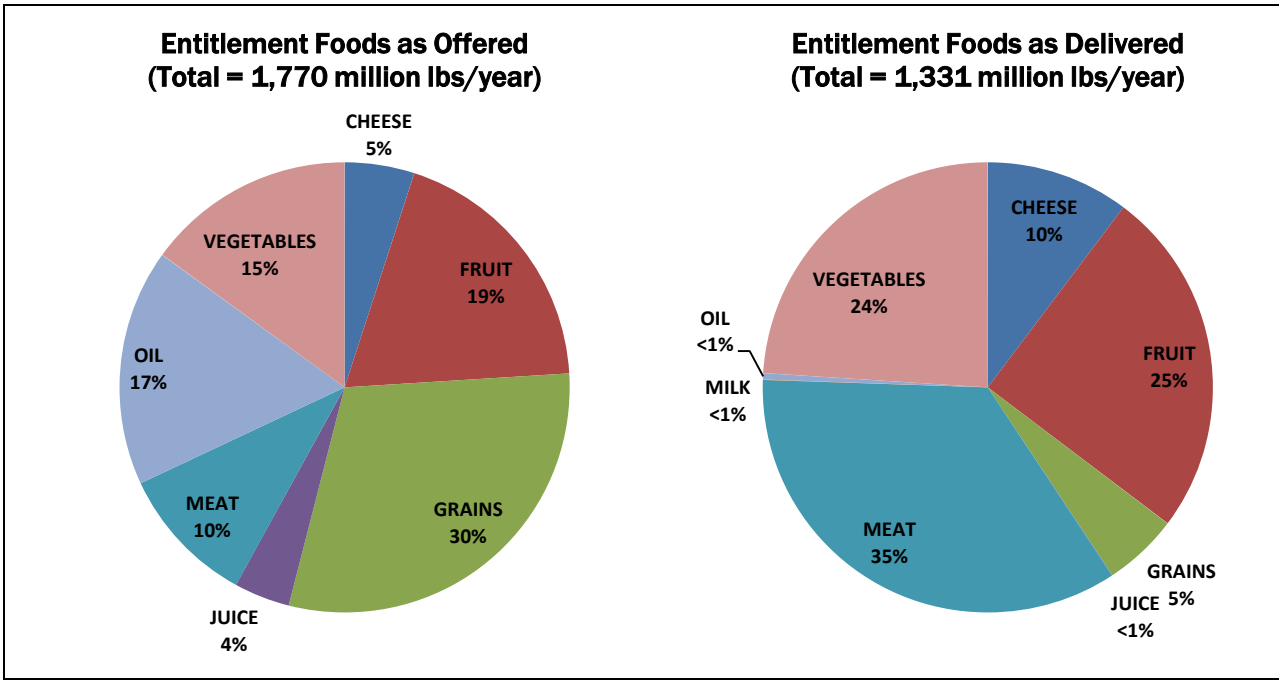
3.3 National School Lunch Program (NSLP)

In FY 2014, bonus foods were not offered or delivered in NSLP. The as-offered NSLP food package provided 1,770 million pounds of USDA Foods, or 154 g/participant/day; the as-delivered NSLP food package provided 1,331 million pounds of USDA Foods annually, or 116 g/participant/day. The as-offered and as-delivered NSLP food packages contained foods from 7 and 8 food groups, respectively (see Appendix E for additional information about food groups in NSLP, CACFP, and TEFAP); only the as-delivered NSLP food package contained fluid milk.[128] The top three contributors to the total weight of the as-offered package were items from the grain, fruit, and vegetable groups. The top three contributors to the total weight of the as-delivered NSLP food package were meat, fruits, and vegetables. Compared to the as-offered NSLP food package, the as-delivered package contained less grains and oil, and more cheese, fruit, meat, and vegetables (Figure 3-7).

Food Sources of Calories. An examination of calories by food product for the NSLP food package as offered and as delivered is indicative of preferences. Although NSLP does not have distribution guides or limits, an as-offered food package was created (as described in Section 2.3.3) to represent the USDA Foods made available to participating agencies. The as-offered food package was developed by assuming equal representation of all products within a food category. In reality, participating agencies make selections based on factors such as participant preference, storage facility constraints, and cost considerations. A comparison of the calories by food product in the as-offered package with the as-delivered package provides a glimpse into the popularity of the food products. Appendix H presents the nutrients for participants per month in NSLP.

[128] Only programs in Alaska, Hawaii, Puerto Rico and the U.S. Virgin Islands may order UHT fluid milk, as they are offshore sites with limited access to fresh fluid milk. Therefore, UHT fluid milk is not on the National Foods Available list offered to all states, but there are deliveries of UHT fluid milk.

Figure 3-7. Food group* composition by weight of NSLP USDA Foods as a percentage of the total weight of foods offered and delivered



*Food groups are based on the IOM's report on school meals.[129]

In the as-delivered food package, part skim mozzarella and American cheese provided the most calories in the cheese group. The main sources of calories in the fruit group were canned pears, fresh apples, frozen strawberries, applesauce, frozen peaches, and canned mixed fruit. Dehydrated potatoes and white flour provided the largest amounts of calories in the grain group, with whole grain products providing fewer calories in the as-delivered food package than in the as-offered food package. One exception was rice: Similar amounts of calories from brown and white rice were offered, but the as-delivered NSLP food package provided almost eight times more calories from brown rice than white rice; similarly, the as-delivered food package contained 20 times more calories from whole grain pastas than enriched pasta. Corn and green beans were the preferred canned vegetables, though deliveries of tomato paste also provided more calories than all canned vegetables other than corn. Although delivery of most fresh vegetables was smaller than the amount offered, fresh potatoes provided more than three times more calories as delivered than the amount offered, and provided the most calories for the vegetable group; sweet potatoes, carrots, and lettuce were more commonly delivered than other fresh vegetables. Potatoes were also the source of the most calories from frozen vegetables, as frozen potatoes and frozen corn were delivered in greater

[129] Institute of Medicine. *School Meals: Building Blocks for Healthy Children.* Washington, D.C.: The National Academies Press. 2010; pages 271-272. Available at http://www.fns.usda.gov/sites/default/files/SchoolMealsIOM.pdf.

amounts than offered. Meat, poultry, and fish products are offered as canned, fresh (chilled), or frozen products. Although canned meats were delivered at approximately the same amount as offered, there were some striking differences for fresh and frozen products. More whole chicken and frozen ground beef was delivered than offered; these foods contributed the most calories in the meat food group. The quantity of as-delivered products also exceeded the quantity offered for fresh and frozen meat products, with the exception of frozen pollock, frozen catfish, frozen ground pork, and whole frozen turkey. Peanut butter was delivered in greater amounts than offered, while other nut products were delivered in smaller amounts than offered. Both frozen eggs and oil were offered in greater amounts than delivered.

3.3.1 Food Group Assessment of NSLP USDA Foods

Food Group Comparison. The as-offered and as-delivered NSLP food packages provided less than 10 percent of the weighted average amount of fruit, dark green vegetables, red/orange vegetables, legumes, other vegetables; seafood; and dairy recommended for the reference participant. In comparison to the 2010 USDA Food Patterns, the as-delivered NSLP food package contained less fruit; legumes; total grains, whole grains, and refined grains; seafood, nuts/seeds/soy products; and oils than the as-offered NSLP food package. Although the as-offered NSLP food package met the guideline for maximum SoFAS (as percent of total calories) set by the 2010 USDA Food Pattern guidelines, the as-delivered NSLP food package exceeded that guideline (Table 3-15).

Food Groups Comparison per 2,000 kcal. The as-offered NSLP food package provided more than 90 percent of the recommended amount of legumes, total grains, as well whole and refined grains. The as-offered food package provided less than 50 percent of the recommended amount of fruits, total vegetables, and all vegetable subgroups other than legumes and starchy vegetables per 2,000 kcal. As delivered, the NSLP food package met more of the recommendations, providing at least 90 percent of the recommended amount of fruits, total vegetables, dark green vegetables, legumes, protein foods, nuts/seeds/soy products and dairy; over 50 percent of the recommended amount of red/orange vegetables, other vegetables, total, whole, and refined grains; but just 13 percent of the recommended amount of seafood per 2,000 kcal. The as-offered NSLP food package exceeded the recommended amount of oils, providing over four times the recommended amount per 2,000 kcal, but did not exceed the recommended amount of calories from SoFAS; the as-delivered NSLP food package did not exceed the recommended amount of oil but did exceed the recommendation for calories from SoFAS (Table 3-16).

Table 3-15. Food group and subgroup content of NSLP USDA Foods compared to the weighted average 2010 USDA Food Pattern recommendations for the reference participant

Food Group	USDA Food Pattern[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Fruits (cup equiv.)	1.8	0.2	10%	0.1	8%
Vegetables (cup equiv.)	2.8	0.2	8%	0.2	8%
Dark green	0.3	<0.1	5%	<0.1	5%
Red and orange	0.8	0.1	6%	<0.1	4%
Legumes	0.3	<0.1	14%	<0.1	5%
Starchy	0.8	0.1	16%	0.2	19%
Other	0.7	<0.1	3%	<0.1	4%
Total grains (oz equiv.)	7.0	1.8	26%	0.2	3%
Whole	3.6	0.8	21%	0.1	3%
Refined	3.5	1.1	31%	0.1	4%
Protein foods (oz equiv.)	5.7	0.2	4%	0.7	12%
Seafood	1.3	<0.1	3%	<0.1	1%
Meat, poultry, eggs	3.9	0.1	3%	0.6	16%
Nuts, seeds, soy products	0.6	0.1	14%	<0.1	8%
Dairy (cup equiv.)	3.0	0.2	7%	0.3	9%
Oils (grams)	27.8	25.3	91%	0.8	3%
Maximum SoFAS (kcal)[2]	238.1	20.4	9%	28.4	12%
Maximum SoFAS (% kcal)	11%	5%	✓	20%	↑

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline; ↑ = exceeds guideline

[1] Weighted average USDA Food Pattern recommended amount

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Table 3-16. Food group and subgroup content of NSLP USDA Foods per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food Group	USDA Food Pattern[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Fruits (cup equiv.)	2.0	0.8	41%	2.0	98%
Vegetables (cup equiv.)	2.5	0.9	37%	3.2	128%
Dark green	0.2	0.1	32%	0.2	97%
Red and orange	0.8	0.2	28%	0.4	55%
Legumes	0.2	0.2	93%	0.2	101%
Starchy	0.7	0.6	79%	2.2	317%
Other	0.6	0.1	15%	0.4	59%
Total grains (oz equiv.)	6.0	8.1	136%	3.1	52%
Whole	3.0	3.4	113%	1.3	45%
Refined	3.0	4.8	159%	1.8	59%
Protein foods (oz equiv.)	5.5	1.0	19%	10.0	182%
Seafood	1.1	0.2	15%	0.1	13%
Meat, poultry, eggs	3.7	0.5	13%	9.2	247%
Nuts, seeds, soy products	0.6	0.4	63%	0.7	119%
Dairy (cup equiv.)	3.0	0.9	29%	3.9	130%
Oils (grams)	27.0	111.4	412%	11.8	44%
Maximum SoFAS (kcal)[2]	258.0	90.0	35%	407.1	158%
Maximum SoFAS (% kcal)	13%	5%	✓	20%	↑

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline; ↑ = exceeds guideline

[1] USDA Food Pattern recommended amount per 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

3.3.2 Comparison of NSLP USDA Foods With NSLP Meal Pattern and Nutrition Standards

The as-offered NSLP food package contained more than one quarter of the minimum number of servings of fruit (31 percent of the standard), total vegetables (26 percent), and all vegetable subgroups (20 to 42 percent) except starchy vegetables (16 percent) and dark green vegetables (15 percent). The as-offered food package contained less than one quarter of the minimum number of servings of protein foods and no servings of milk. Amounts provided by the as-delivered NSLP food package were slightly lower for all food groups except total vegetables and protein foods, for which the as-delivered food package contained 28 and 54 percent of the minimum number of servings, respectively. Both the as-offered and as-delivered NSLP food packages provided more than the total amount of starchy vegetables; the as-offered NSLP food package provided over 100 percent of the school meal standard requirements for total grains and whole grains, while the as-delivered NSLP food package provided 17 and 16 percent, respectively (Table 3-17).

Table 3-17. Nutrient and food group content of NSLP USDA Foods compared to the weighted average school meal standards for the reference participant

Food Groups	Standard	Offered		Delivered	
		Amount	% Met	Amount	% Met
Fruits (cup equiv.)	0.6	0.2	31%	0.1	23%
Vegetables (cup equiv.)	0.8	0.2	26%	0.2	28%
Dark green	0.1	<0.1	15%	0.0	14%
Red and orange	0.2	0.1	25%	0.0	15%
Legumes	0.1	<0.1	42%	0.0	14%
Starchy	0.1	0.1	126%	0.2	155%
Other	0.1	<0.1	20%	0.0	25%
Total grains (oz equiv.)	1.3	1.8	142%	0.2	17%
Whole	0.6	0.8	128%	0.1	16%
Protein foods (oz equiv.)	1.3	0.2	18%	0.7	54%
Milk (cup equiv.)	1	<0.1	0%	0.0	0%
Nutrients					
Calories[1]	614.8-714.8	454	74%	139	23%
Saturated fat, % kcal	<10	10%	✓	15%	↑
Sodium, mg	reduce	131.6	N/A	142.1	N/A

✓ = meets guideline; ↑ = exceeds guideline

[1] Value for % Met is the percentage of the lower value in the acceptable range for the standard.

The as-offered and as-delivered NSLP food packages provided 74 percent and 23 percent of the calorie standards, respectively.[130] The as-offered NSLP food package met the school meal pattern standard for saturated fat as a percent of calories, while the as-delivered NSLP food package exceeded it.

3.3.3 Nutrient Assessment of NSLP USDA Foods

Comparison With the DRIs

Energy. The as-offered and as-delivered NSLP food packages provided 22 percent and seven percent of the recommended daily amount of calories, respectively (Table 3-18).

[130] The amount of energy provided by the as-offered and as-delivered NSLP food packages represents 61 and 21 percent of the amount of the energy required daily by the previous NSLP recommendations.

Table 3-18. Nutrient content of NSLP USDA Foods compared to the weighted average recommended nutrient needs (DRI) for the reference participant

Nutrient/Macronutrient	DRI[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Calories[2]	2,104.0	454	22%	139	7%
Protein, g	36.3	8.9	24%	9.2	25%
Protein, % kcal	10-30	8%	↓	26%	✓
Carbohydrate, g	130.0	41.2	32%	13.5	10%
Carbohydrate, % kcal	45-65	36%	↓	39%	↓
Total fat, g	ND	29.0	N/A	5.6	N/A
Total fat, % kcal	25-35	57%	↑	36%	↑
Saturated fat, g	as low as possible	4.9	N/A	2.4	N/A
Saturated fat, % kcal	ND	10%	N/A	15%	N/A
Linoleic acid, g	12.7	10.7	84%	0.6	5%
Linoleic acid, % kcal	5-10	21%	↑	4%	↓
α-Linolenic acid, g	1.3	1.5	117%	0.1	6%
α-Linolenic acid, % kcal	0.6-1.2	3%	↑	0%	↓
Cholesterol, mg	as low as possible	21.6	N/A	28.9	N/A
Total dietary fiber, g	31.9	4.0	13%	1.6	5%
Minerals					
Calcium, mg	1253.2	105.4	8%	102.6	8%
Copper, mg	0.7	0.2	26%	0.1	11%
Iron, mg	10.8	2.1	19%	0.9	8%
Magnesium, mg	267.0	49.1	18%	21.1	8%
Phosphorus, mg	1133.0	192.8	17%	142.0	13%
Potassium, mg	4442.8	308.9	7%	231.6	5%
Sodium, mg[3]	≤1453.2	131.6	9%	142.1	10%
Zinc, mg	8.3	1.3	15%	1.2	15%
Vitamins					
Vitamin A, µg (RAE)	646.8	57.1	9%	53.0	8%
Vitamin C, mg	49.7	16.7	34%	8.0	16%
Vitamin D, µg	15.0	0.2	1%	0.2	1%
Vitamin E, mg	11.4	3.5	31%	0.5	4%
Thiamin, mg	0.9	0.3	33%	0.1	10%
Riboflavin, mg	1.0	0.2	19%	0.1	12%
Niacin, mg	12.4	2.5	20%	1.9	16%
Vitamin B6, mg	1.0	0.2	20%	0.2	19%
Vitamin B12, µg	1.9	0.2	10%	0.4	23%
Folate, µg (DFE)	310.4	83.3	27%	21.5	7%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = within AMDR; ↓ = below AMDR; ↑ = above AMDR

[1] Weighted average nutrient standard for the reference participant

[2] Calorie recommendation from *Dietary Guidelines for Americans*, 2010.

[3] The *Dietary Guidelines for Americans*, 2010, note that Americans consume too much sodium; therefore, the AI is not the level of concern for most participants, but rather the UL.

Macronutrients. The as-offered NSLP food package provided 24 and 32 percent of the weighted average recommended amount of protein and carbohydrate, respectively, while the as-delivered NSLP food package provided 25 percent and 10 percent of the recommended amounts. Due to the slightly higher protein provided by the as-delivered NSLP food package as compared to the as-offered NSLP food package, the as-delivered package met the guideline for the percentage of calories from protein. Both the as-offered and as-delivered NSLP food packages exceeded the AMDR guidelines for percentage of calories from total fat. Compared to the as-offered NSLP food package, the as-delivered NSLP food package had lower amount of linoleic acid and α-linolenic acid; the as-offered NSLP food package exceeded the guidelines for percentage of calories from linoleic acid and α-linolenic acid (Table 3-18).

Minerals. The as-offered NSLP food package provided 26 percent of the weighted average RDA for copper and more than 15 percent of the weighted average RDA for iron, magnesium, phosphorus, and zinc. The as-delivered NSLP food package provided more than 10 percent of the weighted average RDA for copper, phosphorus, sodium, and zinc. Both the as-offered and as delivered NSLP food packages provided less than 10 percent of the weighted average RDA for calcium and potassium (Table 3-18). The quantity of minerals in the as-offered and as-delivered NSLP food packages was below the UL (Table 3-19). The as-offered and as-delivered NSLP food packages provided 8 percent of the weighted average RDA for calcium, or 24 percent of the previous NSLP requirement for calcium. The as-offered and as-delivered NSLP food package provided 19 and 8 percent of the weighted average RDA for iron, respectively, or 58 and 24 percent of the previous NSLP requirement for iron.

Vitamins. The as-offered and as-delivered NSLP food packages provided approximately 15 to 34 percent of the weighted average recommended amount of most vitamins. The as-offered NSLP food package provided more than 30 percent of the weighted recommended amount of vitamin C, vitamin E and thiamin; approximately 20 percent for riboflavin, niacin, vitamin B6, and folate; and 10 percent or less for vitamins A, D and B12. The as-delivered NSLP food package provided more than 20 percent of the weighted recommended amount of vitamin B12 and less than 10 percent of vitamins A, D, E, and folate (Table 3-18). The vitamin levels in the as-offered and as-delivered NSLP food packages were below the UL for all vitamins (Table 3-19).

Table 3-19. Nutrient content of NSLP USDA Foods compared to the weighted average ULs for the reference participant

Nutrient	Weighted Average UL	Offered Amount	Delivered Amount
Minerals			
Calcium, mg	2922.0	105.4	102.6
Copper, mg	5.5	0.2	0.1
Iron, mg	41.3	2.1	0.9
Phosphorus, mg	3844.0	192.8	142.0
Potassium, mg	ND	308.9	231.6
Sodium, mg	2179.2	131.6	142.1
Zinc, mg	24.1	1.3	1.2
Vitamins			
Vitamin A, µg (RAE)	1861.2	57.1	53.0
Vitamin C, mg	1270.2	16.7	8.0
Vitamin D, µg	96.1	0.2	0.2
Vitamin E (added), mg[1]	605.2	<0.1	<0.1
Thiamin, mg	ND	0.3	0.1
Riboflavin, mg	ND	0.2	0.1
Niacin, mg[1]	21.8	2.5	1.9
Vitamin B6, mg	62.1	<0.1	<0.1
Vitamin B12, µg	ND	0.2	0.4
Folate, µg (folic acid)[1]	620.8	26.2	1.9

[1] ULs for vitamin E, niacin, and folate apply only to synthetic forms obtained from supplements and/or fortified foods. Values for vitamin E and folate shown here are only the amounts added to foods; values for niacin have not been adjusted.

Comparison With the TFP Dietary Standards

The TFP dietary standards overlap with the AMDR, the RDAs, and the AIs of the DRIs, with some exceptions. The TFP standards are relaxed relative to the DRIs for vitamin E, potassium, and sodium, because those DRIs are difficult to achieve through typical American eating patterns.[131] The energy recommendations also are different in the TFP standards and the DRIs, primarily due to the difference in age-gender grouping between the TFP standards and the DRIs,[132] resulting in a slightly higher energy requirement under the TFP standards than under the DRIs. The as-offered and as-delivered NSLP food packages provided 20 percent and 6 percent of the weighted average TFP standard for energy, respectively. Although the as-offered NSLP food package met the TFP standard for calories from saturated fat, the as-delivered food package exceeded that standard. Both the as-offered and as-delivered NSLP food packages exceeded the TFP standards for total calories

[131] FDPIR report to Congress. Page 13. Accessed June 2015.

[132] In the TFP standards, a single nutrient value is set for boys and girls ages 1 to 11 years (four age categories), whereas a single DRI nutrient value is set for children up to 8 years (two age categories).

from fat, total calories from linoleic acid, and total calories from α-linolenic acid. The as-offered NSLP food package provided more than 10 percent of the TFP standards for five minerals and nine vitamins (copper, iron, magnesium, phosphorus, and zinc; and vitamins C, E, thiamin, riboflavin, niacin, B6, B12 and folate). The as-delivered NSLP food package provided more than 10 percent of the TFP standards for three minerals and six vitamins (copper, phosphorus, and zinc; and vitamins C, thiamin, riboflavin, niacin, B6, B12 and folate). The TFP has range values for potassium and vitamin E standards; the as-offered and as-delivered NSLP food packages provided 8 and 6 percent of the lower limit for potassium, respectively, and 32 and 4 percent of the lower limit for vitamin E. Both food packages also provided less sodium than the TFP-specified UL (Table 3-20).

3.3.4 Healthy Eating Index for NSLP USDA Foods

HEI-2005

The as offered and as-delivered NSLP food package achieved HEI-2005 scores of 72.6 and 76.7, respectively. The higher overall score for the as-delivered food package than the as-offered package are due to higher component scores for fruits, vegetables, meat, and milk in the as-delivered package. These component scores reflect the composition of NSLP food packages by weight: the as-delivered food package provided greater percentages of these food groups than the as-offered package.

Both the as-offered and as-delivered NSLP food packages compared favorably to the average diet of an American child (2 to 18 years) and the average diet of a child participating in SNAP (NHANES 1999-2004).[133] NSLP participants consuming foods in quantities contained in the as-offered and as-delivered food packages would achieve HEI-2005 scores approximately 17 to 21 points above those achieved by American children on average and by child SNAP participants (Table 3-21, Figure 3-8).

[133] Cole, N. and Fox, M.K. *Diet Quality of Americans by Food Stamp Participation Status: Data from the National Health and Nutrition Examination Survey, 1999-2004*. U.S. Department of Agriculture, Food and Nutrition Service, July 2008, page C-35. http://www.fns.usda.gov/sites/default/files/NHANES-FSP.pdf.

Table 3-20. Nutrient content of NSLP USDA Foods compared to the weighted average TFP standard for the reference participant

Nutrient/Macronutrient	DRI[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Calories	2,299.6	454	20%	139	6%
Protein, g	N/A	8.9	N/A	9.2	N/A
Protein, % kcal	10-30	8%	↓	26%	✓
Carbohydrate, g	N/A	41.2	N/A	13.5	N/A
Carbohydrate, % kcal	45-65	36%	↓	39%	↓
Total fat, g	N/A	29.0	N/A	5.6	N/A
Total fat, % kcal	25-35	57%	↑	36%	↑
Saturated fat, g	N/A	4.9	N/A	2.4	N/A
Saturated fat, % kcal	<10	10%	✓	15%	↑
Linoleic acid, g	12.7	10.7	84%	0.6	5%
Linoleic acid, % kcal	5-10	21%	↑	4%	↓
α-Linolenic acid, g	1.3	1.5	117%	0.1	6%
α-Linolenic acid, % kcal	0.6-1.2	3%	↑	0%	↓
Cholesterol, mg	≤ 300	21.6	✓	28.9	✓
Total dietary fiber, g	31.9	4.0	13%	1.6	5%
Minerals					
Calcium, mg	1253.2	105.4	8%	102.6	8%
Copper, mg	0.7	0.2	26%	0.1	11%
Iron, mg	10.8	2.1	19%	0.9	8%
Magnesium, mg	267.0	49.1	18%	21.1	8%
Phosphorus, mg	1133.0	192.8	17%	142.0	13%
Potassium, mg[2]	3705-4121	308.9	8%	231.6	6%
Sodium, mg	≤2179.2	131.6	✓	142.1	✓
Zinc, mg	8.3	1.3	15%	1.2	15%
Vitamins					
Vitamin A, µg (RAE)	646.8	57.1	9%	53.0	8%
Vitamin C, mg	49.7	16.7	34%	8.0	16%
Vitamin D, µg	N/A	0.2	N/A	0.2	N/A
Vitamin E, mg[2]	11.2-11.4	3.5	32%	0.5	4%
Thiamin, mg	0.9	0.3	33%	0.1	10%
Riboflavin, mg	1.0	0.2	19%	0.1	12%
Niacin, mg	12.4	2.5	20%	1.9	16%
Vitamin B6, mg	1.0	0.2	20%	0.2	19%
Vitamin B12, µg	1.9	0.2	10%	0.4	23%
Folate, µg (DFE)	310.4	83.3	27%	21.5	7%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard or within AMDR; ↓ = below AMDR; ↑ = above AMDR

[1] Weighted average nutrient standard for the reference participant

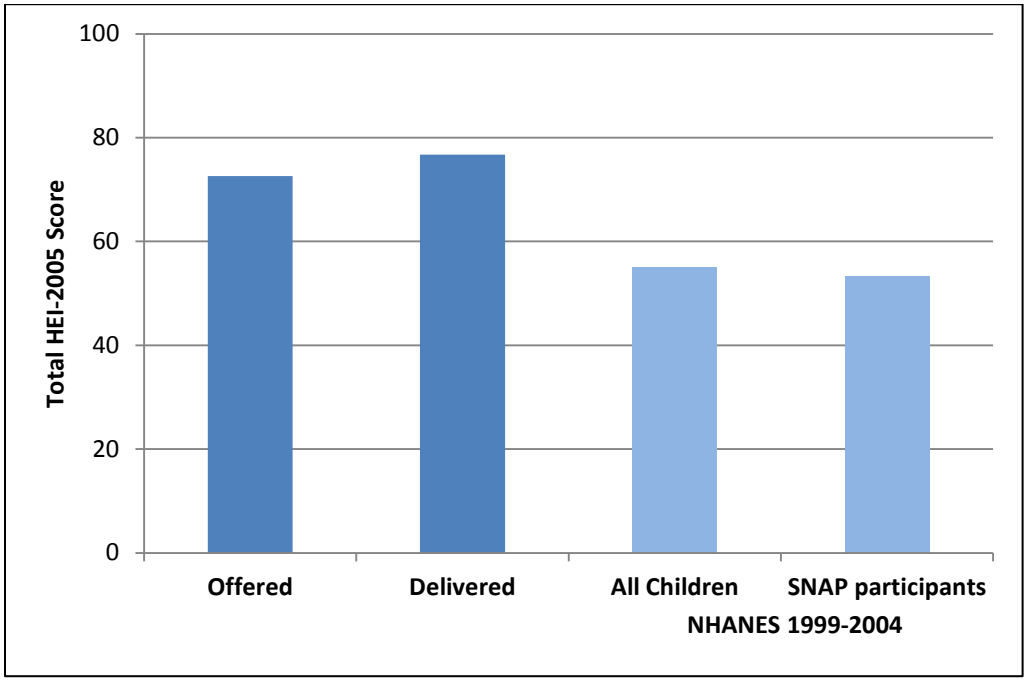
[2] Value for % Met is the percentage of the lower value in the acceptable range for the standard.

Table 3-21. HEI-2005 scores for NSLP USDA Foods and all NHANES 1999-2004 participants ages 2-18 years as well as SNAP participants ages 2-18 years

Component	Maximum Component Score	Offered	Delivered	All Children	SNAP Participants
1. Total fruit	5	2.5	5.0	3.4	3.4
2. Whole fruit	5	1.9	5.0	3.1	2.7
3. Total vegetables	5	2.1	5.0	2.3	2.4
4. Dark green & orange veg & legumes	5	1.0	3.8	0.8	0.9
5. Total grains	5	5.0	2.6	5.0	5.0
6. Whole grains	5	5.0	2.2	0.9	0.6
7. Milk	10	3.4	10.0	8.4	7.8
8. Meat and beans	10	3.6	10.0	8.0	8.5
9. Oils	10	10.0	4.9	5.8	5.3
10. Saturated fat	10	8.2	0.0	4.1	3.6
11. Sodium	10	10.0	8.4	5.4	5.2
12. Calories from SoFAAS	20	20.0	19.8	7.1	7.1
Total HEI-2005 Score	**100**	**72.6**	**76.7**	**55.0**	**53.2**

Note: SoFAAS = calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Figure 3-8. HEI-2005 overall scores for NSLP USDA Foods and all NHANES 1999-2004 participants ages 2-18 years as well as SNAP participants ages 2-18 years



HEI-2010

The as-offered and as-delivered NSLP food packages achieved HEI-2010 scores of 74.2 and 81.2, respectively. The as-offered NSLP food package achieved maximum scores for four components whereas the as-delivered package achieved maximum component scores for eight components. The higher HEI-2010 scores for the as-delivered food package than the as-offered package are consistent with the composition of NSLP food packages, and reflect greater percentage by weight of fruit, vegetables, meat, and dairy in the as-delivered package when compared to the as-offered package. The as-delivered food package provided more cheese and meat than the as-offered package; this is reflected in the fatty acid component score, equal to 10 for the as-offered package but 0 for the as-delivered package.

Both the as-offered and as-delivered NSLP food packages were more than 19 points higher than those achieved by the average American diet for children ages 2 to 17 years (NHANES 2011-2012)[134,135] as well as that of the U.S. food supply in 2010 (the latest year for which HEI-2010 scores are available).[136] The HEI-2010 component scores for the as-offered NSLP food package exceeded or were equal to those achieved by the average American diet for children for eight of the 12 components (lower for total and whole fruit, total dairy, and total protein), and 10 of 12 for the as-delivered package (lower for seafood/plant proteins and fatty acids). The HEI-2010 component scores for the as-offered NSLP food package exceeded or were equal to those achieved by the U.S. food supply for seven of the 12 components for the as-offered food package, and 10 of 12 for the as-delivered package. The as-offered NSLP food package had lower component scores than the U.S. food supply for total and whole fruit, total vegetables, greens/beans, dairy, total protein foods; the as-delivered food package had lower component scores for seafood/plant proteins and fatty acids (Table 3-22, Figure 3-9).

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[134] U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. *Healthy Eating Index*. Accessed February 29, 2016. http://www.cnpp.usda.gov/healthyeatingindex.

[135] Cole, et al., reported HEI-2005 scores for children 2 -18 years; USDA CNPP reported HEI-2010 scores for children ages 2-17 years.

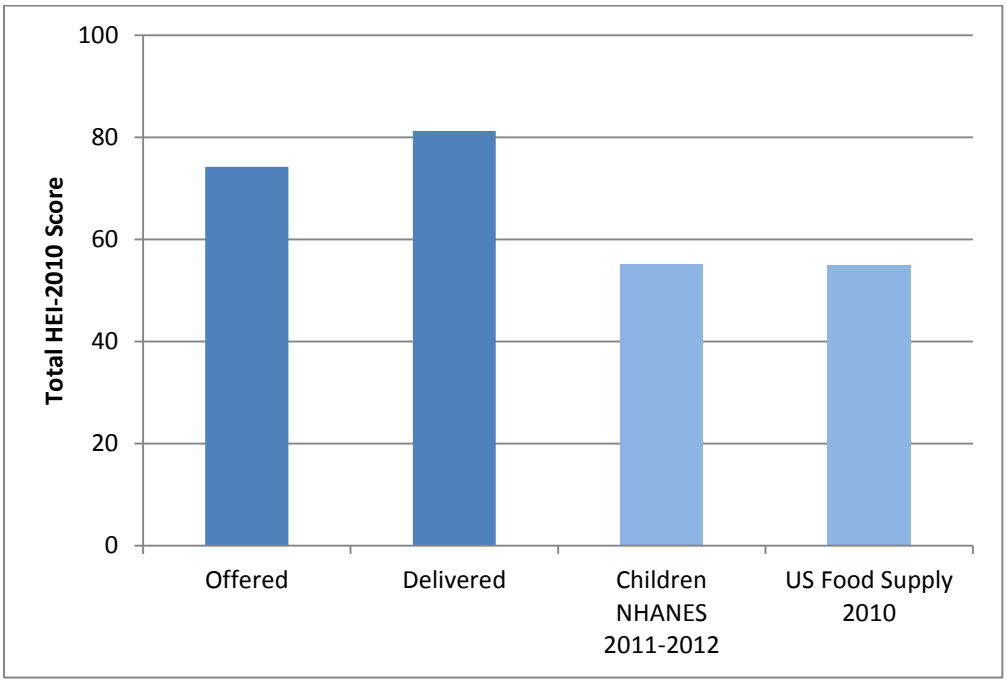
[136] Miller, P.E., Reedy, .J, Kirkpatrick, S.I., and Krebs-Smith, S.M. The United States food supply is not consistent with dietary guidance: Evidence from an evaluation using the Healthy Eating Index2010. J Acad Nutr Diet 2015; 115:95-100.

Table 3-22. HEI-2010 scores for NSLP USDA Foods, NHANES 2011-2012 participants ages 2 to 17 years as well as the U.S. food supply (2010)

Component	Maximum Component Score	Offered	Delivered	Children 2011-2012	U.S. Food Supply 2010
1. Total fruit	5	2.5	5.0	3.9	1.8
2. Whole fruit	5	1.9	5.0	4.8	2.3
3. Total vegetables	5	2.1	5.0	2.1	2.6
4. Greens and beans	5	0.8	5.0	0.7	2.1
5. Whole grains	10	10.0	4.5	2.5	2.4
6. Dairy	10	3.4	10.0	9.0	4.8
7. Total protein foods	5	1.8	5.0	4.4	5.0
8. Seafood & plant proteins	5	4.0	2.7	3.1	3.8
9. Fatty acids	10	10.0	0.0	3.3	7.3
10. Refined grains	10	7.7	10.0	4.9	6.7
11. Sodium	10	10.0	10.0	4.9	0.3
12. Empty calories	20	20.0	19.1	11.5	15.7
Total HEI-2010 score	**100**	**74.2**	**81.2**	**55.1**	**55.0**

Note: Empty calories = calories from solid fat, alcohol, and added sugar

Figure 3-9. HEI-2010 overall scores for NSLP USDA Foods, NHANES 2011-2012 participants ages 2 to 17 years and the US food supply (2010)



Discussion

The foods served at NSLP meals represent a combination of USDA Foods and non-USDA Foods produced from various sources. While USDA Foods are provided to NSLP, there is no distribution guide for the program; therefore the as-offered NSLP food package was developed using the cost of foods and funds available to schools in SY 2013-2014. As detailed in Chapter 2, an equal portion of the total spending incurred in NSLP was allocated to each food group. The lack of distribution guides and the variability in food selections across administering agencies mean that the as-offered food package may not reflect the actual variety and quantity of USDA Foods provided in any one school.

Up until 2011, NSLP had a statutory requirement to provide one-third of the DRI for children for calories, protein, calcium, iron, and vitamins A and C, while providing no more than 30 percent of calories from fat and less than 10 percent of calories from saturated fat through the lunches provided. The USDA aligned NSLP nutrition standards with the DGA; these standards went into effect beginning with SY 2012-2013. In this section, the nutrient and food group content of NSLP food packages are compared with the nutrition standards that were effective starting 2012.

- In SY 2013-2014, bonus foods were not offered or delivered to NSLP participants. The as-offered NSLP food package included foods from seven food groups and the as-delivered package included foods from 8 food groups; milk was included only in the as-delivered package. The as-offered and as-delivered NSLP food packages contained 154 g and 116 g of USDA Foods/participant/day, respectively. Participant and agency preferences are apparent in the proportion of foods contained in the as-delivered NSLP food package. For example, compared to the as-offered NSLP food package, the as-delivered food package included more meat, cheese, and grains and less oil. While grains were the topmost food group by weight in the as-offered package, meat was the topmost in the as-delivered package.

- The as-offered NSLP food package contained more than 10 percent of the weighted average recommended daily amount for legumes and starchy vegetables; total grains – and whole and refined grains; and 91 percent of the recommended amount of oils. However, the as-delivered NSLP food package contained more than 10 percent of the weighted average recommended amounts for starchy vegetables, total protein foods, and meat/poultry/eggs; it also exceeded the maximum SoFAS.

- The main sources of calories in the as-offered package were vegetable oils, while part-skim mozzarella cheese, American cheese, and frozen ground beef provided the most calories in the as-delivered package.

- The NSLP Meal Pattern and Nutrition Standards became effective starting SY 2012-2013. While USDA Foods represent between 15 to 20 percent of all foods served in

school lunch, they provide between 14 percent and 155 percent of the food group requirements in the NSLP meal pattern and nutrition standards. The as-offered NSLP food package provided more than 25 percent of the school meal standard amounts of fruits, total vegetables, red/orange vegetables, legumes, and other vegetables, while the as-delivered NSLP food package provided more than 25 percent of the school meal standard for total vegetables and other vegetables. Both the as-offered and as-delivered food packages provided more than the NSLP meal pattern requirement for starchy vegetables. The as-offered and as delivered NSLP food packages provided 380 and 139 calories respectively, translating to 59 percent and 23 percent of the calorie requirements for lunch;[137] both packages exceeded the school meal pattern standard for percentage of calories from saturated fat.

- The as-offered NSLP food package provided 18 percent of the recommended daily amount of calories, or about 10 percent more than that provided by the as-delivered NSLP food package. Compared with the as-offered NSLP food package, the as-delivered package contained less carbohydrate and total fat, saturated fat, and dietary fiber, and more cholesterol. Both the as-offered and as-delivered NSLP food packages provided more than the recommended amount of calories from fat. When compared with the DRI, the as-offered NSLP food package provided between 9 and 31 percent of the recommended amount of all vitamins except vitamin D, and between 6 and 20 percent of the recommended amount of minerals. The as-delivered NSLP food package provided between 4 and 23 percent of the recommended amount of all vitamins except vitamin D, and between 5 and 15 percent of the recommended amount of minerals. Both the as-offered and as-delivered NSLP food packages met less than ten percent of DRI for calcium and potassium. Both the as-offered and as-delivered NSLP food packages provided just one percent of the recommended amount of vitamin D; which can be attributed to the lack of milk in either food packages. When compared with the TFP standards, the as-offered NSLP food package provided between 9 and 31 percent of the recommended amount of vitamins and between 7 and 20 percent of the recommended amount of minerals. The as-delivered NSLP food package provided between 4 and 23 percent of the recommended amount of vitamins and between 6 and 15 percent of the recommended amount of minerals. Both the as-offered and as-delivered NSLP food packages met less than ten percent of the TFP standard for calcium and potassium; there are no TFP standards for vitamin D.

- In SY 2013-14, both the as-offered and as-delivered NSLP food packages had total HEI-2005 and HEI-2010 scores of greater than 70. The as-delivered food package scored slightly higher than the as-offered package. The as-offered and as-delivered food packages achieved the maximum possible HEI-2005 scores for three and five of the 12 components, respectively. Similarly, the as-offered and as-delivered food packages achieved the maximum possible HEI-2010 scores for four and eight of the 12 components, respectively. The as-offered and as-delivered packages achieved HEI-2005 total grain scores of 4.9 and 2.6, respectively, and similar scores for whole grains; for the new HEI-2010 enriched grain component, both packages achieved the maximum score. The as-delivered packages fell short of meeting the maximum HEI-2010 scores for

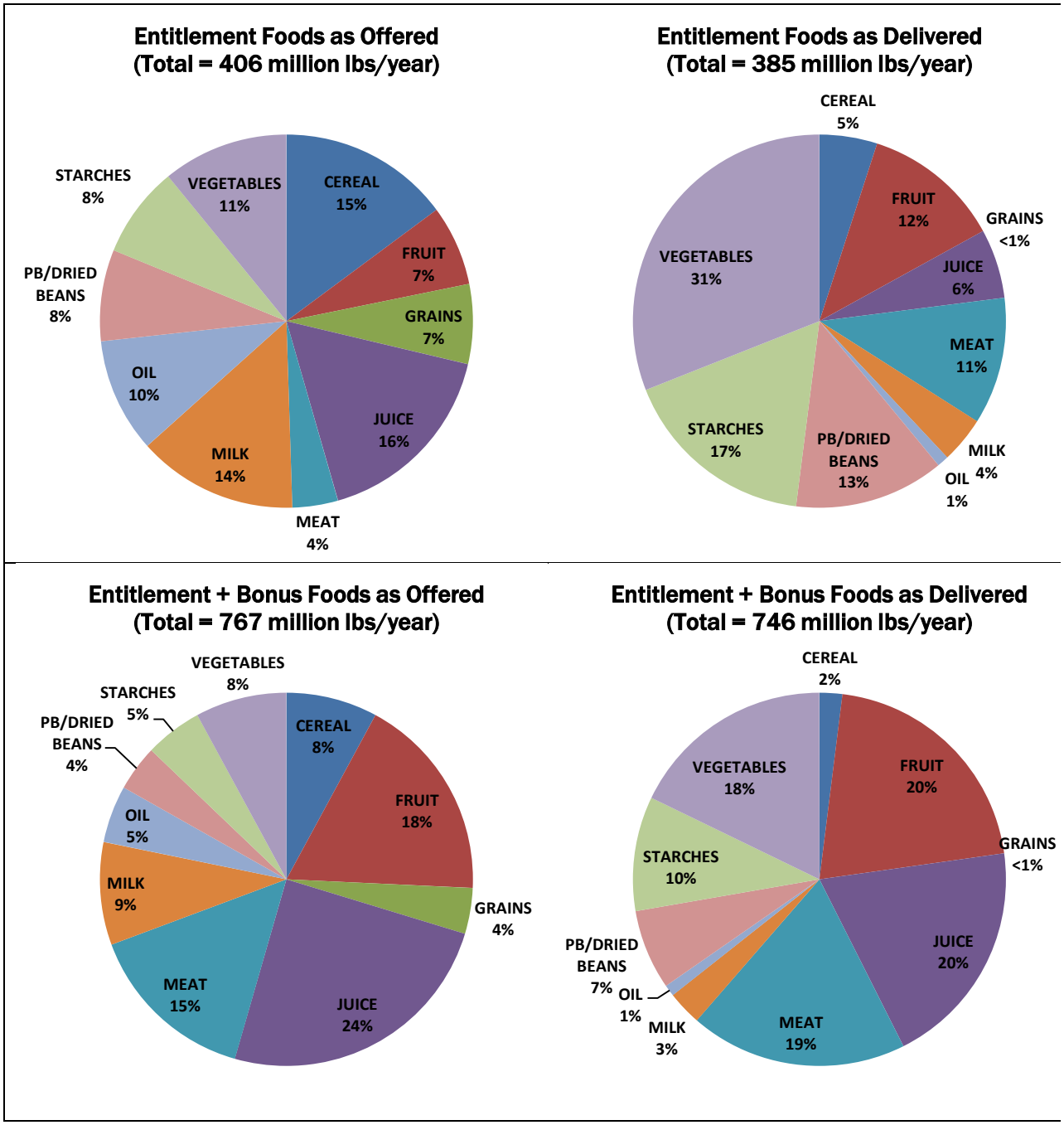
[137] The as-offered and as-delivered NSLP food package provided 51 percent and 21 percent respectively of the amount of energy required by the SMI standards in place prior to SY 2012-2013.

whole grains, seafood and plant proteins, and fatty acids, and nearly exceeded the maximum score for empty calories. The HEI-2010 score for the as-delivered NSLP food package exceeded the scores achieved by the average American diet for children (NHANES 2011-2012) and the U.S. Food Supply in 2010; the package scored higher than the average American diet for children for 10 of the 12 components, and higher than the U.S. food supply for 9 of the 12 components.

3.4 The Emergency Food Assistance Program (TEFAP)

In FY 2014, the as-offered TEFAP food packages without and with bonus foods included approximately 406 million and 767 million pounds of USDA Foods, respectively. The as-delivered TEFAP food packages without and with bonus foods included approximately 385 million and 746 million pounds of USDA Foods, respectively. All TEFAP food packages included foods from ten food groups. Compared with the as-offered package, the as-offered package with bonus foods contained more fruit, juice, and meat, but less of all other food groups. Compared with the as-delivered package, the as-delivered package with bonus foods contained more grains, cereal, vegetables, starches, and peanut butter/dried beans, and less meat, juice, and fruits. Finally, differences were also seen in the food group composition of the as-offered and as-delivered TEFAP food packages. Compared to the as-offered package, the as-delivered package included more fruit, meat, peanut butter and dried beans, starches and vegetables, but less grains, milk, and oil. Similarly, compared to the as-offered package with bonus foods, the as-delivered package with bonus foods contained more fruit, meat, peanut butter and dried beans, starches and vegetables, but less milk, cereal, and grains (Figure 3-10).

Figure 3-10. Food group* composition by weight of the TEFAP USDA Foods as a percentage of the total weight of foods offered and delivered



* Food groups are those from the CSFP Distribution Guide (Appendix A).

3.4.1 Food Group Assessment of TEFAP USDA Foods

When compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal, the as-offered and as-delivered TEFAP food packages with and without bonus foods met or exceeded the weighted average amount recommended for legumes, total grains, refined grains, and the nuts/seeds/soy products subgroup per 2,000 kcal. The as-offered and as-delivered packages with bonus foods also provided more than the recommended amount for fruits; the as-delivered packages with and without bonus foods provided more than the recommended amount for starchy vegetables, and the as-delivered package with bonus foods provided more than the recommended amount for total protein foods and the seafood subgroup. The as-offered and as-delivered TEFAP food packages with and without bonus foods provided less than 20 percent of the weighted average amount of dairy per 2,000 kcal. Finally, all TEFAP food packages met the 2010 USDA Food Pattern guidelines for maximum SoFAS (as percent of total calories) per 2,000 kcal (Table 3-23).

Table 3-23. Food group and subgroup content of the TEFAP USDA Foods per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food Group	USDA Food Pattern[1]	Offered				Delivered			
		Entitlement Foods		Entitlement + Bonus Foods		Entitlement Foods		Entitlement + Bonus Foods	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv.)	2	0.7	33%	2.5	127%	0.7	34%	3.2	160%
Vegetables (cup equiv.)	2.5	0.8	32%	0.9	37%	2.0	79%	1.7	68%
Dark green	0.2	0.0	25%	0.0	18%	0.1	31%	0.0	20%
Red and orange	0.8	0.3	36%	0.3	35%	0.7	94%	0.6	71%
Legumes	0.2	0.4	217%	0.3	158%	1.0	478%	0.6	303%
Starchy	0.7	0.4	56%	0.5	78%	0.7	105%	0.8	116%
Other	0.6	0.1	13%	0.1	10%	0.4	70%	0.3	45%
Total grains (oz equiv.)	6	8.2	137%	6.0	100%	9.3	156%	5.9	99%
Whole	3	3.0	100%	2.2	73%	2.8	92%	1.8	59%
Refined	3	5.2	174%	3.8	126%	6.6	219%	4.2	139%
Protein foods (oz equiv.)	5.5	2.0	36%	4.1	75%	5.0	91%	6.8	123%
Seafood	1.1	0.2	15%	1.0	92%	0.2	16%	1.3	119%
Meat, poultry, eggs	3.7	0.6	15%	2.2	59%	2.0	55%	3.7	99%
Nuts, seeds, soy products	0.6	1.3	209%	0.9	152%	2.8	470%	1.8	299%
Dairy (cup equiv.)	3	0.5	18%	0.4	14%	0.2	7%	0.2	7%
Oils (grams)	27	88.5	328%	64.5	239%	28.5	105%	18.2	68%
Maximum SoFAS (kcal)[2]	258	125.5	49%	220.4	85%	80.9	31%	224.2	87%
Maximum SoFAS (% kcal)	13%	6%	✓	11%	✓	4%	✓	11%	✓

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] Weighted average USDA Food Pattern amount for 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

3.4.2 Healthy Eating Index for TEFAP USDA Foods

HEI-2005

The as-offered TEFAP food packages without and with bonus foods achieved HEI-2005 scores of 75.7 and 84 respectively. The HEI-2005 scores for the as-delivered TEFAP food package without and with bonus foods were 85.3 and 86.2 respectively. The as-offered food packages achieved maximum component scores for four of the 12 component without bonus foods and eight of the 12 with bonus foods. The as-delivered food packages achieved maximum component scores for eight of 12 components without bonus foods and seven of 12 with bonus foods. All TEFAP food packages achieved maximum component scores for oils, saturated fat, sodium, and calories from SoFAAS.

Bonus foods in TEFAP provided additional amounts of six of the ten food groups: fruit, juice, meat, milk, starches (all bonus deliveries in the starch group were dehydrated potatoes), and vegetables. These additional amounts are reflected in the HEI-2005 component scores when bonus foods were added. Compared with the as-offered food package without bonus foods, the as-offered food package with bonus foods had higher component scores for total fruit, whole fruit, meats and beans; similar differences were noted for the component scores in the as-delivered food packages with and without bonus foods.

Compared to the as-offered food package with bonus foods, the as-delivered food package with bonus foods achieved higher HEI-2005 scores for total vegetables and dark green/orange vegetables/legumes, but lower component scores for total and whole grains, milk, and oils. Both the as-offered and as-delivered food packages with bonus foods achieved the maximum component scores for the remaining components (total and whole fruit, meat/beans, saturated fat and sodium).

The HEI-2005 scores were about 20 points and 25 points above that achieved by the average American diet and the average SNAP participant diet, respectively (ages 2 to 59 years, NHANES 1999-2004);[138] see Table 3-24 and Figure 3-11.

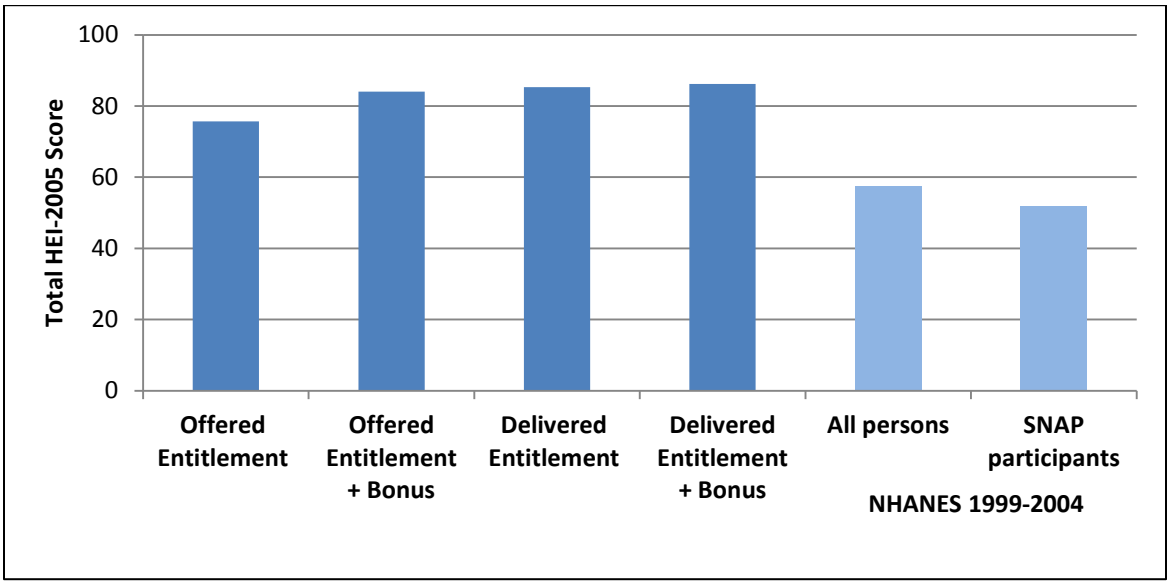
[138] Cole, N. and Fox, M.K. *Diet Quality of Americans by Food Stamp Participation Status: Data from the National Health and Nutrition Examination Survey,* 1999-2004. U.S. Department of Agriculture, Food and Nutrition Service, July 2008, page C-34. http://www.fns.usda.gov/sites/default/files/NHANES-FSP.pdf.

Table 3-24. HEI-2005 scores for the TEFAP USDA Foods and all NHANES 1999-2004 participants ages 2-59 years as well as SNAP participants ages 2-59 years

Component	Maximum Component Score	Offered		Delivered		All Persons	SNAP Participants
		Entitlement Foods	+ Bonus Foods	Entitlement Foods	+Bonus Foods		
1. Total fruit	5	2.0	5.0	2.1	5.0	3.1	2.8
2. Whole fruit	5	1.4	5.0	2.7	5.0	3.5	2.5
3. Total vegetables	5	1.8	2.3	5.0	5.0	3.2	2.9
4. Dark green & orange veg & legumes	5	1.0	1.4	5.0	4.9	1.4	1.3
5. Total grains	5	5.0	5.0	5.0	4.9	5.0	5.0
6. Whole grains	5	5.0	3.6	4.6	2.9	1.0	0.7
7. Milk	10	2.0	1.7	0.9	0.8	6.3	5.6
8. Meat and beans	10	7.4	10.0	10.0	10.0	10.0	10.0
9. Oils	10	10.0	10.0	10.0	7.6	6.3	4.7
10. Saturated fat	10	10.0	10.0	10.0	10.0	3.9	3.8
11. Sodium	10	10.0	10.0	10.0	10.0	6.2	6.3
12. Calories from SoFAAS	20	20.0	20.0	20.0	20.0	7.2	5.7
Total HEI-2005 score	**100**	**75.7**	**84.0**	**85.3**	**86.2**	**57.5**	**51.9**

Note: SoFAAS = calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Figure 3-11. HEI-2005 overall scores for the TEFAP USDA Foods and all NHANES 1999-2004 participants ages 2-59 years as well as SNAP participants ages 2-59 years



HEI-2010

The as-offered TEFAP food packages without and with bonus foods achieved HEI-2010 scores of 73.5 and 82.5 respectively, the as-delivered food packages without and with bonus foods were 82.5 and 85.5 respectively. As seen, the total HEI-2010 scores were slightly higher for both as-delivered food packages than for the comparable as-offered food packages. While the as-delivered TEFAP food package without bonus foods achieved maximum scores for five components, the as-delivered TEFAP food package with bonus foods achieved maximum scores for 9 components. All TEFAP food packages (as –offered and as-delivered, with and without bonus foods) achieved maximum component scores for seafood/plant proteins, fatty acid ratio, sodium, and SoFAAS.

Bonus foods in TEFAP provided additional amounts of six of the ten food groups: fruit, juice, meat, milk, starches (all bonus deliveries in the starch group were dehydrated potatoes), and vegetables. These additional amounts are reflected in the higher HEI-2010 component scores when bonus foods were added. Compared to the food packages without bonus foods, the as-offered and as-delivered food packages with bonus foods achieved higher component scores for total and whole fruit, total vegetables and greens/beans, total protein, and refined grains.

These total HEI-2010 scores for the as-offered and as-delivered TEFAP food packages both with and without bonus foods were more than 15 points higher than that achieved by an average American diet (NHANES 2011-2012), both for all persons ages 2 years and older[139] and children ages 2 to 17 years,[140,141] as well as that of the U.S. food supply in 2010 (the latest year for which HEI-2010 scores are available).[142]

The HEI-2010 component scores for the as-offered TEFAP food packages exceeded or were equal to those achieved by the average American diet of all persons for six of 12 components without bonus foods (lower for total and whole fruit, total vegetables, greens/beans, dairy and total protein) and nine of 12 components with bonus foods (lower for total vegetables, greens/beans and dairy).

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[139] Wilson, M.M., Reedy, J., and Krebs-Smith, S.M. American diet quality: where it is, where it is heading, and what it could be. J Acad Nutr Diet 2016; 116:302-310

[140] U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. *Healthy Eating Index.* Accessed February 29, 2016. http://www.cnpp.usda.gov/healthyeatingindex.

[141] Cole, et al., reported HEI-2005 scores for children 2 -18 years; USDA CNPP reported HEI-2010 scores for children ages 2-17 years.

[142] Miller, P.E., Reedy, J., Kirkpatrick, S.I., and Krebs-Smith, S.M. The United States food supply is not consistent with dietary guidance: Evidence from an evaluation using the Healthy Eating Index2010. J Acad Nutr Diet 2015; 115:95-100.

The as-offered food package met or exceeded the component scores achieved by the average American diet of children for six of 12 components without bonus foods (lower for total and whole fruit, total vegetables, greens/beans, dairy and total protein) and 11 of 12 components with bonus foods (lower only for dairy). The HEI-2010 component scores for the as-delivered TEFAP food packages exceeded or were equal to those achieved by the average American diet (all persons and children) for eight of 12 components without bonus foods (lower for total and whole fruit, dairy and refined grains) and 11 of 12 components with bonus foods (lower only for dairy).

The HEI-2010 component scores for the as-offered food package exceeded or were equal to those of the U.S. food supply for seven of the 12 components without bonus foods and 10 of the 12 components with the addition of bonus foods. The as-delivered food package exceeded or was equal to those of the U.S. food supply for 10 of 12 components without bonus foods and 11 of 12 with bonus foods. All TEFAP food packages had lower dairy component scores than the U.S. food supply (Table 3-25, Figure 3-12).[143]

Discussion

TEFAP is intended to supplement the diets of income-eligible Americans, and participants often include household as well as individuals. TEFAP participants obtain food for home consumption from sources such as food pantries, soup kitchens, and shelters. State agencies set income-based eligibility standards that are used by participating pantries, soup kitchens, and shelters to ensure that assistance is provided only to households with the greatest need. National data on the number and characteristics of TEFAP participants are not available; therefore, the results are limited to the composition of TEFAP food packages and the nutrient and food group contribution of TEFAP food packages toward meeting the 2010 USDA Food Pattern amounts recommended per 2,000 kcal, as well as the HEI-2005 and HEI-2010 scores. The nutrient and food group content of TEFAP food packages was not compared with the DRI, the TFP, and the 2010 USDA Food Patterns.

[143] Miller, P.E., Reedy, J., Kirkpatrick, S.I., and Krebs-Smith, S.M. The United States food supply is not consistent with dietary guidance: Evidence from an evaluation using the Healthy Eating Index2010. J Acad Nutr Diet 2015; 115:95-100.

Table 3-25. HEI-2010 scores for the TEFAP USDA Foods, NHANES 2011-2012 participants ages 2 years and older (All persons) as well as participants ages 2 to 17 years (Children), and the U.S. Food Supply (2010)

Component	Maximum Component Score	Offered		Delivered		All persons 2011-2012	Children 2011-2012	U.S. Food Supply 2010
		Entitlement Foods	+ Bonus Foods	Entitlement Foods	+Bonus Foods			
1. Total fruit	5	2.0	5.0	2.1	5.0	3.0	3.9	1.8
2. Whole fruit	5	1.4	5.0	2.7	5.0	4.0	4.8	2.3
3. Total vegetables	5	1.8	2.3	5.0	5.0	3.4	2.1	2.6
4. Greens and beans	5	0.6	1.6	5.0	5.0	3.0	0.7	2.1
5. Whole grains	10	10.0	7.3	9.2	5.9	2.9	2.5	2.4
6. Dairy	10	2.0	1.7	0.9	0.8	6.4	9.0	4.8
7. Total protein foods	5	3.7	5.0	5.0	5.0	5.0	4.4	5.0
8. Seafood & plant proteins	5	5.0	5.0	5.0	5.0	3.7	3.1	3.8
9. Fatty acids	10	10.0	10.0	10.0	10.0	4.7	3.3	7.3
10. Refined grains	10	6.8	9.6	4.0	8.8	6.2	4.9	6.7
11. Sodium	10	10.0	10.0	10.0	10.0	4.2	4.9	0.3
12. Empty calories	20	20.0	20.0	20.0	20.0	12.6	11.5	15.7
Total HEI-2010 score	**100**	**73.5**	**82.5**	**78.9**	**85.5**	**59.0**	**55.1**	**55.0**

Note: Empty calories = calories from solid fat, alcohol, and added sugar

Figure 3-12. HEI-2010 overall scores for the TEFAP USDA Foods, NHANES 2011-2012 participants ages 2 years and older (All persons) as well as participants ages 2 to 17 years (Children), and the U.S. Food Supply (2010)

The USDA does not publish a distribution guide for TEFAP, therefore the as-offered food package was developed using the cost of foods and funds available in FY 2014. As detailed in Chapter 2, an equal portion of the total spending incurred in TEFAP was allocated to each food group. Due to the absence of distribution guides, the as-offered food package may not reflect the actual variety and quantity of USDA Foods provided to all TEFAP participants.

- In FY 2014, bonus foods were offered and delivered through TEFAP. Of all the USDA Foods offered and delivered through the five nutrition assistance programs examined in this report, TEFAP received the largest share; approximately 406 million pounds were offered and 746 million pounds were delivered. The as-offered TEFAP food package with and without bonus foods included foods in 10 food groups; meat accounted for about 4 percent of the total package weight and juice accounted for slightly more than 15 percent of the total package weight. Participating agency preferences were apparent in the proportion of foods contained in the as-delivered TEFAP food packages. For example, compared to the as-offered packages, the as-delivered packages included more vegetables, fruits, meat, starches, and less grains and oil.

- The as-offered food packages with and without bonus foods met or exceeded the weighted recommended average amount for legumes, total and enriched grains, nuts/seeds/soy products, and oils; the as-offered package with bonus foods also exceeded the weighted recommended average about for total fruit. The as-delivered packages with and without bonus foods met or exceeded the weighted recommended average amount for legumes, starchy vegetables, total and enriched grains, and nuts/seeds/soy products. The as-delivered package with bonus foods also met or exceeded the recommended amount for total fruit, total protein foods and all protein subgroups. All TEFAP food packages met the 2010 USDA Food Pattern guidelines for maximum SoFAS per 2,000 kcal.

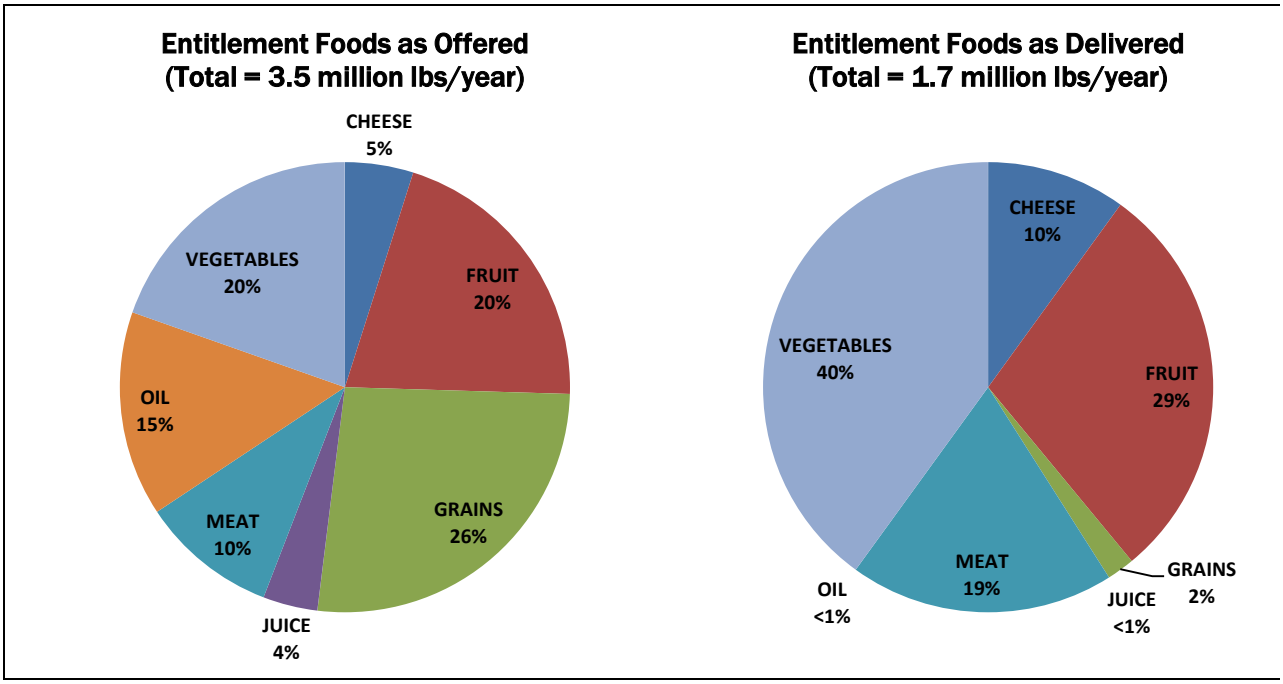
- In FY 2014, the as-offered and as-delivered TEFAP food packages had total HEI-2005 and HEI-2010 scores between 75.7 and 86.2. The as-delivered packages scored slightly higher than the as-offered packages. The as-delivered packages fell short of meeting the maximum HEI-2005 and HEI-2010 scores for milk (for HEI-2005) and dairy (HEI-2010), whole grains (and total grains for HEI-2005 and refined grains for HEI-2010), and oils (for HEI-2005). The HEI-2010 score for the as-delivered TEFAP food package with bonus foods exceeded the scores for the average American diet for both all persons and children (NHANES 2011-2012) as well as the U.S. Food Supply in 2010; the package also scored higher than the U.S. food supply for 10 of the 12 components.

3.5 Child and Adult Care Food Program (CACFP)

In FY 2014, bonus foods were not offered or delivered through CACFP. The as-offered and as-delivered CACFP food package contained 3.5 million pounds and 1.7 million pounds of USDA Foods, respectively. Although both the as-offered and as-delivered food packages included foods from seven food groups, the as-offered package included 243 USDA Foods from the FA list, while

88 USDA Foods were delivered to participants in CACFP; foods in the as-offered food package that were not delivered in FY 2014 included low-fat bakery mix, canned juice, cornmeal, dehydrated potatoes, dried beans, flour, fresh fruits and fresh vegetables. Compared to the as-offered CACFP food package, the as-delivered CACFP food package contained a greater percentage by weight of cheese, meat, fruit, and vegetables, and a smaller percentage of grains, juice, and oil (Figure 3-13).

Figure 3-13. Food group* composition by weight of CACFP USDA Foods as a percentage of the total weight of foods offered and delivered



* Food groups are those used to develop the as-offered food package, which were taken from the IOM report on school meals.[144]

3.5.1 Food Group Assessment of CACFP USDA Foods

The as-offered CACFP food package provided more than the weighted average amount of starchy vegetables, total grains and both whole and enriched grain subgroups, the nuts/seed/soy products subgroup, and oils. The as-delivered package provided more than three times the recommended amount of dark green vegetables, and more than the recommended amount of starchy vegetables, total protein foods and the meat/poultry/eggs and nuts/seeds/soy products subgroups, dairy, and oils per 2,000 kcal. The as-delivered CACFP food package provided less than five percent of the

[144]Institute of Medicine. 2010. *School Meals: Building Blocks for Healthy Children.* Washington, D.C.: The National Academies Press, pages 271-272. Available at http://www.fns.usda.gov/sites/default/files/SchoolMealsIOM.pdf.

weighted average amount of refined grains per 2,000 kcal. The as-delivered CACFP food package did not include any seafood. Finally, the as-offered package met the guideline for maximum SoFAS (as percent of total calories) per 2,000 kcal, though the as-delivered package exceeded both (Table 3-26).

Table 3-26. Food group and subgroup content of CACFP USDA Foods per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food Group	USDA Food Pattern[1]	Offered		Delivered	
		Amount	% Met	Amount	% Met
Fruits (cup equiv.)	2.0	0.9	46%	2.0	102%
Vegetables (cup equiv.)	2.5	1.4	57%	3.8	153%
Dark green	0.2	0.1	37%	0.7	360%
Red and orange	0.8	0.3	34%	0.2	21%
Legumes	0.2	0.2	86%	0.1	27%
Starchy	0.7	1.0	137%	2.8	393%
Other	0.6	0.1	20%	0.2	33%
Total grains (oz equiv.)	6.0	7.6	127%	1.4	23%
Whole	3.0	3.2	106%	1.3	42%
Refined	3.0	4.5	149%	0.1	3%
Protein foods (oz equiv.)	5.5	1.2	22%	7.5	137%
Seafood	1.1	0.2	14%	0.0	0%
Meat, poultry, eggs	3.7	0.5	13%	6.9	186%
Nuts, seeds, soy products	0.6	0.6	100%	0.6	104%
Dairy (cup equiv.)	3.0	0.8	27%	6.4	212%
Oils (grams)	27.0	105.8	392%	8.4	31%
Maximum SoFAS (kcal)[2]	258.0	99.2	38%	442.9	172%
Maximum SoFAS (% kcal)	13%	5%	✓	22%	↑

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓=met guideline; ↑=exceeded guideline

[1] Weighted average USDA Food Pattern recommended amount

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

3.5.2 Healthy Eating Index for CACFP USDA Foods

HEI-2005

The as-offered CACFP food package achieved a total HEI-2005 score of 75.5 and the as-delivered score was 71.2. The as-offered and as-delivered food packages achieved maximum score for five (total grains, whole grains, oils, sodium, and calories from SOFAAS) and six components (total fruit, whole fruit, total vegetables, dark green/orange/ legumes, milk, and meat and beans) respectively. These differences reflect the food group composition of CACFP food packages. The as-offered

food package contained a greater percentage by weight of grains, juice, and oil, but less cheese, fruit, meat and vegetables.

The HEI-2005 scores for the as-offered and as-delivered CACFP food packages were between 14 and 24 points above those achieved by the average American diet and the average SNAP participant diet (ages 2-59 years old, NHANES 1999-2004), [145] respectively (Table 3-27, Figure 3-14).

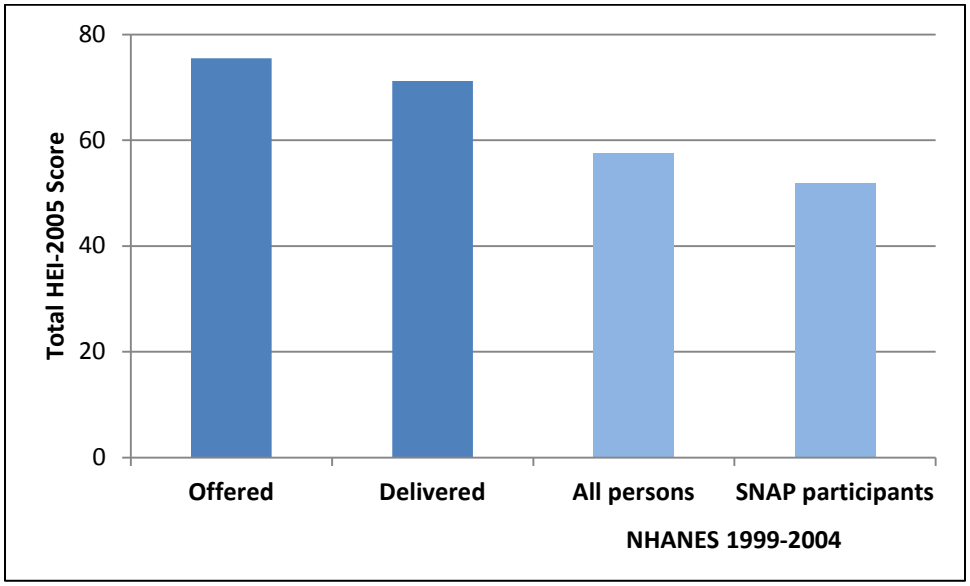
Table 3-27. HEI-2005 scores for CACFP USDA Foods and all NHANES 1999-2004 participants ages 2-59 years as well as SNAP participants ages 2-59 years

Component	Maximum Component Score	Offered	Delivered	All Persons	SNAP Participants
1. Total fruit	5	2.9	5.0	3.1	2.8
2. Whole fruit	5	2.7	5.0	3.5	2.5
3. Total vegetables	5	3.3	5.0	3.2	2.9
4. Dark green & orange veg & legumes	5	1.3	5.0	1.4	1.3
5. Total grains	5	5.0	1.1	5.0	5.0
6. Whole grains	5	5.0	2.1	1.0	0.7
7. Milk	10	3.2	10.0	6.3	5.6
8. Meat and beans	10	3.8	10.0	10.0	10.0
9. Oils	10	10.0	3.5	6.3	4.7
10.Saturated fat	10	8.4	0.0	3.9	3.8
11.Sodium	10	10.0	5.9	6.2	6.3
12.Calories from SoFAAS[1]	20	20.0	18.6	7.2	5.7
Total HEI-2005 score	**100**	**75.5**	**71.2**	**57.5**	**51.9**

Note: SoFAAS = calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

[145] Cole, N. and Fox, M.K. *Diet Quality of Americans by Food Stamp Participation Status: Data from the National Health and Nutrition Examination Survey, 1999-2004*. U.S. Department of Agriculture, Food and Nutrition Service, July 2008, page C-37. http://www.fns.usda.gov/sites/default/files/NHANES-FSP.pdf.

Figure 3-14. HEI-2005 overall scores for CACFP USDA Foods and all NHANES 1999-2004 participants ages 2-59 years as well as SNAP participants ages 2-59 years



HEI-2010

The total HEI-2010 scores for the as-offered and as-delivered CACFP food packages were 77.6 and 76.6, respectively. The as-offered food package achieved maximum component scores for four components (whole grains, fatty acids, sodium, and empty calories) whereas the as-delivered food package achieved maximum score for seven components (total fruit, whole fruit, total vegetables, greens and beans, dairy, total protein foods, refined grains). As seen with the HEI-2005 component scores, these differences reflect the food group composition of CACFP food packages. The as-offered food package contained a greater percentage by weight of grains, juice, and oil, but less cheese, fruit, meat and vegetables.

These total HEI-2010 scores for the as-offered and as-delivered CACFP food packages were more than 20 points higher than those achieved by the average American diet (NHANES 2011-2012), both for all persons ages 2 years and older[146] and children ages 2 to 17 years,[147,148] and the U.S. food

[146] Wilson, M.M., Reedy, J., and Krebs-Smith, S.M. American diet quality: where it is, where it is heading, and what it could be. J Acad Nutr Diet 2016; 116:302-310

[147] U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. *Healthy Eating Index.* Accessed February 29, 2016. http://www.cnpp.usda.gov/healthyeatingindex.

[148] Cole, et al., reported HEI-2005 scores for children 2 -18 years; USDA CNPP reported HEI-2010 scores for children ages 2-17 years.

supply in 2010 (the latest year for which HEI-2010 scores are available).[149] The HEI-2010 component scores for the as-offered CACFP food package exceeded or were equal to those of the average American diet for six of the 12 components for all persons (lower for total and whole fruit, total vegetables, greens/beans, dairy and total protein foods), and eight of the 12 components for children (lower for total and whole fruit, dairy and total protein foods). The HEI-2010 component scores for the as-delivered CACFP food packages exceeded or were equal to those of the average American diet (both for all persons and children) for 10 of the 12 components (lower for seafood/plant proteins and fatty acids). The HEI-2010 component scores for the as-offered food package exceeded or were equal to those of the U.S. food supply for 9 of the 12 components for the as-offered food package, and 10 of 12 for the as-delivered package. The as-offered CACFP food package had lower component scores for greens/beans, total dairy and total protein, while the as-delivered food package had lower component scores for sea/plant proteins and fatty acids (Table 3-28, Figure 3-15).

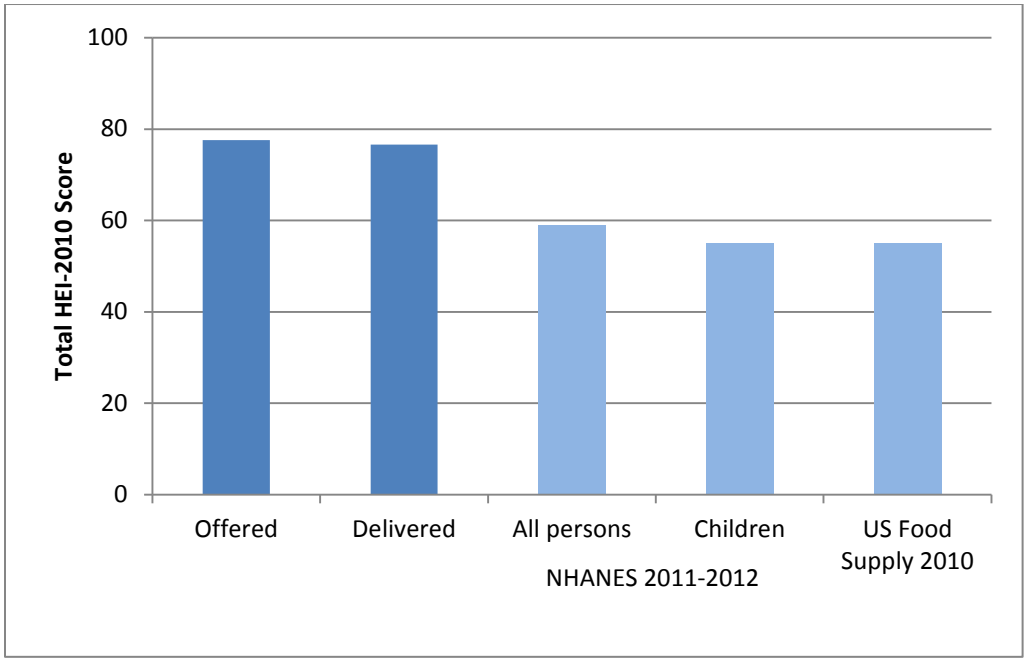
Table 3-28. HEI-2010 scores for CACFP USDA Foods, NHANES 2011-2012 participants ages 2 years and older (All persons) as well as participants ages 2 to 17 years (Children), and the U.S. Food Supply (2010)

Component	Maximum Component Score	Offered	Delivered	All persons 2011-12	Children 2011-12	U.S. Food Supply 2010
1. Total fruit	5	2.9	5.0	3.0	3.9	1.8
2. Whole fruit	5	2.7	5.0	4.0	4.8	2.3
3. Total vegetables	5	3.3	5.0	3.4	2.1	2.6
4. Greens and beans	5	0.9	5.0	3.0	0.7	2.1
5. Whole grains	10	10.0	4.2	2.9	2.5	2.4
6. Dairy	10	3.2	10.0	6.4	9.0	4.8
7. Total protein foods	5	1.9	5.0	5.0	4.4	5.0
8. Seafood & plant proteins	5	4.5	2.0	3.7	3.1	3.8
9. Fatty acids	10	10.0	0.0	4.7	3.3	7.3
10.Refined grains	10	8.3	10.0	6.2	4.9	6.7
11.Sodium	10	10.0	7.4	4.2	4.9	0.3
12.Empty calories	20	20.0	18.0	12.6	11.5	15.7
Total HEI-2010 score	**100**	**77.6**	**76.6**	**59.0**	**55.1**	**55.0**

Note: Empty calories = calories from solid fat, alcohol, and added sugar

[149] Miller, P.E., Reedy, J., Kirkpatrick, S.I., and Krebs-Smith, S.M. The United States food supply is not consistent with dietary guidance: Evidence from an evaluation using the Healthy Eating Index2010. J Acad Nutr Diet 2015; 115:95-100.

Figure 3-15. HEI-2010 overall scores for CACFP USDA Foods, NHANES 2011-2012 participants ages 2 years and older (All persons) as well as participants ages 2 to 17 years (Children), and the U.S. Food Supply (2010)



Discussion

CACFP serves more than 3.3 million children and 120,000 adults in at-risk afterschool care centers, adult day care centers, child care centers, day care homes, and emergency shelters. The USDA offers USDA Foods (providers may choose to receive cash in lieu[150]) and cash assistance for meals served to eligible children and adults. The State agency then receives permission from the USDA to replace all or a portion of its donated foods for CACFP with cash in lieu. The donated food programs are distributed only to centers that elect to receive these foods. However, data on the number of participants who actually receive USDA Foods is not tracked, limiting the analysis to the composition, nutrient, and food group contribution per 2,000 kcal, and HEI-2005 and HEI-2010 scores.

This section presents the composition of CACFP food packages and the nutrient and food group contribution of CACFP food packages toward meeting the 2010 USDA Food Pattern amounts recommended per 2,000 kcal, as well as the HEI-2005 and HEI-2010 scores.

[150] U.S. Department of Agriculture, Food and Nutrition Service. Child and Adult Care Food Program (CACFP). Accessed June 2015. http://www.fns.usda.gov/cacfp/child-and-adult-care-food-program.

- In FY 2014, bonus foods were not offered or delivered through CACFP. The as-offered and as-delivered CACFP food packages included foods in seven food groups. The as-offered and as-delivered food packages differed in the weight of all food groups; for example, oil accounted for 15 percent and less than one percent of the weight for the as-offered and as delivered CACFP food package respectively.

- The as-offered CACFP food package provided more than the weighted average recommended amount of starchy vegetables, total grains and both whole and enriched grain subgroups, the nuts/seed/soy products subgroup, and oils. The as-delivered package provided more than three times the recommended amount of dark green vegetables, and more than the recommended amount of starchy vegetables, total protein foods and the meat/poultry/egg and nuts/seeds/soy products subgroups, dairy, and oils per 2,000 kcal. The as-delivered package exceeded the 2010 USDA Food Pattern guidelines for maximum SoFAS per 2,000 kcal.

- In FY 2014, as-offered and as-delivered CACFP food packages had total HEI-2005 and HEI-2010 scores ranging from 71.2 to 76.6. The scores were higher for the as-offered packages compared to the as-delivered packages. As-offered and as-delivered food packages achieved the maximum possible HEI-2005 for five and six of the 12 components, and the maximum possible HEI-2010 scores for four and six of the 12 components, respectively. The as-delivered packages fell short of meeting the maximum HEI-2005 scores for total and whole grains, oils, saturated fat, sodium, and SoFAAS; the as-delivered package fell short of meeting maximum HEI-2010 scores for whole grains, total protein, seafood/plant proteins, fatty acid, sodium, and SoFAAS. The HEI-2010 score for the as-delivered CACFP food package exceeded the scores for the average American diet for both all persons and children (NHANES 2011-2012) and the U.S. Food Supply in 2010; the package also scored higher than the U.S. food supply for 9 of the 12 components.

3.6 Overall Summary

This evaluation examined the nutrient and food group content of the USDA Foods provided to five USDA nutrition assistance programs in FY 2014. The USDA Foods offered and delivered to a reference participant in CSFP, FDPIR, NSLP, TEFAP, and CACFP were analyzed and compared with four dietary standards: the DRIs, the TFP dietary standards, the USDA Food Patterns from the *DGA* 2010, and the HEI (both HEI-2005 and HEI-2010). This section summarizes results across all five programs.

Variety in USDA Foods

- The USDA Food packages offered and delivered through the five programs contained a wide variety of foods. With the exception of CACFP, the number of foods offered and delivered was comparable, indicating that that the food selections were as varied as the foods offered.
- The USDA Food packages offered and delivered bonus foods through two of the five programs: CSFP and TEFAP.
- All five programs offered and delivered foods from all food groups.

Quantity of USDA Foods

- In the CSFP food packages for the elderly, juice was offered as a bonus food. As offered and as delivered, and including bonus foods, the packages provided an average of 517 and 404 g/participant/day, respectively.
- As offered and as delivered, FDPIR food packages provided an average of 1,189 and 1,065 g/participant/day, respectively.
- As offered and as delivered, NSLP food packages provided an average of 154 and 116 g/participant/day, respectively.
- In TEFAP food packages, additional quantities of foods in several food groups were offered as bonus foods. Including bonus foods, the amount of USDA Foods offered through TEFAP totaled 767 million pounds, and the delivered amount totaled 746 million pounds.
- The amount of USDA Foods offered through CACFP totaled 3.5 million pounds, and the delivered amount totaled 1.7 million pounds

Thus, the weight of foods delivered was less than those offered for all programs. Bonus foods made a substantial contribution to the amount of USDA Foods offered and delivered through CSFP and TEFAP.

Contribution of USDA Foods to Meeting USDA Food Pattern recommendations from the *Dietary Guidelines for Americans*

1. Recommended Number of Food Groups

   – The CSFP food package for elderly participants, with bonus foods, provided more than one quarter of the weighted average recommended amount of five of

the 16 food groups (fruits, legumes, total grains, refined grains, nuts/seeds/soy products). For each food group, the amount of foods offered was either less or comparable to the amount of foods delivered with the exception of legumes and dairy (for which the amount offered was more than the amount delivered). None of the packages exceeded the weighted average limit for SoFAS.

- FDPIR food packages offered and delivered more than the required amount of four of the 16 food groups (legumes, total grains, whole grains, and refined grains), and more than 60 percent of the recommended amount for an additional four food groups (starchy vegetables, protein foods, meat/poultry/eggs, dairy, and oils). Compared with the as-offered package, the as-delivered package provided a greater amount of starchy vegetables and oils; for all other food groups, the amount offered was more than the amount delivered.

- The NSLP food package offered at least ten percent of the weighted average recommended amount of eight of the 16 food groups (total fruit, legumes, starchy vegetables, total grains, whole grains, and refined grains, nuts/seeds/soy products, as well as 91 percent of the recommended amount of oil). The package delivered more than 10 percent of the weighted average recommended amount of two of the 16 food groups (protein foods and meat/poultry/eggs). The as-delivered package exceeded the weighted average limit for SoFAS.

As shown, the USDA Food packages offered and delivered vary in their contribution to meeting the 2010 USDA Food Pattern recommendations, with FDPIR providing the largest contribution toward the weighted average recommended amount of each food group.

2. Recommended Number of Food Groups per 2,000 kcal

- The CSFP food packages for the elderly offered and delivered more than 100 percent of the recommended amount of six of the 16 food groups per 2,000 kcal (fruits, legumes, total grains, refined grains, nuts/seeds/soy products, and dairy). None of the packages exceeded the recommended amount of SoFAS.

- The as-offered FDPIR food packages provided more than 100 percent of the recommended amount of four of the 16 food groups per 2,000 kcal (legumes, total grains, refined grains, and nuts/seeds/soy products); the as-delivered package provided 70 to 90 percent of five additional food groups (starchy vegetables, protein foods, meat/poultry/eggs, dairy and oils). The packages did not exceed the recommended amount of SoFAS.

- The NSLP food package offered more than 100 percent of the recommended amount of four of the 16 food groups per 2,000 kcal (total grains, whole grains, refined grains and oils) and delivered more than 100 percent of the recommended amount of six of the 16 food groups per 2,000 kcal (total vegetables, legumes, starchy vegetables, protein foods, meat/poultry/eggs, nuts/seeds/soy products, and dairy). The as-delivered package exceeded the maximum recommended amount of SoFAS per 2,000 kcal.

- TEFAP food packages with bonus foods offered and delivered more than 100 percent of the recommended amount for six and eight of the 16 foods groups per 2,000 kcal, respectively (fruits, legumes, starchy vegetables [as delivered only], total grains, enriched grains, total protein [as delivered only], seafood [as delivered only], nuts/seeds/soy products, oils [as offered only]). Both packages provided between 50 and 100 percent of the recommended amount for four of the 16 food groups per 2,000 kcal (total grains, whole grains, refined grains, and nuts/seeds/soy products); the as-offered package also provided 75 percent of the recommended amount of total protein and 92 percent of the recommended amount of seafood. Both packages provided 15 percent or less of the recommended amount of dairy. None of the packages exceeded the recommended amount of SoFAS per 2,000 kcal.

- The CACFP food packages provided more than 100 percent of the recommended amount for six and eight of the 16 food groups per 2,000 kcal (fruits [as delivered only], vegetables [as delivered only], dark green vegetables [as delivered only], starchy vegetables, total grains [as offered only], both whole and refined grains [as offered only], protein foods [as delivered only], meat/poultry/eggs [as delivered only], nuts/seeds/soy products, dairy [as delivered only], and oils [as offered only]). Neither package exceeded the recommended amount of SoFAS per 2,000 kcal.

Standardizing the amount of food groups provided on a 2,000 kcal basis takes into account the fact that varying amounts of calories were provided in each program, and allows some comparisons to be made across programs. The SoFAS content was within the recommended amount per 2,000 kcal for all food packages as delivered except NSLP. However, it is important to note that this analysis is a projection, and does not reflect individual participants' diets, because the food package is not intended to supply the entire day's needs for the participant.

Macro- and Micronutrient Contribution of USDA Foods

- The CSFP food package with bonus foods for the elderly delivered about one quarter percent of the participant's total energy. The energy content of USDA Foods offered and delivered was comparable. The food package also delivered one-third or more of the recommended DRI for six minerals (calcium, copper, iron, phosphorus, sodium, and zinc) and eight vitamins (vitamins A, C, thiamin, riboflavin, niacin, vitamin B6, B12, and folate). As delivered, the package did not exceed the UL for any vitamin or mineral.

- The FDPIR food package delivered about 85 percent of the participant's total energy needs. The energy content of the as-offered package was more than that of the as-delivered package (84 percent vs. 97 percent). As delivered, the food package also met or exceeded the recommended DRI for five minerals (copper, iron, phosphorus, sodium, and zinc) and seven vitamins (vitamin C, thiamin, riboflavin, niacin, vitamin B6, vitamin B12, and folate). As delivered, the package did not exceed the UL for any vitamin or mineral.

- The NSLP food package delivered about 7 percent of the participant's total energy needs. The energy content of the offered package was more than that of the delivered package (22 percent vs. 7 percent). The food package also delivered between 5 and 20 percent of all 8 minerals and between 4 and 29 percent of 9 vitamins. The NSLP food package delivered less than 4 percent of vitamin D.

- The as-offered FDPIR and NSLP food packages contained slightly more energy than the as-delivered packages. Food packages for all three programs were good sources of iron, zinc, vitamin C, and B-vitamins. The as-offered and as-delivered food packages for CSFP, FDPIR, and NSLP did not provide vitamins and minerals in excess of the UL.

HEI scores of USDA Foods

- The as-offered CSFP food packages without and with bonus foods achieved HEI-2005 scores of 83.6 and 83.3, respectively, while the as-delivered food packages achieved scores of 85.2 and 85.5, respectively. The as-offered CSFP food packages without and with bonus foods achieved HEI-2010 scores of 80.0 and 81.0, respectively, while the as-delivered food packages achieved scores of 82.0 and 83.6.

- The as-offered and as-delivered FDPIR food packages achieved HEI-2005 scores of 88.1 and 86.5, respectively, and HEI-2010 scores of 81.4 and 73.0, respectively.

- The as-offered and as-delivered NSLP food packages achieved HEI-2005 scores of 72.6 and 76.7, respectively, and HEI-2010 scores of 74.2 and 81.2, respectively.

- The as-offered TEFAP food packages without and with bonus foods achieved HEI-2005 scores of 75.7 and 84.0, respectively, while the as-delivered food packages achieved scores of 85.3 and 86.2, respectively. The as-offered TEFAP food packages without and with bonus foods achieved HEI-2010 scores of 73.5 and 82.5, respectively, while the as-delivered food packages achieved scores of 78.9 and 85.5.

- The as-offered and as-delivered CACFP food packages achieved HEI-2005 scores of 75.5 and 71.2, respectively, and HEI-2010 scores of 77.6 and 76.6, respectively.

Changes in Nutrient and Food Group Content of USDA Foods, 2009 to 2014

4

This chapter examines changes from FY 2009 to FY 2014 in the food composition, nutrient and food group content, and HEI-2005 scores of USDA Foods offered and delivered by the five nutrition assistance programs. To assess changes over time, the findings from the current analysis of the 2014 USDA Foods were compared with the previous analysis of the 2009 USDA Foods.

4.1 Commodity Supplemental Food Program (CSFP)

This section reports changes in food composition, nutrient and food group content, and HEI-2005 scores of the CSFP food packages for elderly participants. Each CSFP participant receives a package of USDA Foods at one- or two-month intervals. The 2009 food packages included bonus foods, but bonus foods were not included in 2014, so changes are reported only for CSFP food packages without bonus foods. Additional background information about USDA Foods in CSFP is found in section 1.2.1.

4.1.1 Food Composition of CSFP USDA Foods, 2014 and 2009

In FY 2009, CSFP offered a total 143 million pounds of USDA Foods to elderly participants; in FY 2014, CSFP offered a total 196 million pounds. The total weight of foods in CSFP food packages offered to elderly participants increased by 53 million pounds from 2009 to 2014, mainly because of the increase in the number of elderly participants, from 443,292 in 2009 to 563,707 in 2014. Because the distribution guide rates for the two years were comparable, the food group composition of the as-offered packages was comparable (differences from 2009 to 2014 in the weight of food groups ranged from less than 1 percent to 6 percent). In 2009, CSFP delivered a total 139 million pounds of USDA Foods to elderly participants; in FY 2014, CSFP delivered 145 million pounds. From 2009 to 2014, the food weight of the as-delivered package for the elderly increased by almost 7 million pounds, with increases of approximately 10 percent or more in the juice, milk, and vegetable food groups (Table 4-1).

Table 4-1. Food group composition by weight of the 2014 and 2009 CSFP USDA Foods as a percentage of the total weight of foods offered

	Offered			Delivered		
Food group	2014	2009	Difference	2014	2009	Difference
Cereal	8%	6%	2%	17%	8%	6%
Cheese	7%	8%	-1%	<1%	7%	-8%
Fruit	7%	7%	<1%	6%	7%	-1%
Juice	31%	36%	-5%	17%	31%	14%
Meat	6%	5%	1%	7%	6%	1%
Milk	18%	12%	6%	23%	18%	5%
PB/dried beans	7%	7%	<1%	7%	7%	<1%
Starches	5%	5%	<1%	7%	5%	2%
Vegetables	12%	13%	-1%	16%	12%	4%
Total weight[1]	196	143	53	145	139	7

[1] Total weight = million lbs. /year; amounts are displayed rounded to the whole numbers; difference is calculated on amounts prior to rounding.

4.1.2 Food Group Assessment of CSFP USDA Foods, 2014 and 2009

Food Group Comparison. Consistent with the food composition of the CSFP food package, for most food groups and subgroups, the percentage of the weighted average recommended amount that was offered to participants remained stable from 2009 to 2014. Compared to 2009, in 2014 the food package delivered smaller percentages of the weighted average recommended amount of fruit, seafood, and dairy, and fewer SoFAS; higher percentages of total grains, whole grains, and refined grains; and similar percentages of other food groups (Table 4-2).

Food Group Comparison per 2,000 kcal. When standardized to 2,000 kcal, the 2014 as-offered CSFP food package met slightly less of the recommended amount than the 2009 food package for four of the 16 groups (fruits, vegetables, total grains, and dairy). Differences were more pronounced for the percentage of recommended amount of nuts/seeds/soy products and dairy subgroups in the two as-offered packages. Compared to the 2009 as-delivered package, the 2014 package met slightly more than the recommended amount of all food groups, notably refined grains (57 percent increase) and nuts/seeds/soy products (56 percent increase) and subgroups except total fruit (61 percent decrease) and dairy (59 percent decrease) (Table 4-3).

Table 4-2. Food group and subgroup content of the 2014 and 2009 CSFP USDA Foods compared to the weighted average recommended amounts from the 2010 USDA Food Pattern for the reference participant

Food group	USDA Food Pattern[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv)	2	0.5	24%	0.5	26%	<0.1	-2%	0.2	12%	0.6	30%	-0.4	-18%
Vegetables (cup equiv)	3	0.4	12%	0.4	12%	<0.1	<1%	0.3	9%	0.2	8%	0.1	1%
Dark green	0.3	<0.1	10%	<0.1	8%	<0.1	2%	<0.1	5%	<0.1	4%	<0.1	1%
Red and orange	0.9	0.2	23%	0.2	25%	<0.1	-2%	0.1	11%	0.1	11%	<0.1	0%
Legumes	0.3	0.2	72%	0.2	71%	<0.1	1%	0.1	45%	0.2	53%	-0.1	-8%
Starchy	0.9	0.1	9%	0.1	9%	<0.1	0%	0.1	10%	0.1	10%	<0.1	0%
Other	0.7	<0.1	6%	<0.1	5%	<0.1	1%	0.1	8%	<0.1	6%	0.1	2%
Total grains (oz equiv)	8	1.8	22%	1.9	23%	-0.1	-1%	2.3	29%	1.9	24%	0.4	5%
Whole	4	0.6	14%	0.6	16%	<0.1	-2%	0.5	13%	0.3	8%	0.2	5%
Refined	4	1.2	30%	1.2	30%	<0.1	<1%	1.8	45%	1.6	39%	0.2	6%
Protein foods (oz equiv)	6.5	1.1	17%	0.9	14%	0.2	3%	1.1	16%	1.0	15%	0.1	1%
Seafood	1.4	0.2	14%	0.2	14%	<0.1	0%	0.1	10%	0.2	11%	-0.1	-1%
Meat, poultry, eggs	4.4	0.4	8%	0.2	4%	0.2	4%	0.3	7%	0.2	5%	0.1	2%
Nuts, seeds, soy products	0.7	0.5	75%	0.5	71%	<0.1	4%	0.6	87%	0.6	79%	<0.1	8%
Dairy (cup equiv)	3	1.2	41%	1.3	43%	-0.1	-2%	0.7	22%	1.2	41%	-0.5	-19%
Oils (grams)	31	2.8	9%	2.6	9%	0.2	<1%	3.3	11%	2.9	9%	0.4	2%
Maximum SoFAS[2] (kcal)	330	36.7	11%	62.9	19%	-26.2	-8%	20.3	6%	60.8	18%	-40.5	-12%
Maximum SoFAS[2] (% kcal)	14%	7%	✓	12%	✓	-5%		4%	✓	11%	✓	-7%	

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] Weighted average USDA Food Pattern recommended amount

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Table 4-3. Food group and subgroup content of the 2014 and 2009 CSFP USDA Foods per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food group	USDA Food Pattern[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv)	2	1.8	92%	2.0	102%	-0.2	-10%	1.0	50%	2.2	111%	-1.2	-61%
Vegetables (cup equiv)	2.5	1.4	54%	1.4	55%	<0.1	-1%	1.1	44%	0.9	34%	0.2	10%
Dark green	0.2	0.1	57%	0.1	42%	<0.1	15%	0.1	31%	0.0	20%	0.1	11%
Red and orange	0.8	0.8	98%	0.8	108%	<0.1	-10%	0.4	54%	0.3	43%	0.1	11%
Legumes	0.2	0.8	409%	0.8	367%	<0.1	42%	0.6	282%	0.6	261%	<0.1	21%
Starchy	0.7	0.3	43%	0.3	41%	<0.1	2%	0.4	54%	0.3	42%	0.1	12%
Other	0.6	0.1	25%	0.1	24%	<0.1	1%	0.2	37%	0.2	30%	<0.1	7%
Total grains (oz equiv)	6	6.6	111%	7.2	120%	-0.6	-9%	9.7	161%	7.0	117%	2.7	44%
Whole	3	2.2	72%	2.5	82%	-0.3	-10%	2.2	72%	1.2	41%	1.0	31%
Refined	3	4.5	149%	4.7	158%	-0.2	-9%	7.5	250%	5.8	193%	1.7	57%
Protein foods (oz equiv)	5.5	4.1	75%	3.5	64%	0.6	11%	4.4	81%	3.5	63%	0.9	18%
Seafood	1.1	0.7	66%	0.8	71%	-0.1	-5%	0.6	52%	0.6	51%	<0.1	1%
Meat, poultry, eggs	3.7	1.4	38%	0.8	20%	0.6	18%	1.3	36%	0.8	22%	0.5	14%
Nuts, seeds, soy products	0.6	2.0	331%	2.0	345%	<0.1	-14%	2.5	419%	2.1	363%	0.4	56%
Dairy (cup equiv)	3	4.6	154%	5.0	168%	-0.4	-14%	2.8	93%	4.6	152%	-1.8	-59%
Oils (grams)	27	10.8	40%	10.3	38%	0.5	2%	13.6	51%	10.7	40%	2.9	11%
Maximum SoFAS (kcal)[2]	258	139.0	54%	245.3	95%	-106.3	-41%	84.4	33%	223.0	86%	-138.6	-53%
Maximum SoFAS (% kcal)	13%	7%	✓	12%	✓	-5%		4%	✓	11%	✓	-7%	

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] USDA Food Pattern recommended amount per 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

4.1.3 Nutrient Assessment of CSFP USDA Foods, 2014 and 2009

Comparison With the DRIs

Energy and Macronutrients. The calorie and macronutrient content was comparable in 2009 and 2014 for the as-offered and as-delivered CSFP food packages, with differences from 2009 to 2014 of less than six percent in the percentage of the recommended amount of macronutrients (Table 4-4).

Minerals. The 2014 as-offered CSFP food package met slightly higher percentages of the recommended amount for seven of the eight minerals examined; the 2014 package contained less potassium than the 2009 package, with both packages providing about 22 percent of the recommended amount. In contrast, the as-delivered 2014 package provided almost twice the amount of iron as the 2009 package (207 percent and 113 percent of the recommended amount, respectively); the 2014 as-delivered package also provided 186 mg less phosphorus and 356 mg less sodium than the 2009 package (Table 4-2). Although the increased iron in the 2014 as-delivered food package exceeded the RDA for iron, the amount of iron was not in excess of the UL. Neither the 2014 nor the 2009 package exceeded the UL for any mineral (Tables 4-5, 4-6).

Vitamins. The 2009 and 2014 CSFP food packages met similar percentages of the recommended amount for nine of the ten vitamins examined; the 2014 as-offered package contained slightly more folate than the 2009 package. However, the 2014 as-delivered package contained greater amounts of six of the ten vitamins examined: vitamin E, thiamin, niacin, vitamin B6, vitamin B12, and folate. Neither the 2014 nor the 2009 package provided vitamins in excess of the UL (Tables 4-5, 4-6).

Comparison With the Thrifty Food Plan Dietary Standards

As mentioned in Chapter 2, the TFP dietary standards are very similar to the DRIs. Therefore, most of the results of the comparison of the 2009 and 2014 CSFP food packages are similar to those in the section above. The TFP standards differ from the DRIs for three nutrients: sodium, potassium, and vitamin E. The as-delivered 2014 food package provided less sodium and potassium, and more vitamin E, compared to the 2009 package; both met the TFP standard for sodium (Tables 4-7, 4-8).

Table 4-4. Energy and macronutrient content of the 2014 and 2009 CSFP USDA Foods compared to the weighted average recommended nutrient needs (DRIs) of the reference participant

Energy/ Macronutrient	DRI[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Calories[2]	2,400	527	22%	513.0	21%	14	1%	482	20%	545.3	23%	-63.3	-3%
Protein, g	56	25.8	46%	25.2	45%	0.6	1%	21.8	39%	25.0	45%	-3.2	-6%
Protein, % kcal	10-35	20%	✓	20%	✓	<1%		18%	✓	18%	✓	<1%	
Carbohydrate, g	130	83.4	64%	75.0	58%	8.4	6%	81.0	62%	83.2	64%	-2.2	-2%
Carbohydrate, % kcal	45-65	63%	✓	59%	✓	4%		67%	↑	61%	✓	6%	
Total fat, g	ND	11.1	N/A	13.5	N/A	-2.4		8.9	N/A	13.6	N/A	-4.7	
Total fat, % kcal	20-35	19%	↓	24%	✓	-5%		17%	↓	22%	✓	-5%	
Saturated fat, g	low	4.0	N/A	5.7	N/A	-1.7		2.4	N/A	5.7	N/A	-3.3	
Saturated fat, % kcal	ND	7%	N/A	10%	N/A	-3%		4%	N/A	9%	N/A	-5%	
Linoleic acid, g	14	2.0	14%	1.9	13%	0.1	1%	2.1	15%	1.9	14%	0.2	1%
Linoleic acid, % kcal	5-10	3%	↓	3%	↓	<1%		4%	↓	3%	↓	1%	
α-Linolenic acid, g	1.6	0.1	8%	0.2	10%	-0.1	-2%	0.1	6%	0.1	9%	<0.1	-3%
α-Linolenic acid, % kcal	0.6-1.2	<1%	↓	<1%	↓	<1%		<1%	↓	<1%	↓	<1%	
Cholesterol, mg	low	26.7	N/A	34.0	N/A	-7.3		13.8	N/A	32.6	N/A	-18.8	
Total dietary fiber, g	30	7.7	26%	6.8	23%	0.9	3%	7.3	24%	6.1	20%	1.2	4%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard or within AMDR; ↓= below AMDR; ↑= exceeds AMDR

[1] Weighted average nutrient standard for reference participant

[2] Calorie recommendation from *Dietary Guidelines for Americans*, 2010.

Table 4-5. Nutrient content of the 2014 and 2009 CSFP USDA Foods compared to the weighted average recommended nutrient needs (DRIs) for the reference participant

Nutrient	DRI[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Minerals													
Calcium, mg	1200	504.8	42%	498.4	42%	6.4	<1%	452.7	38%	456.3	38%	-3.6	<1%
Copper, mg	0.9	0.4	43%	0.4	41%	<0.1	2%	0.4	41%	0.3	38%	0.1	3%
Iron, mg	8	7.8	98%	7.1	89%	0.7	9%	16.5	207%	9.1	113%	7.4	94%
Magnesium, mg	420	119.8	29%	118.2	28%	1.6	1%	104.6	25%	110.7	26%	-6.1	-1%
Phosphorus, mg	700	694.8	99%	651.4	93%	43.4	6%	436.0	62%	622.5	89%	-186.5	-27%
Potassium, mg	4700	1026.3	22%	1032.8	22%	-6.5	<1%	766.5	16%	940.5	20%	-174	-4%
Sodium, mg[2]	1300	807.8	62%	782.7	60%	25.1	2%	434.2	33%	790.6	61%	-356.4	-28%
Zinc, mg	11	4.6	42%	4.0	36%	0.6	6%	5.9	53%	4.4	40%	1.5	13%
Vitamins													
Vitamin A, µg	900	313.0	35%	316.3	35%	-3.3	<1%	308.8	34%	359.3	40%	-50.5	-6%
Vitamin C, mg	90	38.7	43%	40.2	45%	-1.5	-2%	30.2	34%	49.5	55%	-19.3	-21%
Vitamin D, µg	20	3.1	15%	3.2	16%	-0.1	-1%	3.1	15%	3.2	16%	-0.1	-1%
Vitamin E, mg[2]	15	2.6	17%	1.9	13%	0.7	4%	3.7	24%	2.1	14%	1.6	10%
Thiamin, mg	1.2	0.6	53%	0.6	47%	<0.1	6%	0.9	77%	0.8	68%	0.1	9%
Riboflavin, mg	1.3	0.8	64%	0.8	63%	<0.1	1%	1.0	80%	1.1	85%	-0.1	-5%
Niacin, mg	16	6.8	43%	6.3	39%	0.5	4%	12.2	76%	8.9	56%	3.3	20%
Vitamin B6, mg	1.7	0.6	38%	0.6	34%	<0.1	4%	1.0	56%	0.8	49%	0.2	7%
Vitamin B12, µg	2.4	2.1	88%	1.7	70%	0.4	18%	2.7	114%	2.4	100%	0.3	14%
Folate, µg (DFE)	400	236.4	59%	203.8	51%	32.6	8%	379.3	95%	323.6	81%	55.7	14%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

[1] Weighted average nutrient standard for reference participant

[2] The *Dietary Guidelines for Americans*, 2010, note that Americans consume too much sodium; therefore, the AI is not the level of concern for most participants, but rather the UL.

Table 4-6. Nutrient content of the 2014 and 2009 CSFP USDA Foods compared to the weighted average ULs for the reference participant

Nutrient	Weighted average UL	Offered			Delivered		
		2014	2009	Difference	2014	2009	Difference
Minerals							
Calcium, mg	2500	504.8	498.4	6.4	452.7	456.3	-3.6
Copper, mg	10	0.4	0.4	<0.1	0.4	0.3	0.1
Iron, mg	45	7.8	7.1	0.7	16.5	9.1	7.4
Phosphorus, mg	4000	694.8	651.4	43.4	436.0	622.5	-186.5
Potassium, mg	ND	1026.3	1032.8	-6.5	766.5	940.5	-174.0
Sodium, mg	2300	807.8	782.7	25.1	434.2	790.6	-356.4
Zinc, mg	40	4.6	4.0	0.6	5.9	4.4	1.5
Vitamins							
Vitamin A, µg (RAE)	3000	313.0	316.3	-3.3	308.8	359.3	-50.5
Vitamin C, mg	2000	38.7	40.2	-1.5	30.2	49.5	-19.3
Vitamin D, µg	100	3.1	3.2	-0.1	3.1	3.2	-0.1
Vitamin E (added), mg[1]	1000	0.6	0.2	0.4	2.0	0.5	1.5
Thiamin, mg	ND	0.6	0.6	<0.1	0.9	0.8	0.1
Riboflavin, mg	ND	0.8	0.8	<0.1	1.0	1.1	-0.1
Niacin, mg[1]	35	6.8	6.3	0.5	12.2	8.9	3.3
Vitamin B6, mg	100	0.6	0.6	<0.1	1.0	0.8	0.2
Vitamin B12, µg	ND	2.1	1.7	0.4	2.7	2.4	0.3
Folate, µg (folic acid)[1]	1000	86.7	69.9	16.8	180.9	147.5	33.4

[1] ULs for vitamin E, niacin, and folate apply only to synthetic forms obtained from supplements and/or fortified foods. Values for vitamin E and folate shown here are only the amounts added to foods; values for niacin have not been adjusted.

Table 4-7. Energy and macronutrient content of the 2014 and 2009 CSFP USDA Foods compared to the weighted average TFP standard for the reference participant

Energy / Macronutrient	DRI[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Calories	2,600	527	20%	513	20%	14	0%	482	19%	545	21%	-63	-2%
Protein, g	ND	25.8	N/A	25.2	N/A	0.6		21.8	N/A	25.0	N/A	-3.2	
Protein, % kcal	10-35	20%	✓	20%	✓	<1%		18%	✓	18%	✓	<1%	
Carbohydrate, g	ND	83.4	N/A	75.0	N/A	8.4		81.0	N/A	83.2	N/A	-2.2	
Carbohydrate, % kcal	45-65	63%	✓	59%	✓	4%		67%	↑	61%	✓	6%	
Total fat, g	ND	11.1	N/A	13.5	N/A	-2.4		8.9	N/A	13.6	N/A	-4.7	
Total fat, % kcal	20-35	19%	↓	24%	✓	-5%		17%	↓	22%	✓	-5%	
Saturated fat, g	ND	4.0	N/A	5.7	N/A	-1.7		2.4	N/A	5.7	N/A	-3.3	
Saturated fat, % kcal	< 10	7%	✓	10%	↓	-3%		4%	✓	9%	✓	-5%	
Linoleic acid, g	14	2.0	14%	1.9	13%	0.1	1%	2.1	15%	1.9	14%	0.2	1%
Linoleic acid, % kcal	5-10	3%	↓	3%	↓	<1%		4%	↓	3%	↓	1%	
α-Linolenic acid, g	1.6	0.1	8%	0.2	10%	-0.1	-2%	0.1	6%	0.1	9%	<0.1	-3%
α-Linolenic acid, % kcal	0.6-1.2	<1%	↓	<1%	↓	<1%		<1%	↓	<1%	↓	<0.1%	
Cholesterol, mg	<= 300	26.7	✓	34.0	✓	-7.3		13.8	✓	32.6	✓	-18.8	
Total dietary fiber, g	30	7.7	26%	6.8	23%	0.9	3%	7.3	24%	6.1	20%	1.2	4%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard or within AMDR; ↓= below AMDR; ↑= exceeds AMDR

[1] Weighted average nutrient standard for reference participant

Table 4-8. Nutrient content of the 2014 and 2009 CSFP USDA Foods compared to the weighted average TFP standard for the reference participant

Nutrient	DRI[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Vitamins													
Calcium	1200	504.8	42%	498.4	42%	6.4	0%	452.7	38%	456.3	38%	-3.6	0%
Copper, mg	0.9	0.4	43%	0.4	41%	<0.1	2%	0.4	41%	0.3	38%	0.1	3%
Iron, mg	8	7.8	98%	7.1	89%	0.7	9%	16.5	207%	9.1	113%	7.4	94%
Magnesium, mg	420	119.8	29%	118.2	28%	1.6	1%	104.6	25%	110.7	26%	-6.1	-1%
Phosphorus, mg	700	694.8	99%	651.4	93%	43.4	6%	436.0	62%	622.5	89%	-186.5	-27%
Potassium, mg[2]	4136	1026.3	25%	1032.8	25%	-6.5	<1%	766.5	19%	940.5	23%	-174	-4%
Sodium, mg	≤ 2300	807.8	✓	782.7	✓	25.1		434.2	✓	790.6	✓	-356.4	
Zinc, mg	11	4.6	42%	4.0	36%	0.6	6%	5.9	53%	4.4	40%	1.5	13%
Minerals													
Vitamin A, µg	900	313.0	35%	316.3	35%	-3.3	<1%	308.8	34%	359.3	40%	-50.5	-6%
Vitamin C, mg	90	38.7	43%	40.2	45%	-1.5	-2%	30.2	34%	49.5	55%	-19.3	-21%
Vitamin D, µg	ND	3.1	N/A	3.2	N/A	-0.1		3.1	N/A	3.2	N/A	-0.1	
Vitamin E, mg[2]	10.5	2.6	24%	1.9	18%	0.7	6%	3.7	35%	2.1	20%	1.6	15%
Thiamin, mg	1.2	0.6	53%	0.6	47%	<0.1	6%	0.9	77%	0.8	68%	0.1	9%
Riboflavin, mg	1.3	0.8	64%	0.8	63%	<0.1	1%	1.0	80%	1.1	85%	-0.1	-5%
Niacin, mg	16	6.8	43%	6.3	39%	0.5	4%	12.2	76%	8.9	56%	3.3	20%
Vitamin B6, mg	1.7	0.6	38%	0.6	34%	<0.1	4%	1.0	56%	0.8	49%	0.2	7%
Vitamin B12, µg	2.4	2.1	88%	1.7	70%	0.4	18%	2.7	114%	2.4	100%	0.3	14%
Folate, µg (DFE)	400	236.4	59%	203.8	51%	32.6	8%	379.3	95%	323.6	81%	55.7	14%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard

[1] Weighted average nutrient standard for reference participant

[2] Value for % Met is the percent of lower value (shown) in the acceptable range for the standard; acceptable range for potassium = 4136-4606 mg; acceptable range for vitamin E= 10.5-12.75 mg

4.1.4 HEI-2005 Scores for CSFP USDA Foods, 2014 and 2009

The HEI-2005 scores for the as-offered and as-delivered CSFP food packages were higher in 2014 than in 2009, with increases of approximately 2 points and 10 points, respectively. The increase for the 2014 as-delivered package was due to the greater amounts of vegetables (total, dark green/orange vegetables/legumes), whole grains, and oils (Table 4-9).

Table 4-9. HEI-2005 scores for the 2014 and 2009 CSFP USDA Foods

HEI component	Maximum score	Offered			Delivered		
		2014	2009	Difference	2014	2009	Difference
1. Total fruit	5	5.0	5.0	0.0	3.1	5.0	-1.9
2. Whole fruit	5	1.9	2.7	-0.8	1.4	2.3	-0.9
3. Total vegetables	5	4.4	4.1	0.3	3.4	2.4	1.0
4. Dark green, orange veg & legumes	5	5.0	4.2	0.8	4.0	2.2	1.8
5. Total grains	5	5.0	5.0	0.0	5.0	5.0	0.0
6. Whole grains	5	3.6	4.1	-0.5	3.6	2.0	1.6
7. Milk	10	10.0	10.0	0.0	10.0	10.0	0.0
8. Meat and beans	10	10.0	10.0	0.0	10.0	10.0	0.0
9. Oils	10	4.5	4.3	0.2	5.7	4.5	1.2
10. Saturated fat	10	10.0	7.9	2.1	10.0	8.4	1.6
11. Sodium	10	4.2	4.2	0.0	9.0	4.9	4.1
12. Calories from SoFAAS	20	20.0	20.0	0.0	20.0	20.0	0.0
Total HEI-2005 score	**100**	**83.6**	**81.5**	**2.1**	**85.2**	**76.6**	**8.6**

Note: SoFAAS = Calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

4.2 Food Distribution Program on Indian Reservations (FDPIR)

Households participating in FDPIR receive a monthly food package to help them maintain a nutritionally balanced diet. Although a small amount of bonus food was delivered to FDPIR participants in FY 2009, there were no bonus deliveries in FY 2014; the comparisons reflect entitlement foods only. Additional background information about USDA Foods in FDPIR is found in section 1.2.2.

4.2.1 Food Composition of FDPIR USDA Foods, 2014 and 2009

In FY 2009, FDPIR offered a total 90 million pounds of USDA Foods; in FY 2014, FDPIR offered a total 82 million pounds of USDA Foods. The total weight of foods in the as-offered FDPIR food package decreased by nearly eight million pounds from 2009 to 2014, mainly because of the decrease in the number of participants from 95,369 in 2009 to 85,397 in 2014. Because the distribution guide rates for the two years were comparable, the food group composition of the as-offered package was comparable (differences from 2009 to 2014 in the weight of food groups were one percent or less). In 2009, FDPIR delivered a total 78 million pounds of USDA Foods; in 2014, FDPIR delivered a total 73 million pounds. From 2009 to 2014, the food weight of the as-delivered package decreased by 4.5 million pounds, though changes in the food group content by weight was less than four percent for all food groups. (Table 4-10).

Table 4-10. Food group composition by weight of the 2014 and 2009 FDPIR USDA Foods as a percentage of the total weight of foods offered

	Offered			Delivered		
Food group	2014	2009	Difference	2014	2009	Difference
Cereal	3%	4%	-1%	3%	3%	<1%
Cheese	3%	3%	<1%	4%	4%	<1%
Fruit	13%	13%	<1%	11%	11%	<1%
Juice	11%	12%	-1%	12%	13%	-1%
Meat	12%	11%	1%	12%	13%	-1%
Milk	10%	10%	<1%	12%	9%	3%
Oil	1%	2%	-1%	2%	2%	<1%
PB/dried beans	6%	6%	<1%	6%	6%	<1%
Starches	23%	23%	<1%	19%	21%	-2%
Vegetables	16%	16%	<1%	19%	17%	2%
Total weight[1]	82	90	-8	73	78	-5

[1] Total weight = million pounds/year; amounts are displayed rounded to the whole numbers; difference is calculated on amounts prior to rounding.

4.2.2 Food Group Assessment of FDPIR USDA Foods, 2014 and 2009

Food Group Composition. Compared to the 2009 as-offered food package, in 2014 the food package offered a greater percentage of the weighted average recommended amount of dark green vegetables and other vegetables; protein foods, including seafood, meat/poultry/eggs; dairy; and oils. Compared to 2009, in 2014 the food package delivered a greater percentage of the recommended 2010 USDA Food pattern amount for dark green vegetables, other vegetables, and dairy (Tables 4-11).

Table 4-11. Food group and subgroup content of the 2014 and 2009 FDPIR USDA Foods compared to the weighted average recommended amounts from the 2010 USDA Food Pattern for the reference participant

Food group	USDA Food Pattern[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv)	2.0	1.2	58%	1.2	59%	<0.1	-1%	0.9	45%	1.0	52%	-0.1	-7%
Vegetables (cup equiv)	2.8	1.1	39%	1.4	50%	-0.3	-11%	1.1	38%	1.1	42%	<0.1	-4%
Dark green	0.3	0.1	32%	<0.1	7%	0.1	25%	<0.1	11%	<0.1	5%	<0.1	6%
Red and orange	0.8	0.3	44%	0.5	61%	-0.2	-17%	0.3	39%	0.3	43%	<0.1	-4%
Legumes	0.3	0.4	144%	0.5	198%	-0.1	-54%	0.4	142%	0.4	159%	<0.1	-17%
Starchy	0.8	0.3	37%	0.6	77%	-0.3	-40%	0.5	68%	0.7	84%	-0.2	-16%
Other	0.6	0.4	60%	0.3	40%	0.1	20%	0.2	31%	0.1	20%	0.1	11%
Total grains (oz equiv)	7.0	14.7	210%	14.9	213%	0.2	2%	11.0	157%	11.6	166%	-0.6	-9%
Whole	3.6	4.3	119%	4.5	123%	-0.2	-4%	1.1	30%	1.3	36%	-0.2	-6%
Refined	3.5	10.4	297%	10.4	298%	<0.1	-1%	9.9	282%	10.3	295%	-0.4	-13%
Protein foods (oz equiv)	5.9	4.7	80%	4.0	68%	0.7	12%	3.7	62%	4.2	72%	-0.5	-10%
Seafood	1.3	0.4	28%	0.1	8%	0.3	20%	0.1	6%	0.2	13%	-0.1	-7%
Meat, poultry, eggs	4.0	3.5	87%	2.9	71%	0.6	16%	2.7	68%	3.2	79%	-0.5	-11%
Nuts, seeds, soy products	0.6	0.9	152%	1.0	171%	-0.1	-19%	0.9	142%	0.9	144%	<0.1	-2%
Dairy (cup equiv)	3.0	1.9	65%	1.6	53%	0.3	12%	2.0	68%	1.4	46%	0.6	22%
Oils (grams)	28.5	17.0	60%	25.5	89%	-8.5	-29%	21.8	77%	24.5	86%	-2.7	-9%
Maximum SoFAS (kcal)[2]	260.0	201.7	78%	199.0	77%	2.7	1%	192.5	74%	186.5	72%	6	2%
Maximum SoFAS (% kcal)	12%	10%	✓	9%	✓	1%		11%	✓	10%	✓	1%	

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] Weighted average USDA Food Pattern recommended amount

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Food Group Composition per 2,000 kcal. When standardized to 2,000 kcal, the 2014 as-offered FDPIR food package met slightly less of the recommended amount of seven of the 16 food groups (vegetables, red/orange vegetables, legumes, starchy vegetables, whole grains, nuts/seeds/soy products and oils), and slightly more dark green vegetables, other vegetables, total grains, refined grains, protein foods including seafood, meat/poultry/eggs, and dairy. Compared to the 2009 as-delivered package, the 2014 package met slightly more than the recommended amount of three of the 16 food groups (legumes, other vegetables, and dairy); the percent met for other food groups was unchanged or slightly less (Table 4-12).

4.2.3 Nutrient Assessment of FDPIR USDA Foods, 2014 and 2009

Comparison With the DRIs

Energy and Macronutrients. In both 2009 and 2014, the as-offered FDPIR food package contained more calories than the as-delivered food package. The as-offered and as-delivered packages met or exceeded the DRI for protein and carbohydrates in both 2009 and 2014. Compared to the 2009 food packages, the 2014 packages offered less of the recommended weighted average amounts of total fat, linoleic acid, and α-linolenic acid (Table 4-13).

Minerals. The 2014 as-offered food package met a higher percentage of the weighted average recommended amount for six minerals of the eight minerals examined (calcium, iron, phosphorus, potassium, sodium and zinc); the 2014 as-delivered food package met a higher percentage of the weighted average recommended amount for six minerals (calcium, iron, magnesium, phosphorus, potassium, and zinc). While the sodium content of the as-delivered food package was slightly lower in the 2014 food package than the 2009 food package, all packages exceeded the recommended amount of sodium, though neither the 2014 or the 2009 packages provided minerals in excess of the UL (Tables 4-14, 4-15).

Table 4-12. Food group and subgroup content of the 2014 and 2009 FDPIR USDA Foods per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food group	USDA Food Pattern[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv)	2.0	1.1	57%	1.1	56%	<0.1	1%	1.0	50%	1.1	56%	-0.1	-6%
Vegetables (cup equiv)	2.5	1.1	43%	1.3	52%	-0.2	-9%	1.2	48%	1.2	50%	<0.1	-2%
Dark green	0.2	0.1	47%	<0.1	8%	0.1	39%	<0.1	18%	<0.1	7%	<0.1	11%
Red and orange	0.8	0.3	43%	0.5	59%	-0.2	-16%	0.3	43%	0.4	48%	-0.1	-5%
Legumes	0.2	0.4	210%	0.5	218%	-0.1	-8%	0.5	236%	0.4	202%	0.1	34%
Starchy	0.7	0.3	41%	0.6	80%	-0.3	-39%	0.6	86%	0.7	101%	-0.1	-15%
Other	0.6	0.3	58%	0.2	42%	0.1	16%	0.2	35%	0.1	24%	0.1	11%
Total grains (oz equiv)	6.0	14.3	239%	14.1	235%	0.2	4%	12.2	203%	12.6	211%	-0.4	-8%
Whole	3.0	4.2	139%	4.2	141%	<0.1	-2%	1.2	41%	1.4	47%	-0.2	-6%
Refined	3.0	10.1	338%	9.9	329%	0.2	9%	11.0	366%	11.2	374%	-0.2	-8%
Protein foods (oz equiv)	5.5	4.6	84%	3.8	69%	0.8	15%	4.1	74%	4.6	84%	-0.5	-10%
Seafood	1.1	0.3	32%	0.1	9%	0.2	23%	0.1	8%	0.2	15%	-0.1	-7%
Meat, poultry, eggs	3.7	3.4	91%	2.7	73%	0.7	18%	3.0	82%	3.5	94%	-0.5	-12%
Nuts, seeds, soy products	0.6	0.9	148%	1.0	171%	-0.1	-23%	0.9	158%	1.0	167%	-0.1	-9%
Dairy (cup equiv)	3.0	1.9	63%	1.5	51%	0.4	12%	2.3	75%	1.5	50%	0.8	25%
Oils (grams)	27.0	16.6	61%	24.1	89%	-7.5	-28%	24.3	90%	26.6	99%	-2.3	-9%
Maximum SoFAS (kcal)[2]	258.0	197.0	76%	188.0	73%	9	3%	214.1	83%	202.6	79%	11.5	4%
Maximum SoFAS (% kcal)	13.0%	10%	✓	9%	✓	1%		11%	✓	10%	✓	1%	

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] USDA Food Pattern recommended amount per 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Table 4-13. Energy and macronutrient content of the 2014 and 2009 FDPIR USDA Foods compared to the weighted average recommended nutrient needs (DRIs) of the reference participant

		Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
Energy/ Macronutrient	DRI[1]	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Calories[2]	2,150	2,048	95%	2,116.6	98%	-68.6	-3%	1,798	84%	1,840.7	86%	-42.7	-2%
Protein, g	38.8	84.8	219%	81.0	209%	3.8	10%	71.6	185%	71.2	184%	0.4	1%
Protein, % kcal	10-32.5	17%	✓	15%	✓	2%		16%	✓	15%	✓	1%	
Carbohydrate, g	130.0	321.6	247%	314.0	242%	7.6	5%	260.4	200%	258.7	199%	1.7	1%
Carbohydrate, % kcal	45-65	63%	✓	59%	✓	4%		58%	✓	56%	✓	2%	
Total fat, g	ND	50.5	N/A	63.2	N/A	-12.7		53.7	N/A	59.4	N/A	-5.7	
Total fat, % kcal	22.5-35	22%	↓	27%	✓	-5%		27%	✓	29%	✓	-2%	
Saturated fat, g	ND	14.2	N/A	17.1	N/A	-2.9		15.7	N/A	16.8	N/A	-1.1	
Saturated fat, % kcal	ND	6%	N/A	7%	N/A	-1%		8%	N/A	8%	N/A	<1%	
Linoleic acid, g	12.8	11.7	91%	15.7	123%	-4	-32%	12.1	94%	14.0	110%	-1.9	-16%
Linoleic acid, % kcal	5-10	5%	✓	7%	✓	-2%		6%	✓	7%	✓	-1%	
α-Linolenic acid, g	1.2	1.1	95%	1.7	143%	-0.6	-48%	1.4	116%	1.6	135%	-0.2	-19%
α-Linolenic acid, % kcal	0.6-1.2	1%	↓	1%	✓	<1%		1%	✓	1%	✓	<1%	
Cholesterol, mg	low	206.6	N/A	211.6	N/A	-5		170.8	N/A	188.4	N/A	-17.6	
Total dietary fiber, g	29.8	29.6	99%	28.7	97%	0.9	2%	21.6	72%	19.6	66%	2.0	6%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard or within AMDR; ↓= below AMDR

[1] Weighted average nutrient standard for reference participant

[2] Calorie recommendation from *Dietary Guidelines for Americans*, 2010.

Table 4-14. Nutrient content of the 2014 and 2009 FDPIR USDA Foods compared to the weighted average recommended nutrient needs (DRIs) for the reference participant

Nutrient	DRI[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Minerals													
Calcium, mg	1075.0	1028.8	96%	780.1	73%	248.7	23%	1000.4	93%	652.7	61%	347.7	32%
Copper, mg	0.7	1.4	195%	1.5	204%	-0.1	-9%	1.0	148%	1.2	162%	-0.2	-14%
Iron, mg	11.0	24.1	219%	22.5	204%	1.6	15%	19.9	181%	19.3	175%	0.6	6%
Magnesium, mg	277.5	357.0	129%	357.7	129%	-0.7	0%	259.8	94%	256.4	92%	3.4	2%
Phosphorus, mg	787.5	1753.4	223%	1594.5	202%	158.9	21%	1413.0	179%	1312.4	167%	100.6	12%
Potassium, mg	4425.0	2734.3	62%	2661.3	60%	73	2%	2265.9	51%	2175.8	49%	90.1	2%
Sodium, mg[2]	≤1425.0	1772.1	124%	1657.1	116%	115	8%	1506.1	106%	1574.0	110%	-67.9	-4%
Zinc, mg	8.0	13.3	167%	12.4	155%	0.9	12%	10.8	136%	10.4	130%	0.4	6%
Vitamins													
Vitamin A, µg	650.0	730.8	112%	571.9	88%	158.9	24%	544.1	84%	420.2	65%	123.9	19%
Vitamin C, mg	58.8	77.2	131%	79.1	135%	-1.9	-4%	64.6	110%	69.7	119%	-5.1	-9%
Vitamin D, µg	15.0	6.8	46%	4.4	29%	2.4	17%	5.7	38%	3.5	23%	2.2	15%
Vitamin E, mg	12.0	9.1	76%	7.8	65%	1.3	11%	7.8	65%	6.7	56%	1.1	9%
Thiamin, mg	1.0	2.3	233%	2.3	241%	<0.1	-8%	1.9	192%	2.0	206%	-0.1	-14%
Riboflavin, mg	1.0	2.4	237%	2.2	224%	0.2	13%	2.0	197%	2.0	201%	<0.1	-4%
Niacin, mg	12.5	25.9	207%	25.7	205%	0.2	2%	22.0	176%	22.1	177%	-0.1	-1%
Vitamin B6, mg	1.1	1.9	191%	1.7	163%	0.2	28%	1.5	151%	1.4	134%	0.1	17%
Vitamin B12, µg	2.0	4.3	213%	3.2	163%	1.1	50%	3.6	182%	3.0	152%	0.6	30%
Folate, µg (DFE)	325.0	882.7	272%	789.5	243%	93.2	29%	670.0	206%	714.3	220%	-44.3	-14%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

[1] Weighted average nutrient standard for reference participant

[2] The *Dietary Guidelines for Americans*, 2010, note that Americans consume too much sodium; therefore, the AI is not the level of concern for most participants, but rather the UL.

Table 4-15. Nutrient content of the 2014 and 2009 FDPIR USDA Foods compared to the weighted average ULs for the reference participant

Nutrient	Weighted average UL	Offered			Delivered		
		2014	2009	Difference	2014	2009	Difference
Minerals							
Calcium, mg	2625	1028.8	780.1	248.7	1000.4	652.7	347.7
Copper, mg	7	1.4	1.5	-0.1	1	1.2	-0.2
Iron, mg	42.5	24.1	22.5	1.6	19.9	19.3	0.6
Phosphorus, mg	3750	1753.4	1594.5	158.9	1413	1312.4	100.6
Potassium, mg	ND	2734.3	2661.3	73.0	2265.9	2175.8	90.1
Sodium, mg	2175	1772.1	1657.1	115.0	1506.1	1574	-67.9
Zinc, mg	28.75	13.3	12.4	0.9	10.8	10.4	0.4
Vitamins							
Vitamin A, µg (RAE)	2150	730.8	571.9	158.9	544.1	420.2	123.9
Vitamin C, mg	1462.5	77.2	79.1	-1.9	64.6	69.7	-5.1
Vitamin D, µg	93.75	6.8	4.4	2.4	5.7	3.5	2.2
Vitamin E (added), mg[1]	725	1.8	7.8	-6.0	7.8	0.3	7.5
Thiamin, mg	ND	2.3	2.3	0	1.9	2	-0.1
Riboflavin, mg	ND	2.4	2.2	0.2	2	2	0
Niacin, mg[1]	26.25	25.9	25.7	0.2	22	22.1	-0.1
Vitamin B6, mg	75	1.9	1.7	0.2	1.5	1.4	0.1
Vitamin B12, µg	ND	1.4	3.2	-1.8	3.6	3	0.6
Folate, µg (folic acid)[1]	750	366.4	329.9	36.5	465.4	308.9	156.5

[1] ULs for vitamin E, niacin, and folate apply only to synthetic forms obtained from supplements and/or fortified foods. Values for vitamin E and folate shown here are only the amounts added to foods; values for niacin have not been adjusted.

Vitamins. Compared to the 2009 packages, the 2014 as-offered package provided a greater percentage of the weighted average recommended amount for eight of the ten vitamins (vitamin A, D, E, riboflavin, niacin B6, B12, and folate); the 2014 as-delivered package provided a greater percentage of the weighted average recommended amount for five vitamins (vitamin A, D, E, B6, and B12). The 2014 food package delivered less vitamin C, thiamin, riboflavin, and niacin. Both the 2009 and 2014 as-delivered package provided more than 100 percent of the weighted average recommended amount of all vitamins except vitamin A (less than 100 percent in the 2009 food package only), vitamin D, and vitamin E. (Table 4-14). Neither the 2014 nor the 2009 packages provided vitamins in excess of the UL (Table 4-15).

Comparison With the Thrifty Food Plan Dietary Standards

As mentioned in Chapter 2, the TFP dietary standards are very similar to the DRIs. Therefore, most of the results of the comparison of the 2009 and 2014 FDPIR food packages are similar to those in the section above. The TFP standards differ from the DRIs for three nutrients: sodium, potassium, and vitamin E. Compared to the 2009 packages, the 2014 as-offered package provided more sodium, potassium, and vitamin E; the 2014 as-delivered package provided more potassium and vitamin E but less sodium. The sodium content of all 2009 and 2014 packages were within the TFP weighted average recommended amount of sodium (Tables 4-16 and 4-17).

Table 4-16. Energy and macronutrient content of the 2014 and 2009 FDPIR USDA Foods compared to the weighted average TFP standard for the reference participant

		Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
Energy/ Macronutrient	DRI[1]	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Calories	2150	2,048	95%	2,116	98%	-68.6	-3%	1,798	84%	1,841	86%	-43	-2%
Protein, g	N/A	84.8	N/A	81.0	N/A	3.8		71.6	N/A	71.2	N/A	0.4	
Protein, % kcal	10-32.5	17%	✓	15%	✓	2%		16%	✓	15%	✓	1%	
Carbohydrate, g	N/A	321.6	N/A	314.0	N/A	7.6		260.4	N/A	258.7	N/A	1.7	
Carbohydrate, % kcal	45-65	63%	✓	59%	✓	4%		58%	✓	56%	✓	2%	
Total fat, g	N/A	50.5	N/A	63.2	N/A	-12.7		53.7	N/A	59.4	N/A	-5.7	
Total fat, % kcal	22.5-35	22%	↓	27%	✓	-5%		27%	✓	29%	✓	-2%	
Saturated fat, g	N/A	14.2	N/A	17.1	N/A	-2.9		15.7	N/A	16.8	N/A	-1.1	
Saturated fat, % kcal	<10	6%	✓	7%	✓	-1%		8%	✓	8%	✓	<1%	
Linoleic acid, g	12.75	11.7	91%	15.7	122%	-4	-31%	12.1	94%	14.0	109%	-1.9	-15%
Linoleic acid, % kcal	5-10	5%	✓	7%	✓	-2%		6%	✓	7%	✓	-1%	
α-Linolenic acid, g	1.2	1.1	95%	1.7	143%	-0.6	-48%	1.4	116%	1.6	135%	-0.2	-19%
α-Linolenic acid, % kcal	0.6-1.2	1%	↓	1%	✓	<1%		1%	✓	1%	✓	<1%	
Cholesterol, mg	≤ 300	206.6	✓	211.6	✓	-5		170.8	✓	188.4	✓	-17.6	
Total dietary fiber, g	29.8	29.6	99%	28.7	96%	0.9	3%	21.6	72%	19.6	66%	2	6%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard or within AMDR; ↓= below AMDR; ↑= exceeds AMDR

[1] Weighted average nutrient standard for reference participant

Table 4-17. Nutrient content of the 2014 and 2009 FDPIR USDA Foods compared to the weighted average TFP standard for the reference participant

Nutrient	DRI[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Minerals													
Calcium, mg	1075.0	1028.8	96%	780.1	73%	248.7	23%	1000.4	93%	652.7	61%	347.7	32%
Copper, mg	0.7	1.4	195%	1.5	215%	-0.1	-20%	1.0	148%	1.2	171%	-0.2	-23%
Iron, mg	11.0	24.1	219%	22.5	204%	1.6	15%	19.9	181%	19.3	175%	0.6	6%
Magnesium, mg	277.5	357.0	129%	357.7	129%	-0.7	<1%	259.8	94%	256.4	92%	3.4	2%
Phosphorus, mg	787.5	1753.4	223%	1594.5	202%	158.9	21%	1413.0	179%	1312.4	167%	100.6	12%
Potassium, mg[2]	3590	2734.3	76%	2661.3	74%	73	2%	2265.9	63%	2175.8	61%	90.1	2%
Sodium, mg	≤ 2175.0	1772.1	✓	1657.1	✓	115		1506.1	✓	1574.0	✓	-67.9	
Zinc, mg	8.0	13.3	167%	12.4	155%	0.9	12%	10.8	136%	10.4	130%	0.4	6%
Vitamins													
Vitamin A, µg	650.0	730.8	112%	571.9	88%	158.9	24%	544.1	84%	420.2	65%	123.9	19%
Vitamin C, mg	58.8	77.2	131%	79.1	134%	-1.9	-3%	64.6	110%	69.7	119%	-5.1	-9%
Vitamin D, µg	N/A	6.8	N/A	4.4	N/A	2.4		5.7	N/A	3.5	N/A	2.2	
Vitamin E, mg[2]	9.8	9.1	93%	7.8	80%	1.3	13%	7.8	80%	6.7	69%	1.1	11%
Thiamin, mg	1.0	2.3	233%	2.3	229%	<0.1	4%	1.9	192%	2.0	196%	-0.1	-4%
Riboflavin, mg	1.0	2.4	237%	2.2	220%	0.2	17%	2.0	197%	2.0	197%	0	0%
Niacin, mg	12.5	25.9	207%	25.7	205%	0.2	2%	22.0	176%	22.1	177%	-0.1	-1%
Vitamin B6, mg	1.1	1.9	191%	1.7	156%	0.2	35%	1.5	151%	1.4	128%	0.1	23%
Vitamin B12, µg	2.0	4.3	213%	3.2	159%	1.1	54%	3.6	182%	3.0	148%	0.6	34%
Folate, µg (DFE)	325.0	882.7	272%	789.5	243%	93.2	29%	670.0	206%	714.3	220%	-44.3	-14%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard

[1] Weighted average nutrient standard for reference participant

[2] Value for % Met is the percent of lower value (shown) in the acceptable range for the standard; acceptable range for potassium = 3590-4041 mg; acceptable range for vitamin E= 9.8-10.5 mg

4.2.4 HEI-2005 Scores for FDPIR USDA Foods, 2014 and 2009

The HEI-2005 scores for the as-offered and as-delivered FDPIR food packages showed little change from 2009 to 2014; the HEI-2005 score for the as-offered food package declined by 0.2 points; the HEI-2005 score for the as-delivered package increased by 1.3 points (Table 4-18).

Table 4-18. HEI-2005 scores for the 2014 and 2009 FDPIR USDA Foods

HEI component	Maximum score	Offered			Delivered		
		2014	2009	Difference	2014	2009	Difference
1. Total fruit	5	3.5	3.5	0.0	3.1	3.5	-0.4
2. Whole fruit	5	4.5	4.4	0.1	3.2	4.0	-0.8
3. Total vegetables	5	3.2	3.3	-0.1	3.3	3.6	-0.3
4. Dark green, orange veg & legumes	5	3.5	1.9	1.6	2.4	2.6	-0.2
5. Total grains	5	5.0	5.0	0.0	5.0	5.0	0.0
6. Whole grains	5	5.0	5.0	0.0	2.0	2.3	-0.3
7. Milk	10	7.3	5.8	1.5	8.7	5.7	3.0
8. Meat and beans	10	10.0	10.0	0.0	10.0	10.0	0.0
9. Oils	10	6.9	10.0	-3.1	10.0	10.0	0.0
10. Saturated fat	10	10.0	9.8	0.2	9.4	9.2	0.2
11. Sodium	10	9.2	9.6	-0.4	9.3	9.2	0.1
12. Calories from SoFAAS	20	20.0	20.0	0.0	20.0	20.0	0.0
Total HEI-2005 score	**100**	**88.1**	**88.3**	**-0.2**	**86.5**	**85.2**	**1.3**

Note: SoFAAS = Calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

4.3 National School Lunch Program (NSLP)

NSLP provides nutritionally balanced, low-cost or free lunches to children during the school year. Prior to 2012, school lunches had to adhere to the School Meals Initiative (SMI) nutrition standards, which were based on the *1995 Dietary Guidelines for Americans*.[151] The standards required school lunch to provide one-third of the RDA for calories, protein, vitamins A and C, and calcium and iron. The standards also set recommendations of no more than 30 percent of total calories from fat and no more than 10 percent of total calories from saturated fat. These nutrition standards for school meals were revised per the recommendation of the Institute of Medicine to reflect the *2010 Dietary Guidelines for Americans* and the DRIs. These revised nutrition standards for school meals required

[151] US Department of Agriculture, US Department of Health and Human Services. Nutrition and your health: dietary guidelines for Americans. Washington, DC: US Government Printing Office, 1995.

counting the servings of fruits and vegetables separately, with specifications for the number of servings from various vegetable subgroups; increasing fruit, vegetable, and whole grain-rich products; limiting milk to low/non-fat varieties; reducing sodium content over ten years; and adhering to calorie and fat levels established for each grade level. In recent years, the USDA has reformulated products to lower the sugar, fat, and sodium content and improve the nutrient density of products used in school meals. For example, USDA Foods include reduced-fat mozzarella cheese, low-sodium spaghetti sauce, and low-fat, low-sodium ham products.

This section reports changes in food composition, nutrient and food group content, and HEI-2005 scores of NSLP food packages. Bonus foods were not delivered to NSLP in SY 2013-2014; the current comparison reflects entitlement foods only. Additional background information about USDA Foods in NSLP is found in section 1.2.3.

4.3.1 Food Composition of NSLP USDA Foods, 2014 and 2009

In SY 2009-2010, NSLP offered a total 357 million pounds of USDA Foods; in SY 2013-2014, NSLP offered a total 1,770 million pounds of USDA Foods. The total weight of USDA Foods offered to NSLP participants increased by 1,413 million pounds from 2009 to 2014, with increases in the percentage by weight of fruit, juice, and vegetable food groups. The greater amount of food offered in 2014 is explained by the change in methodology for deriving the quantity in the as-offered food package. In 2009, any foods on the FA list that were not delivered in 2009 were not included in the as-offered package, as no cost/pound could be determined. With the recognition that this method did not adequately represent the FA list, the 2014 package used data for deliveries to all five nutrition assistance programs to calculate the cost/pound; the FNS provided additional data for any USDA Foods still lacking cost data, so that all foods on the FA list in 2014 were included in the as-offered package. In SY 2009-2010, NSLP delivered a total 1,041 million pounds of USDA Foods; in SY 2013-2014, NSLP delivered a total 1,331 million pounds of USDA Foods. The total weight of USDA Foods delivered increased by 290 million pounds, though the food group composition of the as-delivered USDA Foods was comparable (differences from 2009 to 2014 in the weight of food groups ranged from less than 1 percent to 6 percent). The number of participants decreased from 30,294,022 in 2009 to 29,752,722 in 2014 (Table 4-19).

Table 4-19. Food group composition by weight of the 2014 and 2009 NSLP USDA Foods as a percentage of the total weight of foods offered

Food group	Offered			Delivered		
	2014	2009	Difference	2014	2009	Difference
Cheese	5%	11%	-6%	10%	12%	-2%
Fruit	19%	4%	15%	25%	19%	6%
Grains	30%	36%	-6%	5%	6%	-1%
Juice	4%	<1%	4%	<1%	<1%	<1%
Meat	10%	13%	-3%	35%	40%	-5%
Milk	<1%	<1%	<1%	<1%	<1%	<1%
Oil	17%	27%	-10%	<1%	2%	-2%
Vegetables	15%	9%	6%	24%	21%	3%
Total weight[1]	1,770	357	1,413	1,331	1,041	290

[1] Total weight = million pounds per year; amounts are displayed rounded to the whole numbers; difference is calculated on amounts prior to rounding.

4.3.2 Food Group Assessment of NSLP USDA Foods, 2014 and 2009

Food Group Comparison. Consistent with the changes to the total weight of USDA Foods offered, the USDA Foods offered to NSLP in 2014 met larger percentages of the weighted average recommended amount of all food groups. Compared to 2009, the USDA Foods delivered to NSLP met larger percentages of the weighted average recommended amount of fruit, vegetables, and whole grains but less total grains, protein foods, and dairy; and less refined grains, discretionary oils, and SoFAS (Table 4-20).

Food Group Comparison per 2,000 kcal. When standardized to 2,000-calories, the 2014 USDA Foods as offered provided more than twice the amount of fruit, and more vegetables (including red/orange, legumes, and starchy vegetables), total grains, enriched grains, and seafood, but less dark green vegetables, other vegetables, whole grains, meat/poultry/egg, nuts/seeds/soy products, and dairy products than in 2009. The amount of protein foods was unchanged. Similar changes were seen in the percentage of recommended amount met by the as-delivered USDA Foods, with the 2014 food package providing more fruits (41 percent increase) and vegetables (total vegetables increased by 55 percent and dark green vegetables by 84 percent), but also more whole grains (30 percent increase) and dairy than the 2009 food package, and less refined grains (61 percent decrease) protein foods (27 percent decrease), discretionary oils (39 percent decrease) and SoFAS (12 percent decrease) (Table 4-21).

Table 4-20. Food group and subgroup content of the 2014 and 2009 NSLP USDA Foods compared to the weighted average recommended amounts from the 2010 USDA Food Pattern for the reference participant

Food group	USDA Food Pattern[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv)	1.8	0.2	10%	<0.1	1%	0.2	9%	0.1	8%	0.1	4%	<0.1	4%
Vegetables (cup equiv)	2.8	0.2	8%	<0.1	2%	0.2	6%	0.2	8%	0.1	5%	0.1	3%
Dark green	0.3	<0.1	5%	<0.1	2%	<0.1	3%	<0.1	5%	<0.1	1%	<0.1	4%
Red and orange	0.8	0.1	6%	<0.1	1%	0.1	5%	<0.1	4%	<0.1	2%	<0.1	2%
Legumes	0.3	<0.1	14%	<0.1	3%	<0.1	11%	<0.1	5%	<0.1	1%	<0.1	4%
Starchy	0.8	0.1	16%	<0.1	3%	0.1	13%	0.2	19%	0.1	11%	0.1	8%
Other	0.7	<0.1	3%	<0.1	1%	<0.1	2%	<0.1	4%	<0.1	2%	<0.1	2%
Total grains (oz equiv)	7.0	1.8	26%	0.5	7%	1.3	19%	0.2	3%	0.3	4%	-0.1	-1%
Whole	3.6	0.8	21%	0.3	8%	0.5	13%	0.1	3%	<0.1	1%	0.1	2%
Refined	3.5	1.1	31%	0.2	6%	0.9	25%	0.1	4%	0.3	7%	-0.2	-3%
Protein foods (oz equiv)	5.7	0.2	4%	0.1	1%	0.1	3%	0.7	12%	0.8	14%	-0.1	-2%
Seafood	1.3	<0.1	3%	<0.1	1%	<0.1	2%	<0.1	1%	<0.1	1%	<0.1	0%
Meat, poultry, eggs	3.9	0.1	3%	<0.1	1%	0.1	2%	0.6	16%	0.7	19%	-0.1	-3%
Nuts, seeds, soy products	0.6	0.1	14%	<0.1	4%	0.1	10%	<0.1	8%	0.1	11%	-0.1	-3%
Dairy (cup equiv)	3.0	0.2	7%	0.1	2%	0.1	5%	0.3	9%	0.2	8%	0.1	1%
Oils (grams)	27.8	25.3	91%	7.6	27%	17.7	64%	0.8	3%	1.6	6%	-0.8	-3%
Maximum SoFAS (kcal)[2]	238.1	20.4	9%	7.0	3%	13.4	6%	28.4	12%	30.7	13%	-2.3	-1%
Maximum SoFAS (% kcal)	11%	5%	✓	6%	✓	-1%		20%	↑	22%	↑	-2%	

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline; ↑ = exceeds guideline

[1] Weighted average USDA Food Pattern recommended amount

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Table 4-21. Food group and subgroup content of the 2014 and 2009 NSLP USDA Foods per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food Group	USDA Food Pattern[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv)	2.0	0.8	41%	0.4	20%	0.4	21%	2.0	98%	1.1	57%	0.9	41%
Vegetables (cup equiv)	2.5	0.9	37%	0.8	30%	0.1	7%	3.2	128%	1.8	73%	1.4	55%
Dark green	0.2	0.1	32%	0.1	42%	<0.1	-10%	0.2	97%	<0.1	13%	0.2	84%
Red and orange	0.8	0.2	28%	0.2	24%	<0.1	4%	0.4	55%	0.3	34%	0.1	21%
Legumes	0.2	0.2	93%	0.1	54%	0.1	39%	0.2	101%	<0.1	20%	0.2	81%
Starchy	0.7	0.6	79%	0.4	51%	0.2	28%	2.2	317%	1.3	183%	0.9	134%
Other	0.6	0.1	15%	0.1	20%	<0.1	-5%	0.4	59%	0.2	40%	0.2	19%
Total grains (oz equiv)	6.0	8.1	136%	7.9	132%	0.2	4%	3.1	52%	4.0	67%	-0.9	-15%
Whole	3.0	3.4	113%	4.4	148%	-1.0	-35%	1.3	45%	0.4	15%	0.9	30%
Refined	3.0	4.8	159%	3.5	116%	1.3	43%	1.8	59%	3.6	120%	-1.8	-61%
Protein foods (oz equiv)	5.5	1.0	19%	1.0	19%	<0.1	<1%	10.0	182%	11.5	209%	-1.5	-27%
Seafood	1.1	0.2	15%	0.1	10%	0.1	5%	0.1	13%	0.1	10%	<0.1	3%
Meat, poultry, eggs	3.7	0.5	13%	0.5	14%	<0.1	-1%	9.2	247%	10.4	281%	-1.2	-34%
Nuts, seeds, soy products	0.6	0.4	63%	0.4	73%	<0.1	-10%	0.7	119%	0.9	165%	-0.2	-46%
Dairy (cup equiv)	3.0	0.9	29%	1.2	39%	-0.3	-10%	3.9	130%	3.3	110%	0.6	20%
Oils (grams)	27.0	111.4	412%	125.8	466%	-14.4	-54%	11.8	44%	22.4	83%	-10.6	-39%
Maximum SoFAS (kcal)[2]	258.0	90.0	35%	114.6	44%	-24.6	-9%	407.1	158%	439.5	170%	-32.4	-12%
Maximum SoFAS (% kcal)	13%	5%	✓	6%	✓	-1%		20%	↑	22%	↑	-2%	

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline; ↑ = exceeds guideline

[1] USDA Food Pattern recommended amount per 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

4.3.3 Nutrient Assessment of NSLP USDA Foods, 2014 and 2009

Comparison With DRIs

Energy and Macronutrients. Although the 2014 USDA Foods offered to NSLP provided more than three times the number of calories as in 2009, there was no difference in energy for the USDA Foods as delivered. Findings were similar for other macronutrients: As offered, the 2014 USDA Foods provided more protein, carbohydrate, total fat, and fiber, but as delivered, the 2014 USDA Foods provided nearly the same amount of protein, three grams more carbohydrate, and one gram less fat and cholesterol in 2014 when compared to 2009 (Table 4-22).

Minerals. Compared with 2009, the as-offered 2014 USDA Foods provided more of each mineral, providing an additional 5-20 percent of the recommended amount. In contrast, changes in the as-delivered packages were not as large, and the amount of iron, sodium, and zinc were essentially unchanged. Neither the 2014 or 2009 packages provided minerals in excess of the UL (Tables 4-23 and 4-24).

Vitamins. As with the findings for minerals, the as-offered 2014 USDA Foods provided more of each vitamin than in 2009, more than doubling the amount met for all vitamins, though the amount of vitamin D provided was only one percent of the recommended amount in both 2009 and 2014. Compared to 2009, the as-delivered 2014 USDA Foods provided essentially the same amount of vitamins D, E, riboflavin, and B12, though the 2014 as-delivered NSLP food package provided twice the amount of vitamin C and increased amounts of vitamins A and B6. Neither the 2014 nor 2009 NSLP food package provided vitamins in excess of the UL (Tables 4-23 and 4-24).

Table 4-22. Energy and macronutrient content of the 2014 and 2009 NSLP USDA Foods compared to the weighted average recommended nutrient needs (DRIs) of the reference participant

Energy/ Macronutrient	DRI[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Calories[2]	2104.0	454	22%	122	6%	332	16%	139	7%	139	7%	-0.5	0%
Protein, g	36.3	8.9	24%	2.3	6%	6.6	18%	9.2	25%	9.4	26%	-0.2	-1%
Protein, % kcal	10-30	8%	↓	8%	↓	<1%		26%	✓	27%	✓	-1%	
Carbohydrate, g	130.0	41.2	32%	8.8	7%	32.4	25%	13.5	10%	10.2	8%	3.3	2%
Carbohydrate, % kcal	45-65	36%	↓	29%	↓	7%		39%	↓	29%	↓	10%	
Total fat, g	ND	29.0	N/A	8.8	N/A	20.2		5.6	N/A	6.9	N/A	-1.3	
Total fat, % kcal	25-35	57%	↑	65%	↑	-8%		36%	↑	44%	↑	-8%	
Saturated fat, g	low	4.9	N/A	1.6	N/A	3.3		2.4	N/A	2.6	N/A	-0.2	
Saturated fat, % kcal	ND	10%	N/A	12%	N/A	-2%		15%	N/A	17%	N/A	-2%	
Linoleic acid, g	12.7	10.7	84%	3.4	27%	7.3	57%	0.6	5%	1.0	8%	-0.4	-3%
Linoleic acid, % kcal	5-10	21%	↑	25%	↑	-4%		4%	↓	6%	✓	-2%	
α-Linolenic acid, g	1.3	1.5	117%	0.5	38%	1.0	79%	0.1	6%	0.1	9%	0	-3%
α-Linolenic acid, %kcal	0.6-1.2	3%	↑	4%	↑	-1%		0%	↓	1%	✓	-1%	
Cholesterol, mg	low	21.6	N/A	6.0	N/A	15.6		28.9	N/A	30.2	N/A	-1.3	
Total dietary fiber, g	31.9	4.0	13%	1.0	3%	3.0	10%	1.6	5%	0.9	3%	0.7	2%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = within AMDR; ↓ = below AMDR; ↑ = exceeds AMDR

[1] Weighted average nutrient standard for reference participant

[2] Calorie recommendation from *Dietary Guidelines for Americans*, 2010.

Table 4-23. Nutrient content of the 2014 and 2009 NSLP USDA Foods compared to the weighted average recommended nutrient needs (DRIs) for the reference participant

Nutrient	DRI[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Minerals													
Calcium, mg	1253.2	105.4	8%	29.2	2%	76.2	6%	102.6	8%	80.7	6%	21.9	2%
Copper, mg	0.7	0.2	26%	<0.1	6%	0.2	20%	0.1	11%	0.1	9%	0	2%
Iron, mg	10.8	2.1	19%	0.5	5%	1.6	14%	0.9	8%	0.8	8%	0.1	0%
Magnesium, mg	267.0	49.1	18%	12.6	5%	36.5	13%	21.1	8%	16.1	6%	5.0	2%
Phosphorus, mg	1133.0	192.8	17%	50.0	4%	142.8	13%	142.0	13%	122.2	11%	19.8	2%
Potassium, mg	4442.8	308.9	7%	61.3	1%	247.6	6%	231.6	5%	160.7	4%	70.9	1%
Sodium, mg[2]	≤1453.2	131.6	9%	41.4	3%	90.2	6%	142.1	10%	146.1	10%	-4.0	0%
Zinc, mg	8.3	1.3	15%	0.4	4%	0.9	11%	1.2	15%	1.2	15%	0	0%
Vitamins													
Vitamin A, µg	646.8	57.1	9%	17.8	3%	39.3	6%	53.0	8%	34.0	5%	19.0	3%
Vitamin C, mg	49.7	16.7	34%	2.3	5%	14.4	29%	8.0	16%	3.9	8%	4.1	8%
Vitamin D, µg	15.0	0.2	1%	<0.1	<1%	0.2	1%	0.2	1%	0.1	1%	0.1	0%
Vitamin E, mg	11.4	3.5	31%	1.0	8%	2.5	23%	0.5	4%	0.5	4%	0	0%
Thiamin, mg	0.9	0.3	33%	0.1	6%	0.2	27%	0.1	10%	0.1	9%	0	1%
Riboflavin, mg	1.0	0.2	19%	<0.1	5%	0.2	14%	0.1	12%	0.1	12%	0	0%
Niacin, mg	12.4	2.5	20%	0.6	5%	1.9	15%	1.9	16%	2.1	17%	-0.2	-1%
Vitamin B6, mg	1.0	0.2	20%	<0.1	4%	0.2	16%	0.2	19%	0.1	14%	0.1	5%
Vitamin B12, µg	1.9	0.2	10%	0.1	3%	0.1	7%	0.4	23%	0.4	23%	0	0%
Folate, µg (DFE)	310.4	83.3	27%	14.6	5%	68.7	22%	21.5	7%	19.2	6%	2.3	1%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

[1] Weighted average nutrient standard for reference participant

[2] The *Dietary Guidelines for Americans*, 2010, note that Americans consume too much sodium; therefore, the AI is not the level of concern for most participants, but rather the UL.

Table 4-24. Nutrient content of the 2014 and 2009 NSLP USDA Foods compared to the weighted average ULs for the reference participant

Nutrient	Weighted average UL	Offered			Delivered		
		2014	2009	Difference	2014	2009	Difference
Minerals							
Calcium, mg	2922.0	105.4	29.2	76.2	102.6	80.7	21.9
Copper, mg	5.5	0.2	<0.1	0.2	0.1	0.1	0
Iron, mg	41.3	2.1	0.5	1.6	0.9	0.8	0.1
Phosphorus, mg	3844.0	192.8	50.0	142.8	142	122.2	19.8
Potassium, mg	ND[2]	308.9	61.3	247.6	231.6	160.7	70.9
Sodium, mg	2179.2	131.6	41.4	90.2	142.1	146.1	-4
Zinc, mg	24.1	1.3	0.4	0.9	1.2	1.2	0
Vitamins							
Vitamin A, µg (RAE)	1861.2	57.1	17.8	39.3	53	34	19
Vitamin C, mg	1270.2	16.7	2.3	14.4	8	3.9	4.1
Vitamin D, µg	96.1	0.2	<0.1	0.2	0.2	0.1	0.1
Vitamin E (added) mg[1]	605.2	<0.1	<0.1	<0.1	0.5	<0.1	0.5
Thiamin, mg	ND	0.3	0.1	0.2	0.1	0.1	0
Riboflavin, mg	ND	0.2	<0.1	0.2	0.1	0.1	0
Niacin, mg[1]	21.8	2.5	0.6	1.9	1.9	2.1	-0.2
Vitamin B6, mg	62.1	<0.1	<0.1	<0.1	0.2	0.1	0.1
Vitamin B12, µg	ND	0.2	0.1	0.1	0.4	0.4	0
Folate, µg (folic acid)[1]	620.8	26.2	4.7	21.5	21.5	7.1	14.4

[1] ULs for vitamin E, niacin, and folate apply only to synthetic forms obtained from supplements and/or fortified foods. Values for vitamin E and folate shown here are only the amounts added to foods; values for niacin have not been adjusted.

Comparison With Thrifty Food Plan Dietary Standards

As mentioned in Chapter 2, the TFP dietary standards are very similar to the DRIs. Therefore, most of the results of the comparison of the 2009 and 2014 NSLP food packages are similar to those in the section above. The TFP standards differ from the DRIs for three nutrients: sodium, potassium, and vitamin E. The 2014 as-delivered NSLP food package provided more of all three nutrients, but still met the TFP standard for sodium (Tables 4-25, 4-26).

Table 4-25. Energy and macronutrient content of the 2014 and 2009 NSLP USDA Foods compared to the weighted average TFP standard for the reference participant

		Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
Energy/ Macronutrient	DRI[1]	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Calories	2299.6	454	20%	121.6	5%	332.4	15%	139	6%	139.5	6%	-0.5	0%
Protein, g	N/A	8.9	N/A	2.3	N/A	6.6		9.2	N/A	9.4	N/A	-0.2	
Protein, % kcal	10-30	8%	↓	8%	↓	<1%		26%	✓	27%	✓	-1%	
Carbohydrate, g	N/A	41.2	N/A	8.8	N/A	32.4		13.5	N/A	10.2	N/A	3.3	
Carbohydrate, % kcal	45-65	36%	↓	29%	↓	7%		39%	↓	29%	↓	10%	
Total fat, g	N/A	29.0	N/A	8.8	N/A	20.2		5.6	N/A	6.9	N/A	-1.3	
Total fat, % kcal	25-35	57%	↑	65%	↑	-8%		36%	↑	44%	↑	-8%	
Saturated fat, g	N/A	4.9	N/A	1.6	N/A	3.3		2.4	N/A	2.6	N/A	-0.2	
Saturated fat, % kcal	<10	10%	✓	12%	↑	-2%		15%	↑	17%	↑	-2%	
Linoleic acid, g	12.7	10.7	84%	3.4	27%	7.3	57%	0.6	5%	1.0	8%	-0.4	-3%
Linoleic acid, % kcal	5-10	21%	↑	25%	↑	-4%		4%	↓	6%	✓	-2%	
α-Linolenic acid, g	1.3	1.5	117%	0.5	37%	1.0	80%	0.1	6%	0.1	9%	0	-3%
α-Linolenic acid, % kcal	0.6-1.2	3%	↑	4%	↑	-1%		0%	↓	1%	✓	-1%	
Cholesterol, mg	≤ 300	21.6	✓	6.0	✓	15.6		28.9	✓	30.2	✓	-1.3	
Total dietary fiber, g	31.9	4.0	13%	1.0	3%	3.0	10%	1.6	5%	0.9	3%	0.7	2%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = within AMDR; ↓ = below AMDR; ↑ = above AMDR

[1] Weighted average nutrient standard for reference participant

Table 4-26. Nutrient content of the 2014 and 2009 NSLP USDA Foods compared to the weighted average TFP standard for the reference participant

Nutrient	DRI[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Minerals													
Calcium, mg	1253.2	105.4	8%	29.2	2%	76.2	6%	102.6	8%	80.7	6%	21.9	2%
Copper, mg	0.7	0.2	26%	<0.1	6%	0.2	20%	0.1	11%	0.1	9%	0	2%
Iron, mg	10.8	2.1	19%	0.5	4%	1.6	15%	0.9	8%	0.8	8%	0.1	0%
Magnesium, mg	267.0	49.1	18%	12.6	5%	36.5	13%	21.1	8%	16.1	6%	5.0	2%
Phosphorus, mg	1133.0	192.8	17%	50.0	4%	142.8	13%	142.0	13%	122.2	11%	19.8	2%
Potassium, mg[2]	3705.3	308.9	8%	61.3	2%	247.6	6%	231.6	6%	160.7	4%	70.9	2%
Sodium, mg	≤2179.2	131.6	✓	41.4	✓	90.2		142.1	✓	146.1	✓	-4.0	
Zinc, mg	8.3	1.3	15%	0.4	4%	0.9	11%	1.2	15%	1.2	15%	0	0%
Vitamins													
Vitamin A, µg	646.8	57.1	9%	17.8	3%	39.3	6%	53.0	8%	34.0	5%	19.0	3%
Vitamin C, mg	49.7	16.7	34%	2.3	5%	14.4	29%	8.0	16%	3.9	8%	4.1	8%
Vitamin D, µg	N/A	0.2	N/A	<0.1	N/A	0.2		0.2	N/A	0.1	N/A	0.1	
Vitamin E, mg[2]	11.2-11.4	3.5	32%	1.0	9%	2.5	23%	0.5	4%	0.5	4%	0	0%
Thiamin, mg	0.9	0.3	33%	0.1	6%	0.2	27%	0.1	10%	0.1	9%	0	1%
Riboflavin, mg	1.0	0.2	19%	<0.1	5%	0.2	14%	0.1	12%	0.1	11%	0	1%
Niacin, mg	12.4	2.5	20%	0.6	5%	1.9	15%	1.9	16%	2.1	17%	-0.2	-1%
Vitamin B6, mg	1.0	0.2	20%	<0.1	5%	0.2	15%	0.2	19%	0.1	14%	0.1	5%
Vitamin B12, µg	1.9	0.2	10%	0.1	3%	0.1	7%	0.4	23%	0.4	23%	0	0%
Folate, µg (DFE)	310.4	83.3	27%	14.6	5%	68.7	22%	21.5	7%	19.2	6%	2.3	1%

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets standard

[1] Weighted average nutrient standard for reference participant

[2] Value for % Met is the percent of lower value (shown) in the acceptable range for the standard; acceptable range for potassium = 3705-4121 mg; acceptable range for vitamin E= 11.2-11.4 mg

4.3.4 HEI-2005 Scores for NSLP USDA Foods, 2014 and 2009

The HEI-2005 scores for USDA Foods offered and delivered in NSLP were higher in 2014 than in 2009, with increases of 3.8 and 4.3, respectively. The increase for 2014 as-delivered was due to greater amounts of fruit, vegetables (total, dark green/orange vegetables/legumes), whole grains, sodium, and calories from SoFAAS (Table 4-27).

Table 4-27. HEI-2005 scores for the 2014 and 2009 NSLP USDA Foods

HEI component	Maximum score	Offered			Delivered		
		2014	2009	Difference	2014	2009	Difference
1. Total fruit	5	2.5	1.2	1.3	5.0	3.6	1.4
2. Whole fruit	5	1.9	2.3	-0.4	5.0	5.0	0.0
3. Total vegetables	5	2.1	1.7	0.4	5.0	4.3	0.7
4. Dark green, orange veg & legumes	5	1.0	1.1	-0.1	3.8	0.9	2.9
5. Total grains	5	5.0	5.0	0.0	2.6	3.4	-0.8
6. Whole grains	5	5.0	5.0	0.0	2.2	0.7	1.5
7. Milk	10	3.4	4.5	-1.1	10.0	10.0	0.0
8. Meat and beans	10	3.6	3.0	0.6	10.0	10.0	0.0
9. Oils	10	10.0	10.0	0.0	4.9	9.3	-4.4
10. Saturated fat	10	8.2	5.0	3.2	0.0	0.0	0.0
11. Sodium	10	10.0	10.0	0.0	8.4	8.3	0.1
12. Calories from SoFAAS	20	20.0	20.0	0.0	19.8	17.1	2.7
Total HEI-2005 score	**100**	72.6	68.8	3.8	76.7	72.4	4.3

Note: SoFAAS = Calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

4.4 The Emergency Food Assistance Program (TEFAP)

TEFAP serves a diverse participant group and includes income-eligible households and individuals of varying ages. Participants receive nutrition assistance from food pantries, soup kitchens, and shelters. The total amount of USDA Foods distributed through TEFAP is much higher than that distributed through other nutrition assistance programs examined in this report. TEFAP offered entitlement and bonus USDA Foods in FY 2009 and FY 2014. Therefore the section below presents the change in food composition, food group content, and HEI-2005 scores of the as-offered and as-delivered TEFAP food packages. Information on the contribution of TEFAP food packages towards the DRI and the TFP standards is not included due to the unavailability of the number of

participants served by the program. Additional background information about USDA Foods in TEFAP is found in section 1.2.4.

4.4.1 Food Composition of TEFAP USDA Foods, 2014 and 2009

In FY 2009, TEFAP offered a total 81 million pounds of USDA Foods without bonus foods and 609 million pounds with bonus foods. In FY 2014, TEFAP offered a total 406 million pounds of USDA Foods without bonus foods and 767 million pounds with bonus foods. The total weight of USDA Foods without and with bonus foods offered in TEFAP increased by 324 and 159 million pounds, respectively, from 2009 to 2014. The greater amount of food offered in 2014 is explained by the change in methodology for deriving the quantity in the as-offered food package. In 2009, any foods on the FA list that were not delivered in 2009 were not included in the as-offered package, as no cost/pound could be determined. Recognizing that this method did not adequately represent the FA list, the 2014 package used data for deliveries to all five nutrition assistance programs to calculate the cost/pound; the FNS provided additional data for any USDA Foods still lacking cost data, so that all foods on the FA list in 2014 were included in the as-offered package. Compared to 2009, the 2014 USDA Foods without bonus foods offered less cereal, peanut butter and dried beans, starchy foods and vegetables; the 2014 USDA Foods with bonus foods offered more cereal, grain, and milk, but less fruit, starches and vegetables. In FY 2009, TEFAP delivered a total 345 million pounds of USDA Foods without bonus foods and 730 million pounds with bonus foods. In FY 2014, TEFAP delivered a total 386 million pounds of USDA Foods without bonus foods and 746 million pounds with bonus foods. The total weight of USDA Foods without and with bonus foods delivered in TEFAP increased by 40 and 16 million pounds, respectively, from 2009 to 2014. Compared with 2009, the 2014 as-delivered USDA Foods without bonus foods contained more cereal, fruit and vegetables but less grain, meat and starches; the as-delivered USDA Foods with bonus foods contained more fruit and juice but less meat, milk, peanut butter and dried beans, and vegetables (Table 4-28).

Table 4-28. Food group composition by weight of the 2014 and 2009 TEFAP USDA Foods as a percentage of the total weight of foods offered

	Offered						Delivered					
	Entitlement Foods			Entitlement + Bonus Foods			Entitlement Foods			Entitlement + Bonus Foods		
Food Group	2014	2009	Diff	2014	2009	Diff	2014	2009	Diff	2014	2009	Diff
Cereal	15%	19%	-4%	8%	12%	-4%	5%	4%	1%	2%	2%	<1%
Fruit	7%	6%	1%	18%	9%	9%	12%	10%	2%	21%	11%	10%
Grains	7%	<1%	7%	4%	4%	<1%	<1%	1%	-1%	<1%	<1%	<1%
Juice	17%	9%	8%	25%	18%	7%	6%	6%	<1%	20%	17%	3%
Meat	4%	4%	<1%	15%	5%	10%	11%	16%	-5%	19%	21%	-2%
Milk	14%	4%	10%	9%	9%	<1%	4%	4%	<1%	3%	5%	-2%
Oil	10%	4%	6%	5%	9%	-4%	1%	1%	<1%	1%	1%	<1%
PB/dried beans	8%	10%	-2%	4%	7%	-3%	13%	12%	1%	7%	12%	-5%
Starches	8%	24%	-16%	5%	15%	-10%	17%	19%	-2%	10%	9%	1%
Vegetables	11%	19%	-8%	8%	12%	-4%	31%	26%	5%	18%	22%	-4%
Total weight[1]	406	81	324	767	609	159	385	345	40	746	730	16

[1] Total weight = million lbs. per year; amounts are displayed rounded to the whole numbers; difference is calculated on amounts prior to rounding.

4.4.2 Food Group Assessment of TEFAP USDA Foods, 2014 and 2009

When standardized to 2,000 kcal, the 2014 as-offered USDA Foods met more of the weighted average recommended amount of four of the 16 food groups (fruits, seafood, dairy, and oils); with bonus foods, the 2014 as-offered food package also met more of the weighted average recommended amount of four food groups (fruits, total protein foods, seafood, and meat/poultry/eggs). Compared to 2009, the 2014 as-delivered USDA Foods met more of the recommended amount of six of the 16 food groups (total vegetables, legumes, other vegetables, whole grains, nuts/seeds/soy products, and oils). Compared to 2009, the 2014 as-delivered USDA Foods with bonus foods met more of the recommended amount of fruits (79 percent increase), dark green vegetables (five percent increase), starchy vegetables (26 percent increase), other vegetables (2 percent increase), whole grains (31 percent increase), seafood (48 percent increase), and SoFAAS (48 percent increase), and met less of the recommended amount of red/orange vegetables (30 percent decrease), legumes (278 percent decrease), enriched grains (29 percent decrease), protein foods (48 percent decrease), meat/poultry/eggs (57 percent decrease) and nuts/seeds/soy products (190 percent decrease), dairy (29 percent decrease) and oils (16 percent decrease). The 2009 and 2014 as-delivered packages with bonus foods provided essentially the same amounts of total and dark green vegetables and total grains (Tables 4-29, 4-30).

Table 4-29. Food group and subgroup content of the 2014 and 2009 TEFAP USDA Foods (Entitlement foods) per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food group	USDA Food Pattern[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv)	2.0	0.7	33%	0.5	23%	0.2	10%	0.7	34%	0.7	36%	0	-2%
Vegetables (cup equiv)	2.5	0.8	32%	1.3	53%	-0.5	-21%	2.0	79%	1.8	72%	0.2	7%
Dark green	0.2	0.0	25%	0.1	31%	-0.1	-6%	0.1	31%	0.1	26%	0	5%
Red and orange	0.8	0.3	36%	0.4	49%	-0.1	-13%	0.7	94%	0.7	92%	0	2%
Legumes	0.2	0.4	217%	0.5	240%	-0.1	-23%	1.0	478%	0.8	351%	0.2	127%
Starchy	0.7	0.4	56%	0.8	107%	-0.4	-51%	0.7	105%	0.8	110%	-0.1	-5%
Other	0.6	0.1	13%	0.1	18%	0	-5%	0.4	70%	0.2	42%	0.2	28%
Total grains (oz equiv)	6.0	8.2	137%	15.4	257%	-7.2	-120%	9.3	156%	10.2	170%	-0.9	-14%
Whole	3.0	3.0	100%	8.8	292%	-5.8	-192%	2.8	92%	1.5	49%	1.3	43%
Refined	3.0	5.2	174%	6.6	222%	-1.4	-48%	6.6	219%	8.7	291%	-2.1	-72%
Protein foods (oz equiv)	5.5	2.0	36%	2.8	51%	-0.8	-15%	5.0	91%	6.3	114%	-1.3	-23%
Seafood	1.1	0.2	15%	0.1	7%	0.1	8%	0.2	16%	0.6	51%	-0.4	-35%
Meat, poultry, eggs	3.7	0.6	15%	0.8	21%	-0.2	-6%	2.0	55%	3.0	81%	-1	-26%
Nuts, seeds, soy products	0.6	1.3	209%	1.9	336%	-0.6	-127%	2.8	470%	2.7	472%	0.1	-2%
Dairy (cup equiv)	3.0	0.5	18%	0.2	5%	0.3	13%	0.2	7%	0.2	7%	0	0%
Oils (grams)	27.0	88.5	328%	42.0	156%	46.5	172%	28.5	105%	27.0	100%	1.5	5%
Maximum SoFAS[2] (kcal)	258.0	125.5	49%	23.4	9%	102.1	40%	80.9	31%	66.8	26%	14.1	5%
Maximum SoFAS[2] (% kcal)	13.0%	6%	✓	1%	✓	5%		4%	✓	3%	✓	1%	

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline

[1] USDA Food Pattern recommended amount per 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

Table 4-30. Food group and subgroup content of the 2014 and 2009 TEFAP USDA Foods (Entitlement + Bonus foods) per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food group	USDA Food Pattern[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv)	2.0	2.5	127%	0.9	47%	1.6	80%	3.2	160%	1.6	81%	1.6	79%
Vegetables (cup equiv)	2.5	0.9	37%	0.9	34%	0	3%	1.7	68%	1.7	69%	0	-1%
Dark green	0.2	0.0	18%	0.0	19%	0	-1%	0.0	20%	0.0	15%	0	5%
Red and orange	0.8	0.3	35%	0.3	38%	0	-3%	0.6	71%	0.8	101%	-0.2	-30%
Legumes	0.2	0.3	158%	0.3	157%	0	1%	0.6	303%	1.2	581%	-0.6	-278%
Starchy	0.7	0.5	78%	0.5	65%	0	13%	0.8	116%	0.6	90%	0.2	26%
Other	0.6	0.1	10%	0.1	10%	0	0%	0.3	45%	0.2	43%	0.1	2%
Total grains (oz equiv)	6.0	6.0	100%	11.6	193%	-5.6	-93%	5.9	99%	5.9	98%	0	1%
Whole	3.0	2.2	73%	5.3	176%	-3.1	-103%	1.8	59%	0.8	28%	1.0	31%
Refined	3.0	3.8	126%	6.3	211%	-2.5	-85%	4.2	139%	5.0	168%	-0.8	-29%
Protein foods (oz equiv)	5.5	4.1	75%	2.8	52%	1.3	23%	6.8	123%	9.4	171%	-2.6	-48%
Seafood	1.1	1.0	92%	0.1	10%	0.9	82%	1.3	119%	0.8	71%	0.5	48%
Meat, poultry, eggs	3.7	2.2	59%	0.9	23%	1.3	36%	3.7	99%	5.8	156%	-2.1	-57%
Nuts, seeds, soy products	0.6	0.9	152%	1.9	327%	-1.0	-175%	1.8	299%	2.8	489%	-1.0	-190%
Dairy (cup equiv)	3.0	0.4	14%	0.9	29%	-0.5	-15%	0.2	7%	1.1	36%	-0.9	-29%
Oils (grams)	27.0	64.5	239%	72.7	269%	-8.2	-30%	18.2	68%	22.7	84%	-4.5	-16%
Maximum SoFAS[2] (kcal)	258.0	220.4	85%	39.2	15%	181.2	70%	224.2	87%	101.4	39%	122.8	48%
Maximum SoFAS[2] (% kcal)	13.0%	11%	✓	2%	✓	9%		11%	✓	5%	✓	6%	

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guidelines

[1] USDA Food Pattern recommended amount per 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

4.4.3 HEI-2005 Scores for TEFAP USDA Foods, 2014 and 2009

The HEI-2005 score for the as-offered USDA Foods without bonus foods decreased by approximately 1.9 points, but with bonus foods, the total HEI-2005 score increased by 4.4 points. The HEI-2005 scores for the as-delivered USDA Foods without bonus foods increased by 2.3 points, while the HEI-2005 score for the as-delivered package with bonus foods decreased by 2.7 points. Changes in the HEI-2005 score for the as-delivered package with bonus foods reflected the decreases in the component scores for milk and oils (Table 4-31).

Table 4-31. HEI-2005 scores for the 2014 and 2009 TEFAP USDA Foods

HEI component	Maximum score	Offered						Delivered					
		Entitlement Foods			Entitlement + Bonus Foods			Entitlement Foods			Entitlement + Bonus Foods		
		2014	2009	Diff	2014	2009	Diff	2014	2009	Diff	2014	2009	Diff
1. Total fruit	5	2.0	1.4	0.6	5.0	2.9	2.1	2.1	2.3	-0.2	5.0	5.0	0.0
2. Whole fruit	5	1.4	1.4	0.0	5.0	2.4	2.6	2.7	2.9	-0.2	5.0	4.3	0.7
3. Total vegetables	5	1.8	3.0	-1.2	2.3	2.0	0.3	5.0	5.0	0.0	5.0	5.0	0.0
4. Dark green, orange veg & legumes	5	1.0	1.5	-0.5	1.4	0.9	0.5	5.0	5.0	0.0	4.9	5.0	-0.1
5. Total grains	5	5.0	5.0	0.0	5.0	5.0	0.0	5.0	5.0	0.0	4.9	4.9	0.0
6. Whole grains	5	5.0	5.0	0.0	3.6	5.0	-1.4	4.6	2.4	2.2	2.9	1.4	1.5
7. Milk	10	2.0	0.6	1.4	1.7	3.3	-1.6	0.9	0.8	0.1	0.8	4.2	-3.4
8. Meat and beans	10	7.4	9.7	-2.3	10.0	8.4	1.6	10.0	10.0	0.0	10.0	10.0	0.0
9. Oils	10	10.0	10.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0	7.6	9.5	-1.9
10. Saturated fat	10	10.0	10.0	0.0	10.0	9.8	0.2	10.0	10.0	0.0	10.0	10.0	0.0
11. Sodium	10	10.0	10.0	0.0	10.0	10.0	0.0	10.0	9.5	0.5	10.0	9.7	0.3
12. Calories from SoFAAS	20	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Total HEI-2005 score	**100**	75.7	77.6	-1.9	84.0	79.6	4.4	85.3	83.0	2.3	86.2	88.9	-2.7

Note: SoFAAS = Calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

4.5 Child and Adult Care Food Program (CACFP)

This section reports changes in food composition, nutrient and food group content, and HEI-2005 scores of CACFP food packages for FY 2009 and 2014 for facilities that did not receive cash in lieu. Bonus foods were not delivered to CACFP in either year; the comparison reflects entitlement foods only. Additional background information about USDA Foods in CACFP is found in section 1.2.5.

4.5.1 Food Composition of CACFP USDA Foods, 2014 and 2009

The CACFP food packages offered and delivered in FY 2009 and 2014 did not include bonus foods. In 2009, CACFP offered a total 500,000 pounds of USDA Foods; in 2014, CACFP offered a total 3.5 million pounds. The total weight of USDA Foods offered to CACFP participants increased by 3 million pounds from FY 2009 to 2014. The greater amount of food offered in 2014 is explained by the change in methodology for deriving the quantity in the as-offered food package. In 2009, any foods on the FA list that were not delivered in 2009 were not included in the as-offered package, as no cost/pound could be determined. With the recognition that this method did not adequately represent the FA list, the 2014 package used data for deliveries to all five nutrition assistance programs to calculate the cost/pound; the FNS provided additional data for any USDA Foods lacking cost data, so that all foods on the FA list in 2014 were included in the as-offered package. Compared with the 2009 as-offered package, the 2014 as-offered package contained a greater percentage by weight of the fruit, juice, and vegetable food groups, and decreased percentages of the cheese, grains, meats, and oils food groups. In 2009, CACFP delivered a total 1.8 million pounds of USDA Foods; in 2014, CACFP delivered a total 1.7 million pounds. The total weight of USDA Food delivered decreased by approximately one million pounds; there was an increase of more than 30 percent in the vegetable food group, and slightly more than ten percent increase in the proportion of cheese and grains (Table 4-32).

Table 4-32. Food group composition by weight of the 2014 and 2009 CACFP USDA Foods as a percentage of the total weight of foods offered

	Offered			Delivered		
Food group	2014	2009	Difference	2014	2009	Difference
Cheese	5%	11%	-6%	10%	21%	-11%
Fruit	21%	5%	16%	29%	28%	1%
Grains	27%	31%	-4%	2%	13%	-11%
Juice	4%	0%	4%	-	-	-
Meat	10%	14%	-4%	19%	27%	-8%
Oil	15%	27%	-12%	0%	3%	-3%
Vegetables	20%	11%	9%	40%	7%	33%
Total weight[1]	3.5	0.5	3.0	1.7	1.8	-0.1

[1] Total weight = million lbs. /year; amounts are displayed rounded to the whole numbers; difference is calculated on amounts prior to rounding.

4.5.2 Food Group Assessment of CACFP USDA Foods, 2014 and 2009

Compared to the 2009 as-offered food package (standardized to 2,000 kcal), the 2014 food package met higher percentages of the recommended amount of 11 of the 16 food groups (fruits; total vegetables and all vegetable subgroups; total and refined grains; seafood, and nuts/seeds/soy products), and lower percentages of the recommended amount of whole grains, total protein foods, meat/poultry/eggs, dairy, oils, and calories from SoFAS. As compared to the 2009 as-delivered CACFP food package, the 2014 as-delivered food package also met higher percentages of 11 food groups, including: fruits (47 percent increase), total vegetables and all vegetable groups (20 to 360 percent increases), legumes (10 percent increase), seafood and meat/poultry/eggs (14 percent increase for both), nuts/seeds/soy products (48 percent increase), and dairy (67 percent increase); the package met a smaller percentage of total, whole grains and refined grains (2 to and 186 percent decrease), oils (66 percent decrease), and SoFAS (26 percent decrease) (Table 4-33).

Table 4-33. Food group and subgroup content of the 2014 and 2009 CACFP USDA Foods per 2,000 kcal compared to the 2010 USDA Food Pattern recommendations per 2,000 kcal

Food Group	USDA Meal Pattern[1]	Offered						Delivered					
		2014		2009		Differences		2014		2009		Differences	
		Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met	Amt	% Met
Fruits (cup equiv)	2.0	0.9	46%	0.1	5%	0.8	41%	2.0	102%	1.1	55%	0.9	47%
Vegetables (cup equiv)	2.5	1.4	57%	0.3	12%	1.1	45%	3.8	153%	0.4	15%	3.4	138%
Dark green	0.2	0.1	37%	0.0	0%	0.1	37%	0.7	360%	0.0	0%	0.7	360%
Red and orange	0.8	0.3	34%	0.2	21%	0.1	13%	0.2	21%	0.1	11%	0.1	10%
Legumes	0.2	0.2	86%	0.0	22%	0.2	64%	0.1	27%	0.0	7%	0.1	20%
Starchy	0.7	1.0	137%	0.1	17%	0.9	120%	2.8	393%	0.2	33%	2.6	360%
Other	0.6	0.1	20%	0.0	4%	0.1	16%	0.2	33%	0.1	10%	0.1	23%
Total grains (oz equiv)	6.0	7.6	127%	7.3	121%	0.3	6%	1.4	23%	7.0	117%	-5.6	-94%
Whole	3.0	3.2	106%	4.7	158%	-1.5	-52%	1.3	42%	1.3	44%	0	-2%
Refined	3.0	4.5	149%	2.5	85%	2	64%	0.1	3%	5.7	189%	-5.6	-186%
Protein foods (oz equiv)	5.5	1.2	22%	1.3	24%	-0.1	-2%	7.5	137%	6.7	123%	0.8	14%
Seafood	1.1	0.2	14%	0.1	10%	0.1	4%	0.0	0%	0.0	3%	0	-3%
Meat, poultry, eggs	3.7	0.5	13%	0.8	23%	-0.3	-10%	6.9	186%	6.4	172%	0.5	14%
Nuts, seeds, soy products	0.6	0.6	100%	0.4	64%	0.2	36%	0.6	104%	0.3	56%	0.3	48%
Dairy (cup equiv)	3.0	0.8	27%	1.3	44%	-0.5	-17%	6.4	212%	4.3	145%	2.1	67%
Oils (grams)	27.0	105.8	392%	131.4	487%	-25.6	-95%	8.4	31%	26.2	97%	-17.8	-66%
Maximum SoFAS[2] (kcal)	258.0	99.2	38%	125.0	48%	-25.8	-10%	442.9	172%	511.1	198%	-68.2	-26%
Maximum SoFAS[2] (% kcal)	13%	5%	✓	6%	✓	-1%		22%	↑	26%	↑	-4%	

Note: Amounts are displayed rounded to the nearest tenth; % Met is calculated on amounts prior to rounding.

✓ = meets guideline; ↑ = exceeds guideline

[1] USDA Food Pattern recommended amount per 2,000 kcal

[2] SoFAS = calories from solid fats and added sugars. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

4.5.3 HEI-2005 Scores for CACFP USDA Foods, 2014 and 2009

The HEI-2005 scores for the 2014 USDA Foods offered and delivered in CACFP were greater than in 2009, with increases of 11.9 and 2.7, respectively. The increase for 2014 as delivered was primarily due to greater scores for total fruit, total vegetables, dark green/orange vegetables/legumes, and calories from SoFAAS (Table 4-34).

Table 4-34. HEI-2005 scores for the 2014 and 2009 CACFP USDA Foods

HEI component	Maximum score	Offered			Delivered		
		2014	2009	Difference	2014	2009	Difference
1. Total fruit	5	2.9	0.3	2.6	5.0	3.4	1.6
2. Whole fruit	5	2.7	0.6	2.1	5.0	5.0	0.0
3. Total vegetables	5	3.3	0.7	2.6	5.0	0.9	4.1
4. Dark green, orange veg & legumes	5	1.3	0.5	0.8	5.0	0.3	4.7
5. Total grains	5	5.0	5.0	0.0	1.1	5.0	-3.9
6. Whole grains	5	5.0	5.0	0.0	2.1	2.2	-0.1
7. Milk	10	3.2	5.1	-1.9	10.0	10.0	0.0
8. Meat and beans	10	3.8	3.0	0.8	10.0	10.0	0.0
9. Oils	10	10.0	10.0	0.0	3.5	10.0	-6.5
10. Saturated fat	10	8.4	3.3	5.1	0.0	0.0	0.0
11. Sodium	10	10.0	10.0	0.0	5.9	6.3	-0.4
12. Calories from SoFAAS	20	20.0	20.0	0.0	18.6	15.4	3.2
Total HEI-2005 score	**100**	**75.5**	**63.6**	**11.9**	**71.2**	**68.5**	**2.7**

Note: SoFAAS = Calories from solid fat, alcohol, and added sugar. The HEI uses calories from solid fats, alcohol and added sugar (SoFAAS), while the *Dietary Guidelines for Americans* uses calories from solid fats and added sugars (SoFAS) only.

4.6 Overall Summary

Variety in USDA Foods

- In FY 2009, bonus foods were offered and delivered through four of the five programs: FDPIR, NSLP, TEFAP, and CACFP. In FY 2014, bonus foods were offered and delivered through two programs: CSFP and TEFAP.
- All five USDA Food packages offered foods from the same food groups in both years.
- The HEI-2005 scores for the as-offered packages improved for CACFP (11.9 points), followed by the TEFAP food package with bonus foods (4.4 points), NSLP (3.8 points) and CSFP (2.1 points). The HEI-2005 scores for the as-offered packages decreased for FDPIR (0.2 points lower) and the TEFAP food package without bonus foods (1.9 points lower).

- The HEI-2005 scores for the as-delivered packages improved for all packages except the TEFAP food package with bonus foods (2.7 points lower); the largest improvement was seen in CSFP (8.6 points), followed by NSLP (4.3 points), CACFP (2.7 points), the TEFAP food package without bonus foods (2.3 points) and FDPIR (1.3 points).

Quantity of USDA Foods

- A greater quantity of USDA Foods was offered and delivered in 2014 than in 2009 through CSFP, NSLP, TEFAP, and CACFP; less food was offered and delivered through FDPIR. While a greater quantity of food was offered to CACFP in 2014, the amount delivered was less than that delivered in 2009.

- The amount of food (by weight) delivered through all five programs remained similar or differed by less than 10 percent, with the exception of juice delivery in CSFP (19 percent less in 2014) and vegetables in CACFP (33 percent more in 2014).

Contribution of USDA Foods to Meeting USDA Food Pattern recommendations from the *Dietary Guidelines for Americans*

- For most food groups, the percentage of the weighted average recommended amount offered and delivered to participants was similar or differed by less than 10 percent for all five programs across the two years. Differences of 15 percent or more were noted for the percentage of the weighted average recommended amount delivered in CACFP for dairy (19 percent less in 2014); and in FDPIR for legumes (17 percent less in 2014), starchy vegetables (17 percent less in 2014), and dairy (22 percent more in 2014).

- Standardizing the amount of food groups provided on a 2,000 kcal basis takes into account the fact that varying amounts of calories were provided in each program, and allows some comparisons across programs to be made. The food packages delivered to FDPIR provided similar amount of food groups per 2,000 kcal. However, differences of 50 percent or more were noted for groups per 2,000 kcal across the two years, with the most changes noted for CACFP (14 of the 16 food groups/subgroups) followed by TEFAP (12 food groups/subgroups), NSLP (five food groups), and CSFP (4 food groups/subgroups). The as-delivered 2014 food packages for NSLP, TEFAP, and CACFP met 50 percent or more of the recommended total vegetables, dark green vegetables, legumes, and starchy vegetables per 2,000 kcal than the 2009 food packages.

Macro- and Micronutrient Contribution of USDA Foods

- In both years, CSFP, FDPIR, and NSLP food packages offered and delivered similar amounts of energy and macronutrients. Differences of 50 percent or more in the percentage of the weighted average recommendations met were noted only in CSFP for iron (94 percent more delivered), largely due to the increase in the amount of quick-cooking farina in the 2014 as-delivered package.